

**DRINKING WATER SECTION**  
**GUIDANCE DOCUMENT FOR**  
**OPERATOR CERTIFICATION TRAINING APPROVAL**

**I. GUIDELINE OBJECTIVES & APPROVAL REQUIREMENTS**

The intent of this document is to provide useful guidance to Department of Public Health (DPH) staff approving training, to training providers requesting approval for training and to operators renewing their certificates.

Public Health Code Section 25-32-14(a) requires all certified treatment, distribution, and small system operators to complete minimum amounts of training to qualify for renewal of certificates.

This guidance document establishes criteria for renewal training to ensure that the training is job related, under responsible sponsorship, capable direction, and qualified instructors. This document outlines minimum requirements and procedures for conducting training acceptable for operator certification renewal requirements. The document also outlines the renewal process for operators.

**II. TRAINING APPROVAL PROCESS**

Only training approved by the DPH shall be accepted to meet renewal requirements for operator certification. Training may be approved by DPH if the training provider issues credit for training hours in one of the following units:

- Continuing Education Units (CEU) meeting the criteria established by the International Association for Continuing Education and Training Council (IACET)
- College credits issued by an accredited educational institution
- Training Contact Hours (TCH)

Please refer to Section XII for definitions and equivalencies.

The DPH may approve training for individual courses, training programs provided by approved training providers and college courses in accordance with this guidance document.

**III. MINIMUM CRITERIA FOR INDIVIDUAL TRAINING COURSES**

The organization conducting training shall apply for review of individual training courses by submitting the information in this Section to the DPH at least 60 days prior to the course beginning date. The information must be submitted on a form provided by the DPH. If a course is submitted for review less than 60 days in advance or after the course is given, the applicant assumes the risk that it may not be approved. The DPH reserves the right to approve or deny training courses. Applications for training approval may also be submitted by certified operators.

1. Any individual or organization wishing approval of their training hours for drinking water operator certification renewal shall meet the following guidelines for conducting the training and record keeping of the course and attendance information. The following information must be submitted to the DPH for review, in consideration of approval of training:
  - a. The date, location of the training and description of the training facility;

- b. The course outline showing the topic(s) to be presented and time allotted for each (including beginning and ending times). The outline must include the training course or session objective(s);
  - c. A list of all instructional material (material must be made available to the DPH upon their request);
  - d. A list of any audiovisual materials to be used, such as videotapes, slides, slide/tape presentation, films and overheads;
  - e. The name, address, and background information or resume of instructor(s) which details the instructor's competence in the subject matter, understanding of the purposes and intended learning outcomes of the program, and ability to communicate the program content at an appropriate level;
  - f. Copies of forms or documents to be used to comply with the items in Number 2 below.
2. The following information must be retained on file and available for inspection by the DPH for a period of seven years from the date the training was offered:
- a. A copy of the format for the certificate of completion being issued to the attendees containing but not limited to the following information:
    - 1. attendees' name;
    - 2. name of course;
    - 3. training hours issued;
    - 4. date the course was held;
    - 5. name of the co-sponsoring or sanctioning organization, if applicable;
    - 6. name of responsible individual within the organization;
    - 7. name of organization issuing certificate and keeping the records.
  - b. A copy of the attendance roster used, which must contain but is not limited to:
    - 1. name of the course;
    - 2. training hours issued;
    - 3. course code if applicable;
    - 4. date and time the course was held;
    - 5. location of the course;
    - 6. name of course instructor;
    - 7. names of attendees;
    - 8. morning and afternoon section for signing in and out. If the course is for more than one day the roster must show each day of attendance;
  - c. A copy of the training evaluation form which measures the quality of the training.
  - d. Requirements for satisfactory completion of the training (i.e. credit for training hours) in writing. Participants must be informed of the requirements for satisfactory completion prior to their participation. Attendance requirements must be documented by attendance rosters or sign-in sheets.
  - e. A statement indicating that the training shall not include any product or service endorsements.

Approvals will be valid for up to three years unless any of the information submitted under this Section changes, in which case the training must be resubmitted for review.

- 3. Credit for training hours is based upon actual contact time in the training. All breaks and meal times must be noted on the agenda and will not count toward contact time. Excessive time allotted for introduction or welcomes will not count toward contact time.

4. No credit for training hours will be given prior to the completion of any training course. Participants must attend the entire session and satisfactorily complete the program. Training providers may issue full credit for training hours to participants that miss no more than 10% of the course, due to unusual circumstances (e.g. illness, emergencies). The completion date of a multi-day course is the last day of the course.
5. The minimum credit issued will be one training (1.0) hour. Credit will be issued in increments of one-half (0.5) hour.

#### **IV. MINIMUM CRITERIA FOR TRAINING PROVIDERS**

National, regional or state organizations, associations, institutions or corporations providing training for drinking water operators shall apply for a review of their training program, in consideration of approval, by submitting the following information to the DPH:

1. The standards by which the organization plans to meet the criteria of this guideline, especially the criteria for individual training courses in Section III.
2. The criteria for cosponsoring training (if applicable).
3. A written policy on maintaining records, especially the records in Section III, 2.
4. A written mission statement that outlines the functions, structure, processes, and philosophy which guides the operations of the training program.
5. Copies of approvals, certifications, etc. of the training provider from other professional entities.

If a national, regional or state organization, association, institution or corporation providing training for drinking water operators is an IACET Authorized Provider, only the following items need to be submitted to DPH:

1. A description of the training provider and its drinking water operators training program.
2. A copy of the IACET Certification.

If granted, the approval would allow all CEUs or TCHs issued by the organization for drinking water training to be accepted by the DPH to meet training renewal requirements. An annual training calendar and course syllabi must be submitted by the training provider to the DPH by the end of each calendar year.

Approvals will be valid for up to three years unless any of the information submitted under this Section changes, in which case the training must be resubmitted for review.

#### **V. MINIMUM CRITERIA FOR DISTANCE EDUCATION**

Distance education is an acquisition of knowledge that occurs through various technologies with a separation of place and/or time between the instructor and the learner. Examples of distance education are correspondence courses, CD-ROM courses, internet on-line courses.

The DPH may approve distance education that meets the criteria of either Section III (individual courses) or Section IV (training providers) and the following additional criteria:

1. The training provider must have a method of providing security (verification of student participation).
2. There must be a reasonable explanation of how the total training hours are determined. This may include time estimates, pilot studies, or logged time.
3. The training provider must provide a mechanism for interaction between the instructor and student.
4. The training provider must have a mechanism to provide timely feedback to students.
5. The training provider must provide adequate technical support for installation and/or use of the training components where applicable (e.g. CD-ROM, Internet).
6. Issuance of a certificate must be based on successful completion of one or more exams. A minimum score

of 70% is required for successful completion.

7. Certificates must include the signature of the operator's supervisor to verify course completion.

## **VI. MINIMUM CRITERIA FOR COLLEGE COURSES**

Credits from a college accredited by the National Association of Schools and Colleges (or any regional affiliate), the Association of American Colleges, or an equivalent accrediting body, as determined by DPH, may be accepted as follows:

- All courses listed in Appendix A are automatically approved.
- Applicants may apply for approval of any job related course not listed in Appendix A.

## **VII. MINIMUM CRITERIA FOR DEPARTMENT OF PUBLIC HEALTH (DPH) COURSES**

Training hours issued by the DPH may be accepted as follows:

- All courses for the topic areas listed in Appendix B are automatically approved.

## **VIII. OPERATOR RENEWAL APPLICATION PROCESS**

Operators shall apply for renewal on a form provided by the DPH. The application shall include copies of certificates of completion, for training acceptable to the DPH, to demonstrate that they have qualified for renewal. Operators should take courses as recommended in Appendix B, according to their certification category. For operators with multiple certifications, training hours may be accepted for more than one certification, provided that the course area is listed, in Appendix B, for those multiple certification categories. Repeat courses in the same renewal cycle would not be acceptable. Operators should take courses in different areas, where possible, and not take a number of courses in the same subject.

## **IX. TRAINING FOR CONDITIONAL OPERATORS**

Conditional Operators must receive specific training, prior to the first expiration of their certification, to renew their conditional certification. A Conditional Operator is an existing operator who had direct responsible charge, for at least one year prior to the regulation revisions, of a plant or system, which was required to have a certified operator for the first time as a result of those revisions. The training a conditional operator is required to complete must include all of the following subject areas. This training may be achieved by attending one or more approved training courses.

- Sources (including source protection)
- Basic water treatment (groundwater)
- Pumps
- Water quality
- Distribution system operation & maintenance (including cross connection control, disinfection, metering)
- Sampling
- Customer service
- Regulations
- Operator safety
- Management (financial, administration, personnel, emergency planning)

Security issues shall be an integral part of the training and covered under the appropriate subject areas. All training for conditional operators must be approved by DPH, in accordance with this document.

Operators were only granted conditional certification for a specific water system (treatment plant, distribution system or small water system). The number of training hours required to renew a conditional certification is based upon the classification of that specific water system. The table below details how many training hours are required every three years, based on the classification of the system.

Classification of System	Number of Training Hours Required
Class 1 (Treatment or Distribution System) or Small Water System	10
Class 2 (Treatment Plant or Distribution System)	20

## X. TRAINING FOR SMALL WATER SYSTEM OPERATORS

Small Water System operators must meet minimum education, experience and examination requirements to become certified. The applicant must have either a high school diploma or a high school equivalency diploma, and six months experience operating a small water system, water treatment plant or water distribution system, to qualify to take the examination.

A minimum of twenty (20) hours of training acceptable to the department may be substituted for the experience requirement. To meet this requirement, the applicant must have attended training no more than three years prior to the date of the examination for which the applicant is applying and the training must include all of the following subject areas:

- Sources (including source protection)
- Basic water treatment (groundwater)
- Pumps
- Water quality
- Distribution system operation & maintenance (including cross connection control, disinfection, metering)
- Sampling
- Customer service
- Regulations
- Operator safety
- Management (financial, administration, personnel, emergency planning)

Security issues shall be an integral part of the training and covered under the appropriate subject areas.

## XI. BACKFLOW PREVENTION DEVICE TESTERS AND CROSS CONNECTION SURVEY INSPECTORS

Public Health Code Section 25-32-11(e) requires that persons testing backflow prevention devices complete and pass a course on testing of backflow preventers administered or approved by DPH. Public Health Code Section 25-32-11(h) requires that persons performing cross connection inspections complete and pass a course on cross connection inspections administered or approved by DPH.

The following criteria must be met for a course to be approved by DPH:

- Course providers must be approved pursuant to Section IV or have individual courses approved pursuant to Section III.
- Course content must include instruction in the appropriate job analysis from one of the following:
  - American Backflow Prevention Association
  - American Society of Sanitary Engineering

- Association of Boards of Certification
- The examination content must be approved by DPH.
- In lieu of a course on cross connection inspections, a person may complete and pass a course on testing of backflow preventers administered or approved by DPH and receive field training from a Cross Connection Survey Inspector who has met the requirements of Public Health Code Section 25-32-11(h).

Applicants must submit applications for certificates within one year after the date of the most recent examination results or field training. Applications beyond one year will not be accepted.

## **XII. EQUIVALENCIES AND DEFINITIONS**

### Equivalencies

- Courses granting Continuing Education Units (CEU) will be issued training hours on a basis of one (1.0) CEU = ten (10) training hours.
- College credit for applicable courses will be issued at 15 training hours per 1 credit hour.
- Courses granting Training Contact Hours (TCH) will be issued training hours on a basis of one (1.0) TCH = one (1.0) training hour.

### Definitions:

*Continuing Education Unit (CEU):* Ten contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction and qualified instruction (refer to the IACET Continuing Education Unit Criteria and Guidelines, Fifth Edition, for the ten specific CEU criteria).

*Training Contact Hour (TCH):* One clock hour (60 minutes) of interaction as defined under contact. Contact is defined as interaction between a learner and instructor. Contact implies two way communication in order for the learner to receive feedback to monitor and assess learning.

## **XIII. REVOCATION OF APPROVAL**

The DPH may revoke any training approval at any time if it finds the training course or program no longer meets the criteria established in this guideline.

### **APPENDIX A. LIST OF COLLEGE COURSE AREAS THAT QUALIFY FOR APPROVAL (SEE SECTION VI)**

1. Biology (General, Microbiology, Biochemistry, Ecology)
2. Business Administration (Utility Management)
3. Chemistry (General, Organic, Environmental)
4. Civil, Chemical, Environmental, and Mechanical Engineering (Hydraulics, Water Treatment, Fluid Mechanics, Environmental Remediation and other related courses)
5. Geology (Ground and Surface Water Hydrology)
6. Math (Algebra, Trigonometry, Geometry, Calculus)
7. Natural Resources (Management and Conservation)
8. Public Health (Epidemiology, Toxicology)

**APPENDIX B. LIST OF TRAINING COURSES APPROVED FOR RENEWAL OF CERTIFICATION.**  
**Note: Conditional Operators must meet the training requirements noted in Section IX for their first renewal cycle.**

Suggested topic areas for water treatment operators

1. Basic Lab Skills
2. Chemical Delivery
3. Drinking Water Disinfection Principles and Practices
4. Drinking Water Microbiology
5. Drinking Water Treatment
6. Filtration
7. Fluoridation
8. Iron and Manganese Removal
9. Operating and Maintaining Chemical Feed Pumps
10. Sedimentation and Flootation
11. Water Treatment Plant Residual Management

Suggested topic areas for water distribution operators

1. Construction and Maintenance of Distribution Systems
2. Disinfection of Mains and Storage Tanks
3. Leak Detection
4. Valve and Hydrant Maintenance

Suggested topic areas for Small system operators

1. Basic Lab Skills
2. Disinfecting a Distribution System
3. Operating and Maintaining Chemical Feed Pumps

Suggested topic areas for all operators

1. Computer Applications for Operations of Water Systems
2. Contract Language
3. Corrosion Control
4. Cross Connection Control
5. Customer Service
6. Drought Management
7. Electricity and Electrical Controls
8. Emergency Response Planning
9. Flow Measurement
10. Hydraulics
11. Identification and Correction of Sanitary Deficiencies
12. Maintaining Pumps and Motors
13. Map and Blueprint Reading
14. Math
15. Personnel Management
16. Procedures for Drinking Water Sampling
17. Public Health
18. Record Keeping and Report Writing
19. Safety
20. Security

21. Source Water Quality
22. State and Federal Regulations
23. Storage
24. Water Chemistry
25. Water System Management
26. Wells (protection, maintenance, construction)

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