Environmental Compliance Inspector Certification

2009 Candidate Handbook

This booklet contains...

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- Education and experience requirements
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The California Water Environment Association
CWEA’s mission is to enhance the education and effectiveness of California wastewater professionals through training, certification, dissemination of technical information, and promotion of sound policies to benefit society through protection and enhancement of the water environment.

CWEA is a California Nonprofit Corporation and is a Member Association of the Water Environment Federation and a member of the National Organization for Competency Assurance.

The Technical Certification Program
The Technical Certification Program (TCP) was created to offer multilevel technical certification for individuals employed in the water quality field. Tests are written by vocational specialists and administered throughout the year in six different disciplines: Collection System Maintenance, Environmental Compliance Inspection, Laboratory Analyst, Plant Maintenance (Electrical/Instrumentation and Mechanical Technologist), Industrial Waste Treatment Plant Operator, and Biosolids Land Application Management.

CWEA first offered a certification program for operators of wastewater treatment plants in 1937. The program was administered by CWEA until 1973 when the State of California assumed responsibility for the program. During those 36 years, CWEA awarded 3,915 operator certificates.

In 1975 the first committees were formed to establish a new voluntary certification program for water quality professionals specializing in disciplines other than plant operation. Eventually, the Voluntary Certification Program (VCP) emerged with specialized certificate programs for Collection System Maintenance, Plant Maintenance, Environmental Compliance Inspection, and Laboratory Analyst. The first of the new certifications were given in April of 1976. In the 1980s two more disciplines were added: Electrical/Instrumentation, and Industrial Waste Treatment Plant Operator.

Today CWEA offers certification in six different vocational programs with a total of 23 different certifications. About 2,000 certification applications are processed every year and over 5,500 certificates are currently held by individuals in California, Michigan, Hawaii, and Missouri.

Environmental Compliance Inspector and Industrial Waste Inspector Designations
The title of the Industrial Waste Inspector program has been changed to Environmental Compliance Inspector to more accurately reflect typical environmental compliance inspection duties and responsibilities. The two designations are equivalent and can be interchanged within the context of this handbook.

Important Information
The Certification Process
To become certified, all applicants must complete the Application For Technical Certification, pay the application fee, have appropriate experience and education, and pass the computer-based test. Application instructions and fee schedules are listed on the application. After applications are received at the CWEA office, applicant information is compiled in the certification database. Acceptance letters are then mailed to all applicants. The experience and education given on the application is then reviewed by CWEA staff. If the application is approved, then the applicant will receive an acceptance letter. If the application is rejected, the applicant will be notified and may be asked to supply more information if warranted. After completing the test applicants are sent official test results. Those who pass the exam will then be mailed certificates and blue wallet cards.

Code of Ethics
The Code of Ethics is intended to reflect the standards and behavior that California Water Environment Association certificate holders and applicants expect of each other as they perform their work protecting public health and the environment and that reaffirm the value of holding a CWEA certificate. The purpose of the Code of Ethics is to ensure public confidence in the integrity and service of professional water quality workers while performing their duties.
All California Water Environment Association certificate holders and applicants are expected to meet the following standards of professional conduct and ethics:
1. To protect public health, themselves, their co-workers, property, and the environment by performing the Essential Duties of the CWEA certified vocation safely and effectively, and complying with all applicable federal, state and local regulations.
2. To represent themselves truthfully and honestly throughout the entire certification process.
3. To adhere to all test site rules and make no attempt to complete the test dishonestly or to assist any other person in doing so.
4. To refrain from activities that may jeopardize the integrity of the Technical Certification Program.

Test Administration And Admission
Testing Dates and Sites: Tests are given throughout the year. Applicants who are eligible for the test will receive an acceptance letter and instructions on how to schedule for their exam.
CWEA also provides reasonable accommodations for those with physical or learning disabilities (See following page: “Accommodations For Those With Physical or Learning Disabilities”).

<table>
<thead>
<tr>
<th>Testing Window</th>
<th>Test Dates</th>
<th>Application Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>April 1 - June 30</td>
<td>February 28</td>
</tr>
<tr>
<td>Summer</td>
<td>July 1 - September 30</td>
<td>May 31</td>
</tr>
<tr>
<td>Fall</td>
<td>October 1 - December 31</td>
<td>August 31</td>
</tr>
<tr>
<td>Winter</td>
<td>January 1 - March 31</td>
<td>November 30</td>
</tr>
</tbody>
</table>
**Test Site Admission:** Certificate candidates are required to show at least one valid government issued photo identification (State driver’s license or ID, or passport). Only after positive identification has been made by the testing proctor may a candidate begin the exam. Candidates are not required to show their acceptance letters to enter the test site.

**Test Security:** Beginning January 2009, all exams will be computer-based format. No reference material, laptop computers or cameras are allowed in the test site. Candidates will have access to an onscreen calculator, however, examinees are welcome to bring pre-approved calculator (visit www.cwea.org/cbt). Candidates are not allowed to take any notes from the test site. Candidates who violate test site rules may be asked to leave the site and may be disqualified from that test. All violations of test security will be investigated by CWEA and appropriate action will be taken. There are no exceptions to this policy.

**Test Design And Format**

**Test Design:** All certification tests are designed to test knowledge and abilities required to perform Essential Duties with minimal acceptable competence.

The Essential Duties and Test Content Areas for each certification were determined by a job analysis and meta-analysis of job specifications by two independent psychometric consulting firms. The studies gathered data from onsite visits of over 31 water and wastewater agencies, interviews with 110 water and wastewater professionals, and analysis of more than 300 job specifications. All research was conducted under the guidance of the Technical Certification Program Committee, vocational sub-committees, and CWEA staff. All test questions are designed to measure at least one area of knowledge or ability that is required to perform an essential duty.

**Test Delivery Mechanism:** All tests are computer-based format and are written in English language only.

**Test Format:** All tests are given in the multiple choice format. The multiple choice format is considered the most effective for use in standardized tests. This objective format allows a greater coverage of content for a given amount of testing time and improves competency measurement reliability. Multiple choice questions range in complexity from simple recall of knowledge to the synthesis and evaluation of the subject matter.

**Test Scoring**

**Scoring Method:** All tests are mechanically scored by CWEA. The overall test score will determine if you pass or fail the test. Generally, the minimum score required to pass the test is 75% (this passing score may be adjusted downward depending on the difficulty level of each particular test). The minimum passing score is determined by the modified Angoff Method. When taking your test it is recommended that you try your best to score as high as possible. Do not try to target the minimum passing score.

How Passing Scores Are Set: Each time a certification test is given the questions are changed resulting in a different test form. Since each form has different questions the difficulty level of the test may not be the same from form to form. The passing score is developed as an overall estimate of minimal acceptable competence in the Test Content Areas by subject matter and testing experts. Passing scores are determined by an overall passing score, not by performance on individual Test Subject Areas, and are independent of other candidates’ scores. Partial credit will not be awarded for any test item answered incorrectly.

**Test Rescheduling and Cancellation Instructions**

**Reschedule your Testing Window**

To reschedule your application you must submit a written request (a letter stating that you wish to reschedule) to the adjacent (next) window once without a fee. A $40 administrative fee is required to reschedule your application again to the third window. There are no exceptions to this policy.

**Cancel your Application**

To cancel your application you must submit a written request (a letter stating that you wish to cancel your application) to CWEA. The written request along with a $40 administrative fee must be received at the CWEA office before the approved testing window begins. Full refunds, less a $40 administrative fee, will be made within 4 weeks after the scheduled date.

**Item Appeals**

Candidates who wish to appeal a specific test item must do so during the test by completing the Candidate Comment Review Screen. Candidate comments will be evaluated and appropriate adjustments will be made to the test content. Candidates submitting comments will not be contacted in regards to the appeal.

**Test Result Notification**

Exam results are routinely mailed to certificate candidates approximately 4 weeks after the exam date. No results are given by phone, via fax or email. All results are confidential and are only released to the certificate candidate. There are no exceptions to this policy.

**Issue of Certificate/Blue Wallet Card**

Certificates and blue wallet cards will be issued to all candidates who pass the exam. Certificates and blue wallet cards are mailed about two to three weeks after result notifications have been mailed.
Renewal of Certification
All certificates must be renewed annually. The first renewal is due one year from the last day of the month in which the certification exam was held. Certificate renewals less than one year past due are subject to the renewal fee plus a penalty fee of 100 percent of the renewal fee. Certificates more than one year past due will need to retest to regain certification. Renewal notices are mailed to certificate holders two months before the due date. It is the responsibility of the certificate holder to ensure that his or her certificate(s) remains valid.

Re-Certification
CWEA Certificate holders shall be required to renew certificates annually, and shall be required to provide evidence of completion of 12 contact hours of continuing education requirements every two years. For more information, visit CWEA’s website: www.cwea.org.

Accommodations For Those With Physical or Learning Disabilities
In compliance with the Americans with Disabilities Act, special accommodations will be provided for those individuals who provide CWEA with a physician's certificate, or its equivalent, documenting a physical or psychological disability that may affect the individual's ability to successfully complete the certification examination. Written requests for special accommodations must be made no later than 3 weeks before the examination date.
Grade I Environmental Compliance Inspector

Environmental Compliance Inspector Grade I Certification is designed to demonstrate competency at the entry and basic working level. More specifically, Grade I certification implies competence in the knowledge, skills and abilities required to perform the Essential Duties of an entry level Environmental Compliance Inspector.

Eligibility Criteria For Taking The Test
There are no experience or education requirements for Grade I certification. Completing the Application for Technical Certification, paying the appropriate application fee, and passing the examination are the only requirements. It is, however, recommended that Grade I candidates have at least one year of experience working as an Environmental Compliance Inspector or Technician performing the Essential Duties listed below. Many candidates without the recommended experience have difficulty successfully completing the computer-based test.

Essential Duties Of The Grade I Environmental Compliance Inspector
Individuals certified as Grade I Environmental Compliance Inspectors are expected to possess acceptable competency when performing the tasks that are necessary for entry level environmental compliance inspectors. These necessary tasks are known as the Essential Duties. The certification test measures knowledge, skills and abilities required to perform the Essential Duties.

Essential Duties for Grade I
1. Learns appropriate sampling locations and procedures; collection of representative samples in accordance with the District’s quality assurance program of wastewater and water from industrial, commercial, residential, and institutional sources, various interceptors and storm sewers; completes appropriate documentation, including chain of custody documentation; and performs field tests or laboratory tests on samples collected
2. Observes and records field conditions, flow meter reading and field test results
3. Cleans, inspects, maintains and repairs sampling, flow meters, and test equipment
4. Assists in the inspection of pretreatment facilities and processes of industrial and commercial establishments for compliance with wastewater discharge ordinance and permit conditions
5. Assists in the inspection of industrial and commercial businesses for compliance with urban runoff and pollution prevention requirements
6. Assist in call-outs and the investigation and tracing of the sources of illegal discharges entering the District’s wastewater collection system
7. Collects information for assessing fees from industrial and commercial establishments and checks for the presence of grease traps and interceptors
8. Provides input and assistance in the preparation of a variety of manual and computerized written, oral, tabular, and graphic reports; updates filed inspection records; and tabulates, calculates, and computes data and prepares data for sewer service charges
9. Supports customer service activities; responds to questions of a limited variety and scope after receiving specific instruction; refers inquiries to appropriate level; interacts cooperatively with internal and external customers and provides feedback to appropriate staff
10. Learns and keeps current on pertinent information and developments in environmental compliance functional areas; assists in the implementation of state, federal, or local requirements to support appropriate programs
11. Learns and observes proper safety precautions, rules, regulations, and practices; learns to maintain equipment, materials, and worksite in proper and safe condition in accordance with policies and procedures

Complexity Of Test Questions
At the Grade I level, certificate candidates are expected to have basic knowledge of the job and the ability to safely perform the Essential Duties listed above. Examinees will have to answer multiple choice questions that test knowledge, comprehension and application of the subject matter. The complexity of the questions will cover the ability to recall previously learned material, to understand the meaning of the subject matter, and to apply knowledge to new situations.

Test Content Areas
The following list is an outline of Test Content Areas. Each content area is a Knowledge, Skill, or Ability that is required to perform the Essential Duties listed above. Since all of the Knowledge, Skills, or Abilities are required to perform the Essential Duties they are all equally important in the demonstration of acceptable competency. Thus, all of the content areas listed below are equally weighted on the test.

Test Content Areas for Grade I

Knowledge of:
101. Basic scientific principles (chemistry, biology, physics), with special emphasis on wastewater chemistry and chemistry encountered in industrial processes
102. Basic laboratory procedures, equipment and apparatus, with particular emphasis on analyses performed for industrial self-monitoring reports
103. Basic principles of sample collection

104. Basic principles of preservation and holding time

105. Chain of custody procedures and documentation

106. Basic math, including fractions, decimals, proportions, and metric measurements

107. Basic knowledge of pumps, mechanical equipment, flowmeters, alarm systems, chemical feed systems, etc.

108. Basic industrial processes (e.g. metal finishing, food processing, etc.)

109. Basic safety equipment and procedures associated with conducting inspections

110. Quality assurance terms and principles

111. Fundamentals of wastewater treatment processes

112. Industrial wastewater treatment processes

113. Effects of pollutants on sewage treatment processes

114. Personal protective equipment required to conduct inspections

115. Traffic control procedures for street work

Skill to:

116. Communicate effectively with representatives of commercial, industrial, institutional users, co-workers, and persons from other agencies and the public, in the English language

117. Maintain accurate and complete records

Ability to:

118. Observe and report accurately

119. Work with mechanical and electrical equipment

120. Safely follow basic laboratory principles and procedures (See KSA 101)

121. Learn rules, regulations and laws related to water and wastewater

122. Read gauges, meters, flow meters, and other recording instruments

123. Follow written and oral instructions

124. Follow safety practices, precautions, and methods

125. Collect representative samples

126. Preserve samples and observe holding times

127. Follow chain-of-custody procedures and documentation
Scheme A

Eligibility Criteria For Taking The Test
The basic requirement is four years of full-time work in environmental compliance inspection. You may also qualify by having two years of experience and holding an Environmental Compliance Inspector Grade I certificate for one year, OR having two years of full-time experience and holding an Associate’s degree in a related field, OR having one year of full-time experience and holding a Bachelor’s, or higher, degree in a related field.

Eligibility criteria are summarized in the table below. You may qualify by meeting either Education/Experience Combination A, B, C, or D. If you do not meet any of the combinations of experience and education, then you do not qualify for Grade II:

<table>
<thead>
<tr>
<th>Combination</th>
<th>EDUCATION &amp; CERTIFICATIONS</th>
<th>EXPERIENCE</th>
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<tbody>
<tr>
<td>A</td>
<td>None</td>
<td>4 full-time years in Environmental Compliance Inspection</td>
</tr>
<tr>
<td>B</td>
<td>Hold Grade I ECI Certificate for 1 year</td>
<td>2 full-time years in Environmental Compliance Inspection</td>
</tr>
<tr>
<td>C</td>
<td>AA/AS degree in a related field</td>
<td>2 full-time years in Environmental Compliance Inspection</td>
</tr>
<tr>
<td>D</td>
<td>Hold a BA/BS, or higher, degree in a related field</td>
<td>1 full-time year in Environmental Compliance Inspection</td>
</tr>
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Qualifying With Your Education
Holding a college degree, or its equivalent, in a field related to your vocation will reduce the number of years required for your test (see the table above). Your degree must be in a field that is related to the certificate for which you are applying. If you are uncertain if your degree is related to your vocation you should still include your degree information in your application. The Technical Certification Program Committee will determine if your degree qualifies. If it does not, you will be accepted for the next highest grade level for which you qualify. Associate’s and Bachelor’s degrees in technical fields are usually accepted. Degrees are evaluated on a case-by-case basis upon receipt of the application. College credit without a degree is not accepted unless it can be demonstrated that the credit is equivalent to a degree.

Essential Duties Of The Grade II Environmental Compliance Inspector
Individuals certified as Grade II Environmental Compliance Inspectors are expected to possess acceptable competency when performing the tasks that are necessary for skilled or journey level environmental compliance inspectors. These necessary tasks are known as the Essential Duties. The certification test measures knowledge, skills and abilities required to perform the Essential Duties.

Essential Duties for Grade II
1. Inspects a variety of pretreatment systems, facilities, and processes of industrial, commercial, residential, and institutional establishments for compliance with federal, state, and local regulations and permit conditions related to pretreatment, urban, runoff, and pollution prevention requirements.
2. Reviews and evaluates all but the most complex permit applications, discharge reports, facility modifications, and pretreatment systems; issues permits following established practices, policies, procedures, internal guidelines, and models; performs calculations related to industrial discharge permitting, including calculation of production-based and alternative limits.
3. Initiates appropriate enforcement action after identifying noncompliance with district, state or federal requirements; prepares and issues written notices of requirement and violations of regulations; researching compliance history of facilities; participates in enforcement hearings; and monitors follow-up action.
4. Evaluates local and federal compliance monitoring reports, such as solvent and spill management plans, pollution prevention plans, periodic reports of continued compliance, and self-monitoring plans and sample results.
5. Determines sampling locations and methods; collects representative samples of wastewater and water from industrial, commercial, residential, institutional sources, various interceptors, and storm sewers; uses appropriate containers and preservation methods; performing field or laboratory tests on samples collected; observes and records field conditions, flow meter readings, field test results, and other data relevant to sampling conditions and completes documentation.
6. Investigates and traced sources of illegal waste discharges entering the wastewater collection system; responds to and coordinates call-outs.
provides technical assistance and guidance; and observes, monitors, and evaluates conditions and initiates appropriate responses.

7. Prepares manual and computerized written, oral, tabular and graphic reports and summarizes requirements and regulations.

8. Explains environmental compliance regulations, requirements, and policies to business owners and operators, other government agencies staff and the general public.


10. Evaluates dischargers' activities and prepares data for sewer service charges and capacity fees; researching tenant occupancy uses, sewer service charge bills and classification; estimating landscape allowances and discharge volumes; determines and verifies wastewater strength classifications; verifying sewer service and/or capacity charges and information; reviews and analyzes information for sewer service refunds, makes recommendations and provides the supervisory and/or manager with documentation; and responds to customer inquiries concerning sewer service charges and capacity fees.

11. Responds to and initiates contact with customers; provides detailed information on a variety of topics in a clear, succinct manner using the appropriate approach and response for the situation; shares technical and/or specialized information with appropriate staff, industrial users, and other public agencies; and provides feedback, observations, and analysis to appropriate staff.

12. Researches and keeps current on pertinent information and development in environmental compliance functional areas; evaluates and implements state, federal or local requirements as necessary to maintain approved pretreatment programs (i.e., pollution prevention, urban runoff).

13. Observes proper safety precautions, rules, regulations and practices.

Test Content Areas
The following list is an outline of Test Content Areas. Each content area is a knowledge, skill, or ability that is required to perform the Essential Duties listed above. Since all of the knowledge, skills, or abilities are required to perform the Essential Duties they are all equally important in the demonstration of acceptable competency. Thus, all of the content areas listed below are equally weighted on the test. Candidates should also be thoroughly familiar with the Grade I Environmental Compliance Inspector Test Content Areas.

Test Content Areas for Grade II

200. Knowledge, skill and ability identified on the Test Content Specifications for Industrial Waste Inspection/Environmental Compliance Grade I.

Knowledge of:

201. Categorical standards

202. EPA pretreatment regulations and standards (40 CFR part 403)

203. Water quality regulations for storm water (40 CFR part 122)

204. Common monitoring technology including common sampling, and flow-measuring methods, equipment, apparatus and their uses

205. Principles and methods of wastewater collection, treatment and disposal

206. Safety methods, procedures, practices, and precautions related to conducting inspections, traffic control, and using appropriate personal protective equipment

207. Complex principles of chemistry with special emphasis on wastewater chemistry and chemistry encountered in industrial processes

208. Arithmetic including fractions, decimals, proportions, percentages, and logarithmic notation

209. Basic mechanical, hydraulic and environmental engineering principles and concepts

210. Pollution prevention principles and activities

211. Industrial processes

212. Industrial pretreatment technologies

213. Industrial activities that could impact storm water runoff

214. Collection of samples that could be used as evidence in legal proceedings

Complexity Of Test Questions
At the Grade II level, certificate candidates are expected to have the knowledge, skill and ability to safely and effectively accomplish most of the Essential Duties listed above. Grade II candidates are also expected to be able to be familiar with the Grade I Test Content Areas. Examinees will have to answer multiple choice questions that test comprehension, application and analysis of the subject matter. The complexity of the questions will cover the ability: to basically understand the subject matter; to recall and apply principles, ideas, and theories; and to break down ideas and theories into their constituent parts.
215. Preservation procedures for routine and non-routine samples

Skill to:

216. Prepare clear, concise, and accurate reports, memorandums and correspondence

217. Interact cooperatively and effectively with the public, industrial users, other agencies and staff personnel in conducting environmental compliance inspections

218. Communicate the objectives of a program to representatives of commercial, residential and industrial users, in the English language

Ability to:

219. Read, interpret, apply and explain complex procedures, rules, regulations, and law relating to water and wastewater

220. Interpret physical, chemical, microbiological and bacteriological tests on water and wastewater

221. Read and understand technical information relating to wastewater generation and disposal, including engineering drawings and schematics

222. Plan, organize and manage environmental compliance projects

223. Inspect a variety of industrial waste generating processes

224. Inspect a variety of industrial waste water pretreatment processes

225. Inspect industrial effluent monitoring equipment including pH, ORP, flow meters, explosion meters, selective ion recorders, etc.

226. Identify and mitigate safety hazards on the job.

227. Correctly complete an analytical request form and recognize what lab tests to request.

228. Participate in an emergency response situation or incident.

229. Initiate safe traffic control procedures.
Grade III Environmental Compliance Inspector

Environmental Compliance Inspector Grade III Certification is designed to demonstrate competency at the lead or advanced technical level. More specifically, Grade III certification implies competence in the knowledge, skills and abilities required to perform the Essential Duties of a lead or advanced Environmental Compliance Inspector.

Eligibility Criteria For Taking The Test
The basic requirement is six years of full-time work in Environmental Compliance Inspection. You may also qualify by having four years of experience and holding an Environmental Compliance Inspector Grade II Certificate for two years, OR having four years of full-time experience and holding an Associate’s degree in a related field, OR having three years of full-time experience and holding a Bachelor’s, or higher, degree in a related field.

Eligibility criteria are summarized in the table below. You may qualify by meeting either Education/Experience Combination A, B, C, or D. If you do not meet any of the combinations of experience and education, then you do not qualify for Grade III:

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<tr>
<th>Combination</th>
<th>EDUCATION &amp; CERTIFICATIONS</th>
<th>EXPERIENCE</th>
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<tbody>
<tr>
<td>A</td>
<td>None</td>
<td>6 full-time years in environmental compliance inspection</td>
</tr>
<tr>
<td>B</td>
<td>Hold Grade II ECI certificate for 2 years</td>
<td>4 full-time years in environmental compliance inspection</td>
</tr>
<tr>
<td>C</td>
<td>Hold an Associate’s degree in a related field</td>
<td>4 full-time years in environmental compliance inspection</td>
</tr>
<tr>
<td>D</td>
<td>Hold a BA/BS, or higher, degree in a related field</td>
<td>3 full-time years in environmental compliance inspection</td>
</tr>
</tbody>
</table>

Qualifying With Your Education
Holding a college degree, or its equivalent, in a field related to your vocation will reduce the number of years required for your test (see the table above). Your degree must be in a field that is related to the certificate for which you are applying. If you are uncertain if your degree is related to your vocation you should still include your degree information in your application. The Technical Certification Program Committee will determine if your degree qualifies. If it does not, you will be accepted for the next highest grade level for which you qualify. Associate’s and Bachelor’s degrees in technical fields are usually accepted. Degrees are evaluated on a case-by-case basis upon receipt of the application. College credit without a degree is not accepted unless it can be demonstrated that the credit is equivalent to a degree.

Essential Duties Of The Grade III Environmental Compliance Inspector
Individuals certified as Grade III Environmental Compliance Inspectors are expected to possess acceptable competency when performing the tasks that are necessary for lead or advanced level environmental compliance inspectors. These necessary tasks are known as the Essential Duties. The certification test measures knowledge, skills and abilities required to perform the Essential Duties.

Essential Duties for Grade III
1. Reviews and evaluates highly complex permit applications, discharge reports, facility modifications, and pretreatment systems; issuing permits, following established practices, policies, procedures, internal guidelines, and models; establishing models and procedures when appropriate; reporting findings to the appropriate authority; researching compliance history of facility; assessing possible effects of the proposed discharge on the treatment plant and collection system; and initiating appropriate follow-up activities
2. Explains wastewater discharge permit conditions, and other environmental compliance regulations, requirements, and policies to business owners and operators, the general public and to other government agency staff
3. Evaluates local and federal compliance monitoring reports, such as solvent and spill management plans, baseline monitoring reports, 90-day reports, periodic reports of continued compliance, pollution-prevention plans and self-monitoring plans
4. Supervises sampling and inspection of commercial and industrial facilities and discharges to determine processes and generating wastewater; evaluates data used in determining compliance with applicable standards and in establishing sewer service charges and capacity fees
5. Organizes, plans, supervises, and reviews the activities and work of subordinate staff
6. Participates in employee selection; evaluates employee performance; develops and participates in employee development and training programs; develops and oversees division performance standards and resolves employee relations matters
7. Supervises record keeping activities and participates in the preparation of a variety of periodic and special reports, including monthly operation reports; and advises management of
explicit, succinct manner using the appropriate approach and response for the situation; provides internal and inter-agency coordination based on information from the field and analyzes and makes recommendations on additional actions; sharing technical and/or specialized information with district staff.

19. Prepares appropriate enforcement action and notices of violations and monitors follow-up action.

20. Represents the district in meetings of regional task forces, committees and work groups.

**Complexity Of Test Questions**
At the Grade III level, certificate candidates are expected to have the knowledge, skill and ability to safely and effectively accomplish and coordinate complex tasks as listed in the *Essential Duties* above. Grade III candidates are also expected to be familiar with the Grade I and II Environmental Compliance Inspector knowledge, skills and abilities. Examinees will have to answer multiple choice questions that test application, analysis and synthesis of the subject matter. The complexity of the questions will cover the ability to abstract in particular and concrete situations, to clarify and organize theories and ideas, and to put facts together to form new solutions.

**Test Content Areas**
The following list is an outline of Test Content Areas. Each content area is a Knowledge, Skill, or Ability that is required to perform the *Essential Duties* listed above. Since all of the Knowledge, Skills, or Abilities are required to perform the *Essential Duties* they are all equally important in the demonstration of acceptable competency. Thus, all of the content areas listed below are equally weighted on the test. Candidates should also be thoroughly familiar with the Grade I and II Environmental Compliance Inspector Test Content Areas.

**Test Content Areas Grade III**

300. Knowledge, skill and ability identified on the Test Content Specifications for Industrial Waste Inspection/Environmental Compliance Grades I and II

**Knowledge of:**

301. Physical, chemical, microbiological, and bacteriological tests applied to water and wastewater

302. Principles and practices of scheduling

303. Pertinent safety practices and principles, including traffic control, use of personal protective equipment, chemical hazards, industrial and storm water

304. Environmental principles, practices and models related to wastewater control

305. Principles, practices and methods of industrial
and municipal collection, treatment and disposal of wastewater
306. Federal, state and local rules, regulations and standards governing wastewater and water quality
307. Procedural requirements for conducting environmental investigations and studies
308. Principles of hydraulic, instrumentation, and water and wastewater treatment equipment
309. The most complex industrial processes
310. The most complex industrial pretreatment technologies
311. Storm water regulations and best management practices
312. Training techniques
313. Employee evaluation methods
314. Productivity measurement
315. Confined space entry procedures and regulations
316. Hazards from dangerous atmospheres.

Skill to:
317. Deal cooperatively and effectively with the public, industrial company officials, other agencies and staff employees
318. Prepare clear, complete, and accurate oral and written reports
319. Communicate effectively, both orally and in writing to express the objectives of an environmental compliance program to system users, in the English language

Ability to:
320. Evaluate the work of others
321. Conduct training
322. Resolve employee relations matters effectively
323. Organize work, set priorities, and work on several assignments under time pressure and critical deadlines
324. Read and interpret complex regulations
325. Develop inspection procedures
326. Evaluate storm water best management practices
327. Evaluate industrial waste discharge equipment, checking for operation, calibration, and conformance legal requirements
328. Apply wastewater control principles and practices to the solution of difficult environmental problems
329. Conduct sanitary and environmental studies
330. Analyze complex environmental situations, data and/or reports and draw sound conclusions from which to base recommendations
331. Interpret a variety of physical, chemical, microbiological and bacteriological test data on water and wastewater
332. Organize a response to an emergency incident
333. Investigate accidents, write appropriate reports, and make recommendations
Qualifying With Your Education

Holding a college degree, or its equivalent, in a field related to your vocation will reduce the number of years required for your test (see the table, left). Your degree must be in a field that is related to the certificate for which you are applying. If you are uncertain if your degree is related to your vocation you should still include your degree information in your application. The Technical Certification Program Committee will determine if your degree qualifies. If it does not, you will be accepted for the next highest grade level for which you qualify. Associate’s and Bachelor’s degrees in technical fields are usually accepted. Degrees are evaluated on a case-by-case basis upon receipt of the application. College credit without a degree is not accepted unless it can be demonstrated that the credit is equivalent to a degree.

Essential Duties Of The Grade IV Environmental Compliance Inspector

Individuals certified as Grade IV Environmental Compliance Inspectors are expected to possess acceptable competency when performing the tasks that are necessary for management level environmental compliance inspectors. These necessary tasks are known as the Essential Duties. The certification test measures knowledge, skills and abilities required to perform the Essential Duties.

<table>
<thead>
<tr>
<th>Combination</th>
<th>EDUCATION &amp; CERTIFICATIONS</th>
<th>EXPERIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>None</td>
<td>8 years in Environmental Compliance Inspection with one of those years supervising others</td>
</tr>
<tr>
<td>B</td>
<td>Hold Grade III ECI certificate for 2 yrs.</td>
<td>6 years in Environmental Compliance Inspection with one of those years supervising others</td>
</tr>
<tr>
<td>C</td>
<td>Hold an AA/AS, or higher, degree in a related field</td>
<td>6 years in Environmental Compliance Inspection with one of those years supervising others</td>
</tr>
<tr>
<td>D</td>
<td>Hold a Bachelor’s, or higher, degree in a related field</td>
<td>5 years in Environmental Compliance Inspection with one of those years supervising others</td>
</tr>
</tbody>
</table>
protect or improve water quality by controlling sources of water

9. Directs the activities of division supervisors
10. Coordinates activities with other divisions in a district and with other agencies, and organizations outside a district
11. Directs and participates in the selection, training, review, and evaluation of division staff; encourages professional growth; and investigates employee relations problems and implements or recommends corrective actions
12. Represents a district in meetings with governmental and regulatory agencies, technical committees, private firms, professional and community groups, and the public; confers with staff regarding division activities; provides information and technical advice to staff, local cities, other utilities, regulatory agencies, planning agencies and consultants
13. Directs record keeping activities and preparation of variety of periodic and special reports; advises directors of significant data and other information related to the work of the division
14. Develops and administers the annual budget and monitors monthly expenditures
15. Reviews the work of consultants and administers various professional contracts
16. Monitors developments in the field of environmental compliance and recommends and initiates improved work methods and procedures

Complexity Of Test Questions
At the Grade IV level, certificate candidates are expected to have the knowledge, skill and ability to administer, coordinate and manage complex programs described in the Essential Duties above. Grade IV candidates are also expected to be familiar with the Grade I, II, and III Environmental Compliance Inspector knowledge, skills and abilities. Examinees will have to answer multiple choice questions that test analysis, synthesis and evaluation of the subject matter. The complexity of the questions will cover the ability to clarify and organize theories and ideas to put together facts to form new solutions and to make managerial level judgements.

Test Content Areas
The following list is an outline of Test Content Areas. Each content area is a Knowledge, Skill, or Ability that is required to perform the Essential Duties listed above. Since all of the Knowledge, Skills, or Abilities are required to perform the Essential Duties they are all equally important in the demonstration of acceptable competency. Thus, all of the content areas listed below are equally weighted on the test. Candidates should also be thoroughly familiar with the Grade I, II, and III Environmental Compliance Inspector Test Content Areas.

Test Content Areas for Grade IV
400. Knowledge, skill and ability identified on the Test Content Specifications for Industrial Waste Inspection/Environmental Compliance Inspector Grades I, II, and III

Knowledge of:
401. Industrial processes as they affect the operation of a water pollution control plant, wastewater collection system, or storm collection system, and its effects on the receiving waters
402. Safety rules, codes, principles and practices related to inspection, such as traffic control, chemical handling, confined space entry, and other physical hazards
403. Techniques of field inspection and laboratory work related to wastewater discharge from various sources
404. Applicable federal, state, and local laws and regulations
405. Budgeting principles
406. Management principles
407. Methods of supervision
408. The function of related agencies

Skill to:
409. Prepare clear, concise, and complete reports and correspondence
410. Make effective oral reports and presentations
411. Deal effectively with employee relations
412. Deal effectively with budget administrative matters
Sample Test Questions

The following sample test questions are provided to help you become familiar with the multiple choice format. These questions reflect only a sample of the subject matter covered at each grade level.

For each question, choose the single most correct answer. An answer key is given at the end of this section.

Grade I Environmental Compliance

1. What volume of spill containment capacity in gallons is needed for the following tanks if a 12-inch rainfall occurs during a 24-hour period on a connected 200-foot by 200-foot pad?
   TANK I: Square, 6 ft. wide, 6 ft. long, and 6 ft. high
   TANK II: Rectangular, 4 ft. wide, 20 ft. long, and 3 ft. high.
   TANK III: Cylindrical, 8 ft. in diameter and 9 ft. high
   a. 3,016,138 gallons
   b. 3,597,192 gallons
   c. 305,992 gallons
   d. 30,592 gallons

2. Lead acetate paper is used to determine the presence of:
   a. Chlorine
   b. Hydrogen sulfide
   c. Methane
   d. Carbon monoxide

3. Sodium Hydroxide is commonly referred to as:
   a. Quicklime
   b. Soda ash
   c. Caustic soda
   d. Hydrated lime

Grade II Environmental Compliance

1. A POTW must retain Industrial User records for a minimum of:
   a. 2 years
   b. 3 years
   c. 5 years
   d. 10 years

2. The Federal Act that introduced the concept of cradle to grave manifesting for hazardous waste products is:
   a. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)
   b. Superfund Amendments and Reauthorization Act (SARA)
   c. Toxic Substances Control Act (TSCA)
   d. Resource Conservation and Recovery Act (RCRA)

3. Waste discharge regulations can be concentration or mass based except for:
   a. sodium and sulfate.
   b. total toxic organics.
   c. pH and temperature.
   d. cyanide.

4. AAA Plating has had a fire during the night. AAA Plating is located four blocks from the Water Reclamation Plant and has almost a direct connection to the plant’s major trunk line. As a member of the City’s response team, you have been assigned the task of calculating the amount of chromium discharged to the sanitary sewer due to the fire. The fire damage is only a small area within the plating shop. Two 300 gallon tanks were released due to the fire. One tank contained chromium at 1,500 mg/L while the second tank contained chromium at 3,000 mg/L. You have been informed by the fire department that they were only able to contain the plating solutions until 5:00 am. The fire department estimates that an additional 5,000 gallons of water was contained and released due to the fire fighting effort.

Calculate the chromium concentration being discharged to the trunk line (assume the total volume of the discharge has been homogenized and that the plating solutions are the only source of chromium)
   a. 11.26 mg/L
   b. 2250.10 mg/L
   c. 2010.70 mg/L
   d. 241.10 mg/L

Grade III Environmental Compliance

1. The local municipal sewage treatment plant’s effluent has a TDS averaging 600 mg/L. The flow averages 24 MGD. The maximum allowable discharge of TDS in the effluent is 750 mg/L. A new industry is proposing to locate in this town and to discharge 1.5 MGD to the sewer. The agency intends to keep the treatment plant’s effluent TDS below 710 mg/L.

   What is the maximum TDS concentration the new industry can discharge at the proposed 1.5 MGD flow rate?
   a. 2470 mg/L
   b. 1760 mg/L
   c. 3360 mg/L
   d. 210 mg/L

2. An industrial user is billed monthly for BOD, Suspended Solids and Flow. The total flow discharged in 24 hours is 50,000 gallons. The company sampled for BOD and TSS on a weekly basis with the following results:

<table>
<thead>
<tr>
<th>Week</th>
<th>BOD, mg/L</th>
<th>TSS, mg/L</th>
<th>Flow, gallons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1350</td>
<td>900</td>
<td>350,000</td>
</tr>
<tr>
<td>2</td>
<td>4000</td>
<td>2200</td>
<td>245,000</td>
</tr>
<tr>
<td>3</td>
<td>900</td>
<td>450</td>
<td>500,000</td>
</tr>
<tr>
<td>4</td>
<td>1500</td>
<td>1000</td>
<td>375,000</td>
</tr>
</tbody>
</table>
The agency’s sewer rates are charged per 1,000 pounds of BOD or TSS and per million gallons of flow. The rates are: BOD $28.00, TSS=$8.00, Flow=$1100.00 per million gallons. What is the industrial user’s total sewer charge for this one month?

a. $2,289.41
b. $68,881.00
c. $1,697.65
d. $674,257.00

Grade IV Environmental Compliance

1. One of your senior inspectors received a promotion and left. You must decide whether to replace her with two trainees or one experienced inspector. In your justification to your boss, you should include:

   a. an equally balanced argument for both options. Let him decide.
   b. a carefully developed argument for only the option you prefer. Ignore the other option.
   c. a thorough review of all reasonable alternatives, including not replacing the promoted inspector, and a recommendation with a justification.
   d. copies of job descriptions, the relevant portion of your hiring practices, and the most recent performance review of the departed inspector.

2. You are concerned about analyses reports you have been receiving. Your investigation includes review of the Lab QA records. The lab reports four replicate analyses with the following results:

   \[ [M] = 34 \ \mu g/L, [M] = 30 \ \mu g/L, [M] = 45 \ \mu g/L, [M] = 33 \ \mu g/L. \]

   A fifth replicate is reported as \([M] = 50 \ \mu g/L\)
   The fifth value is:
   a. above the Warning Limit, but below the Control Limit.
   b. above the Control Limit.
   c. below the Warning Limit.
   d. within one standard deviation of the mean.

Answer Key

<table>
<thead>
<tr>
<th>Question #</th>
<th>Grade I</th>
<th>Grade II</th>
<th>Grade III</th>
<th>Grade IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>c</td>
<td>b</td>
<td>a</td>
<td>c</td>
</tr>
<tr>
<td>2</td>
<td>b</td>
<td>d</td>
<td>a</td>
<td>a</td>
</tr>
<tr>
<td>3</td>
<td>c</td>
<td>c</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4</td>
<td>—</td>
<td>d</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>
The following table lists references that may be useful when studying for the certification test. The table lists primary and supplementary study references. Primary study references are recommended as the best sources for studying for the certification test. Supplementary study references are recommended as sources that will help to further your understanding of the subject matter beyond the primary references.

For each reference a “P” indicates Primary reference and an “S” indicates a Supplementary reference. Check the Grade column that corresponds to the grade level you will be taking to determine if a reference is Primary or Supplementary. Blank boxes indicate that the reference is not appropriate for that grade level.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wastewater Sampling for Process and Quality Control, WEF MOP OM-1. Alexandria, VA: Water Environment Federation. 800-666-0206</td>
<td>S</td>
</tr>
</tbody>
</table>
Preventing For Your Test

This section addresses a few possible methods for preparing for the certification test. Since you are most familiar with your own abilities, you are responsible for determining the best method for preparing for your certification test. Following the suggestions in this section does not guarantee you will pass the certification test.

Determining Your Preparedness: An individual’s preparedness for the certification test depends on a number of things including amount of practical experience in the vocation and years of education. If you are unsure how prepared you are for the test review the Essential Duties and Test Content Areas for the test that you are considering. If you are not familiar with most of the Essential Duties and Test Content Areas, you should consider reviewing some of the material in the references listed for that grade level. You may also want to consider applying for a lower grade level if appropriate.

Using The Selected References: After evaluating how well prepared you are for the test you may want to review some of the Selected References. The references in this list may be used to review those Test Content Areas that you are not familiar with or those for which you have little background. Well prepared candidates may only have to brush up on a few topics while those less prepared may have to study extensively.

Study Sessions: CWEA Local Sections host at least two study sessions in various parts of California. All applicants will be mailed the date and location of the nearest preparation classes if provided by Local Section to CWEA staff. Usually these classes are given about two months before the test date and last a full day with Grades I and II material covered in the morning and Grades III and IV covered in the afternoon.

Using the Essential Duties and Test Content Areas as a Guide to Your Study: The Essential Duties (EDs) are a basic outline of the test subject matter. You can use the EDs as your study guide by referring to the EDs in the primary Selected References. For example, if you are preparing for the Grade II test, and you are not very familiar with ED #4 (Reviewing pollution prevention plans, etc.), you can look up “Pollution Prevention, Source Control” in the index of Pretreatment Facility Inspection. There you can read about pollution prevention and source control on pages 611-620. Similarly, you could read about Test Content Areas (TCAs) #212 and 224 (Pretreatment technologies and inspection), in the same reference. As you study you will find that many of the TCAs are closely related to the EDs. Each test question is written to address at least one TCA and its related ED.

FAQs

Frequently Asked Questions

Question: Is it required that I begin at the Grade I level then work my way up from there to higher levels?
Answer: No. You may take any test that you qualify for with your education and experience. However, if you are just starting out, you can see by the education and experience requirements that you can work your way up the grade levels faster if you become certified at Grade I, then achieve each successive certification as soon as you get the required education and experience.

Question: If I take a Grade II, III, or IV test will I have to know the Test Content Areas for the lower level tests?
Answer: Yes. The subject matter for each test builds on the subject matter for those tests below its grade level. A thorough knowledge of the Test Content Areas for the grade level that you are taking is most important to your preparation, but you should expect questions from any of the lower grade levels.

Question: If I am re-taking a test that I had previously failed do I need to re-submit a full application and the entire application fee.
Answer: No, you must complete the re-test application and pay the appropriate fees.

Question: Is continuing education required to renew my certification?
Answer: Yes. For any certificate earned on or after July 2002, you need to obtain 12 hours of continuing education every two years. For more information, visit www.cwea.org, or feel free to call the CWEA office.

Question: How long is the test?
Answer: All tests have about 75-100 questions and 3 hours are given for completion.

Question: Can I take more than one certification test at a same time?
Answer: Yes, but you can only take up to two at a same time (under a different vocation). You will be given a total of three hours to complete both tests.

Question: How do I get a receipt showing I paid for the test?
Answer: A receipt is sent to all applicants upon request. Hold on to this receipt until the certification process is over in case you have to submit it to your employer for reimbursement.

Question: If I am applying for the Grade IV, test do I need to be a supervisor?
Answer: No. You just need to have about one year of supervision experience, verified by your manager. You do not have to hold the title of “Supervisor.”
Other CWEA Certificate Programs

- Biosolids Land Application Management
- Environmental Compliance Inspector
- Laboratory Analyst
- Plant Maintenance
  - Electrical Instrumentation
  - Mechanical Technologist
- Industrial Waste Treatment Plant Operator

<table>
<thead>
<tr>
<th>Testing Window</th>
<th>Test Dates</th>
<th>Application Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>April 1 - June 30</td>
<td>February 28</td>
</tr>
<tr>
<td>Summer</td>
<td>July 1 - September 30</td>
<td>May 31</td>
</tr>
<tr>
<td>Fall</td>
<td>October 1 - December 31</td>
<td>August 31</td>
</tr>
<tr>
<td>Winter</td>
<td>January 1 - March 31</td>
<td>November 30</td>
</tr>
</tbody>
</table>

Source

- EPA Home page: http://www.epa.gov/
- EPA National Environmental Publications: http://www.epa.gov/epahome/publications.htm
- EPA National Center for Environmental: http://www.epa.gov/ncepihom/
- EPA Office of Water Management: http://epa.gov/OWM/
- EPA Office of Enforcement and Compliance: http://www.epa.gov/compliance/resources/
- California EPA: http://www.calepa.ca.gov
- California State Water Resources Control Board: http://www.swrcb.ca.gov/
- California Codes Online: http://www.leginfo.ca.gov/calaw.html
- Association of Metropolitan Sewerage Agencies: http://amsa-cleanwater.org
- Water Environment Federation: http://www.wef.org/Home
- Federal Register Online: http://www.gpoaccess.gov/fr/index.html