WASTEWATER QUALITY ANALYST CERTIFICATION

I. Definitions

"Analyst in Training (AIT)" means a person who has passed the Grade 1 exam but has not yet met the education and/or experience requirements to be certified as a Grade 1 Analyst.

"Assistant Program Administrator" is a contracted position overseen by the Board to perform certification activities.

"Board" means the Board of Certification for Nevada Wastewater Quality Analysts as appointed by the NWEA President.

"Certificate" means a certificate of competency issued by the Nevada Water Environment Association stating that the Wastewater Quality Analyst has met the requirements of a specific classification. The certificate specifies the name and grade of the person certified, as well as the date the certificate is issued.

"Certification Administrator" means the person appointed by the Board to administer the Wastewater Quality Analyst Certification Program for the State of Nevada.

"Continuing Education Units (CEUs)" = 10 contact hours.

"Full-Time or Equivalent (FTE)" = qualifying experience.

"Laboratory Director" or "Laboratory Manager" means any person in direct responsible charge of the operation of a water quality laboratory performing wastewater analyses.

"Rules and Regulations" means rules, regulations and policy for certification of Wastewater Quality Analysts.

"Scientist" (Chemist, Biologist, Microbiologist, etc.) refers to a person who, working under general supervision, performs analyses and interprets data.

"Senior Scientist" refers to the person who may be an analytical specialist or may supervise other analysts.

"Subordinate" means a person who is subject to direct administration and technical supervision, and must in turn carry out policies and programs of the person in responsible charge.

"Technician" refers to a person under direct supervision in the performance of wastewater analyses.

"Wastewater Quality Analyst" refers to any individual who is engaged in or responsible for physical, chemical, biological or radiological analyses of wastewater/water.

"Water Quality Laboratory" means a public or private laboratory engaged in the physical, chemical or biological analysis of wastewater.

II. Experience and Education Requirements

Grade	Education & Certification	Experience*
1	High School or equivalent & 6 CEUs (see Section XII)	1 year full-time or equivalent (FTE)
2	Grade 1 Certification	2 years FTE
3	Grade 2 Certification	3 years FTE
4	Grade 3 Certification	4 years FTE

*Wastewater Quality Analyst experience includes time spent performing wastewater quality analyst duties.

In addition to the above requirements, the applicant must pass a written examination at each grade level.

III. Analyst in Training

An individual may take the Grade I exam without first meeting the required education and/or experience requirements. Upon passing the exam, the individual will be issued an Analyst in Training (AIT) certificate. The AIT certificate may be renewed every two (2) years. When the AIT has met all of the requirements for the Grade I, the individual may submit documentation of having met said requirements to the Board. Upon approval of the documentation, the AIT certificate will be converted to a Grade I certificate that expires on the date the AIT certificate previously did.

IV. How to Apply for Certification

To apply for certification, an applicant needs to submit a completed application form and a $150 nonrefundable fee to the Assistant Program Administrator. Applications must be postmarked no later than 30 days prior to the posted examination date. Upon approval of the application, the applicant will be notified of the approval and the available examination dates and locations. The Board reserves the right to deny an application for certification if the Board determines that any requirement for such certification is not met. A fee of $25 may be charged to any person whose check is returned because of a lack of funds.

V. Certification Exam

The Board will hold examinations at times and places throughout the year as may be required and convenient to the applicants. In the event an applicant fails to pass an examination, the applicant may apply for re-examination upon submission of a new application and filing fee. Applicants for certification will be required to pass a written examination to demonstrate their knowledge in the following areas:

GRADE 1: Chloride, Color, Conductivity, Alkalinity (total and phenolphthalein), pH, Temperature, Total Hardness, Turbidity, Chlorine Residual (free and combined), Dissolved Oxygen, Biochemical and Chemical Oxygen Demand, Solids (total, total dissolved, total suspended, total volatile, total settleable), Odor.

GRADE 2: Includes all Analyst 1 topics, plus: General Analyses - Sulfate, Oil, Grease, MBAS; Spectrophotometry Methods - Boron, Nitrate, Nitrite, Ammonia, Phosphate, Silica; Atomic Absorption Methods - Atomic Absorption, Flame Applications; Specific TON Methods - Fluoride, Ammonia, Nitrate, etc.; Microbiological Analyses - more advanced Bacteriological Tests (Completed, Total and Fecal, Membrane); Other Topics - more advanced Laboratory Calculations, Primary and Secondary Water Quality Standards.

GRADE 3: Includes all Analyst 2 topics, plus: Instrumental Methods - Atomic Absorption, Spectrophotometry, Gas-Liquid Chromatography (Pesticides, Trihalomethanes, etc.); Plant Systems - Basic Treatment Techniques; Other Topics - Advanced Laboratory Calculations (Statistics; Water and Wastewater Monitoring and Reporting Regulations; Microbiological Analyses - Microscopic Examination of Activated Sludge and Plankton, Suitability and Inhibitory Tests.

GRADE 4: Includes all Analyst 3 topics, plus: Administration - Staffing, Budgeting and Purchasing; Supervision - Evaluating Performance, Safety, and Training; Management - Project Administration, Quality Assurance; Plant Systems Process Control Topics - Advanced Treatment Techniques, Industrial Waste Monitoring Program.

VI. Reciprocity with Other States

Reciprocity will only be considered from applicants holding active certificates that were not obtained through reciprocity from certification programs listed on the Association of Boards of Certification (ABC) "ABC Certification Exam Equivalency Chart" and persons holding ABC certificates. Persons applying for reciprocity must also meet current education and experience requirements, and must have passed written exam(s) at each grade level up to and including the level for which they are applying. Certificates issued by reciprocity will be designated as such. The fee for reciprocity is $200.

Applicants holding active certificates that were not obtained through reciprocity from certification programs not listed on the Association of Boards of Certification (ABC) "ABC Certification Exam Equivalency Chart" may be allowed to test at the same equivalent grade level they currently hold without having to take the exam(s) below that grade level, but not before meeting the education, experience and sequential examination requirements. Upon passing that exam, the individual will be issued a certificate at the Grade level for which he/she was approved to test.

VII. Certificate Renewals

Any certificate issued under the present rules and regulations shall be valid for a period of two (2) years from the date of issuance. Any certificate not renewed after two (2) years becomes automatically suspended. No examination shall be required for renewal, provided that the previous certificate shall not have been invalid for a period of more than one (1) year. The renewal application and renewal fee of $80 should be sent to the Certification Administrator for renewal of any Nevada certificate. Any renewal received after the expiration date will be charged a $20 late fee.

VIII. Replacement / Duplicate Certificate

Certified Wastewater Quality Analysts desiring a replacement or duplicate certificate may obtain such certificate upon payment of a $20 fee.

IX. Decertification

The State may revoke or refuse to renew the certificate of any analyst. All revocation cases will be reviewed by a hearing before the Board of Certification, and a decision will be made by a unanimous vote of the quorum; quorum being five (5) out of seven (7).

A case for decertification may be considered by the Board for, but not limited to, the following:

1) The Analyst is incompetent or unable to perform his/her duties properly, or
2) The Nevada experience and education requirements for Wastewater Quality Analyst certification have not been satisfied; or
3) The analyst has practiced fraud or deception; or
4) The analyst has failed to renew his/her certificate in accordance with these provisions.

X. Appeals and Protests

Any appeal or protest made because of the determination of the Certification Administrator shall be in writing to the Board Chair. This notification shall be sent within twenty (20) days of receipt of the Administrator's written determination. The Chair shall, within sixty (60) days, make an inquiry of the protest and give an answer in writing. Any appeal of the Board Chair's determination shall be to the Certification Board. Further appeal may be made to the Division of Environmental Protection, whose decision shall be final. Appellant must send the original facts again, and state in writing which part of the Committee's decision he/she deems improper, and why.

XI. Suggested Study Materials

Exam Topic	Reference Source
Collect and Preserve Samples	Code of Federal Regulations, Title 40, Part 136 Standard Methods for the Examination of Water and Wastewater
Prepare Samples for Analysis	Code of Federal Regulations, Title 40, Part 136 Environmental Sampling and Analysis Lab Manual, 4 - 7 Standard Methods for the Examination of Water and Wastewater
Analyze Samples and Interpret Results	Environmental Sampling and Analysis Lab Manual, Ch. 5 and 6 Standard Methods for the Examination of Water and Wastewater
Operate and Maintain Equipment/Instruments	Environmental Sampling and Analysis Lab Manual, Ch. 4 Standard Methods for the Examination of Water and Wastewater
Handle Chemicals and Wastes	Environmental Sampling and Analysis Lab Manual, Ch. 2 and 14 Operation of Wastewater Treatment Plants, Volume II, Ch. 14 Standard Methods for the Examination of Water and Wastewater
Quality Assurance/Quality Control	Environmental Sampling and Analysis Lab Manual, Ch. 3 Handbook for Analytical Quality Control in Water and Wastewater Laboratories, Ch. 7 Standard Methods for the Examination of Water and Wastewater
Manage Laboratory	Environmental Sampling and Analysis Lab Manual, Ch. 3 and 14 - 17 Utility Management, Ch. 3 - 13
Laboratory Safety	Code of Federal Regulations. "Occupational Safety and Health Standards." Title 29 Environmental Sampling and Analysis Lab Manual, Ch. 2 Operation of Wastewater Treatment Plants, Volume II, Ch. 14 Standard Methods for the Examination of Water and Wastewater
General Science	Environmental Sampling and Analysis for Technicians Environmental Sampling and Analysis Lab Manual Microbiological Examination of Water and Wastewater Operation of Wastewater Treatment Plants, Volume I, A Summary of the Words Defined

Ordering Information
American Public Health Association (APHA), American Water Works Association, and Water Environment Federation. *Standard Methods for the Examination of Water and Wastewater* (latest EPA-approved edition). Washington, DC: APHA. (www.apha.org)
California State University, Sacramento (CSUS) Foundation, Office of Water Programs. 2001. *Operation of Wastewater Treatment Plants*, Vol. I and II. Sacramento, CA: CSUS Foundation. (www.owp.csus.edu)
California State University, Sacramento (CSUS) Foundation, Office of Water Programs. 2001. *Utility Management*. Sacramento, CA: CSUS Foundation. (www.owp.csus.edu)
Code of Federal Regulations. "Occupational Safety and Health Standards." Title 29 (Labor), Chapter XVII, Part 1910. (www.gpo.gov)
Code of Federal Regulations. Title 40 (Protection of Environment), Chapter I, Parts 136, 261, 433, 501, and 503. (www.gpo.gov)
Csuros, Maria. 1994. *Environmental Sampling and Analysis for Technicians*. Boca Raton, FL: CRC Press. (www.crcpress.com)
Csuros, Maria. 1997. *Environmental Sampling and Analysis Lab Manual*. Boca Raton, FL: CRC Press. (www.crcpress.com)
Csuros, Maria, and Csaba Csuros. 1999. *Microbiological Examination of Water and Wastewater*. Boca Raton, FL: CRC Press. (www.crcpress.com)
U.S. Environmental Protection Agency (US EPA). 1979. *Handbook for Analytical Quality Control in Water and Wastewater Laboratories*. EPA Number 600479019. Cincinnati, OH: US EPA. (www.epa.gov/nepis/)
For additional information, see Website www.nvwea.org

XII. Certification Training

Courses directly related to wastewater treatment will receive full value. Courses indirectly related to wastewater treatment will receive one-half value. Directly related short courses, including those given at the Water Quality Control Institute, are equivalent to one CEU per 8-hour day, with a maximum of three CEUs per week. If the course is considered to be indirectly related, one CEU will be given for each two days, with a maximum of two CEUs per week. College courses (including extension and correspondence courses taken for credit) earn 1.5 CEUs per semester credit. Indirectly related courses earn a half-credit. (Half-credit = 0.7 CEU per semester credit)

Certification Training (continued)

Directly Related Correspondence Courses
California State University, Sacramento

1. Operation of Wastewater Treatment Plants, Vol. I & II (9 CEUs each)
2. Advanced Waste Treatment (9 CEUs)
3. Small Wastewater System Operation and Maintenance, Vol. I & II (9 CEUs each)
4. Industrial Waste Treatment, Vol. I & II (9 CEUs each)
5. Treatment of Metal Wastestreams (4.5 CEUs)
6. Pretreatment Facility Inspection (9 CEUs)
7. Operation and Maintenance of Wastewater Collection Systems, Vol. I & II (9 CEUs each)

College Courses Earning Full Credit
(1.5 CEUs per semester credit):

1. College Chemistry - up to 12 CEUs.
2. Mathematics area: Algebra, Geometry, Trigonometry, Statistics - up to 12 CEUs. Does not include basic, introductory, or business math courses.
3. Biological Science area: Microbiology, Pathogenic Bacteriology, etc. - up to 9 CEUs.
4. General Physics - up to 9 CEUs.
5. Engineering courses: Fluid Mechanics, Hydraulics, and Engineering courses not directly related.

College Courses Earning Half Credit
(0.7 CEU per semester credit):

1. Technical Writing – up to 3 CEUs.
2. Public or Business Administration - up to 9 CEUs in the areas of Organization, Management, Finance, Supervision, Budgeting, etc.
3. Public Speaking - up to 3 CEUs.

Courses Accepted by WWET for CEUs

1. One-day training seminars, safety conferences, or NWEA, CWEA, or WEF-sponsored conventions will receive one CEU per day attended, up to three CEUs, provided that an education program is offered.
2. Other extension courses or training of any type which might relate to the operator's duties will be evaluated on a case-by-case basis. CEUs will be allowed based on the material covered, the depth of the coverage, and the time required to complete the course.

Other Wastewater Certification Programs available through NWEA:

- *Wastewater Treatment Plant Operator*
- *Industrial Waste Inspector*
- *Industrial Waste Operator*
- *Collection System Operator*

Nevada Wastewater Certification Programs

Wastewater Quality Analyst

Nevada Water Environment Association

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