

**DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
**Bureau of Safe Drinking Water**

**DOCUMENT NUMBER:** 391-2300-003

**TITLE:** Training Provider Manual for the Pennsylvania Water and Wastewater System Operator Training Program

**EFFECTIVE DATE:** TBD

**AUTHORITY:** Water and Wastewater Systems Operators' Certification Act

**POLICY:** The Department of Environmental Protection (DEP or Department) and the State Board for Certification of Water and Wastewater System Operators will follow the guidance and procedures in this document to direct and support the water and wastewater system operator training program.

**PURPOSE:** The purpose of this document is to establish uniform procedures and protocol for reviewing and approving water and wastewater training courses for pre-certification and continuing education of water and wastewater system operators, and to ensure application of appropriate credit to operators for training taken.

**APPLICABILITY:** This guidance applies to all operators of regulated water and wastewater systems, the State Board for Certification of Water and Wastewater System Operators and DEP.

**DISCLAIMER:** The policies and procedures outlined in this guidance document are intended to supplement existing requirements. Nothing in the policies or procedures shall affect regulatory requirements.

The policies and procedures herein are not an adjudication or a regulation. There is no intent on the part of DEP to give these rules that weight or deference. This document establishes the framework within which DEP will exercise its administrative discretion in the future. DEP reserves the discretion to deviate from this policy statement if circumstances warrant.

**PAGE LENGTH:** 49 pages

**DEFINITIONS:** See Appendix A of the document.

## Table of Contents

Page

1.	General Information.....	1
	A. Introduction.....	1
	B. Overview of the Operator Training Approval Program.....	1
	C. Contact Information.....	2
2.	Application for Training Sponsor Approval.....	4
	A. Introduction.....	4
	B. Instructions for Completing New Training Provider Application.....	4
3.	Application for Training Course Approval.....	7
	A. Introduction.....	7
	B. Instructions for Completing Application for Approval of Training Course.....	7
4.	Application for Approval of Certificate or Associate Degree Program.....	11
	A. Introduction.....	11
	B. Instructions for Completing Application for Approval of a Certificate or Associate Degree Program.....	12
5.	Water and Wastewater Industry Conferences.....	14
	A. Using Conferences for Continuing Education Credit.....	14
	B. Instructions for Completing Conference Application.....	14
6.	Application for Post-Presentation Credit Approval.....	17
	A. Introduction.....	17
	B. Instructions for Completing the Post-Presentation Application.....	17
7.	Awarding of Continuing Education Credit.....	18
	A. Credit Upon Completion of an Approved Training Course.....	18
	B. Continuing Education Credit for Approved Conferences.....	19
	C. Retroactive Award of Credit.....	21
8.	Sponsor Responsibilities.....	22
	A. Sponsor General Responsibilities.....	22
	B. Sponsor Reporting Requirements: Course Roster Reports.....	24
	C. Sponsor Status and Course Modifications.....	25
9.	Course Guidelines.....	26
	A. General Course Guidelines.....	26
	C. Additional Guidelines for Virtual Asynchronous Training Courses.....	28
	D. Additional Guidelines for Virtual Synchronous Training Courses.....	29
10.	Quality Assurance and Training Program Administration.....	32
	A. Quality Assurance.....	32
	B. Approvals, Disapprovals, Suspensions, and Revocations.....	32
	Appendix A: Glossary of Terms.....	35

Appendix B: Adult Education Design and Delivery.....38

Appendix C: Training Course Objectives.....40

Appendix D: Acceptable Training Course Agenda .....42

Appendix E: Instructor Qualification Verification .....43

Appendix F: Example Student Tracking Form.....45

Appendix G: Example Certificate of Completion .....46

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## 1. General Information

### A. Introduction

This manual describes how to apply to become an approved training provider (that is, a training sponsor) to provide training to water and wastewater system operators in Pennsylvania and how to obtain approval of training activities delivered to Pennsylvania-certified water and wastewater operators. This manual also describes training sponsor responsibilities, various training activity guidelines, and other elements of the approval process for providing training to water and wastewater system operators in Pennsylvania.

For water and wastewater system operators in Pennsylvania to receive credit for training toward pre-certification experience or their required continuing education, the training activity must be approved by DEP. DEP approval ensures that competent providers are offering the training and that the training is relevant and meaningful to the operators. *DEP must review and approve training activities for contact hours before the training can count towards continuing education credit for operators in Pennsylvania.* DEP encourages training providers and content developers to ensure that all training activities are designed to focus on the knowledge, skills, and abilities needed by operators to successfully perform their job duties, and to address the needs of certified water and/or wastewater operators.

### B. Overview of the Operator Training Approval Program

#### 1. Training Sponsor Approval

A training provider that would like to deliver training courses or conferences that will count toward pre-certification or continuing education credit for water or wastewater operators in Pennsylvania must first obtain approval from DEP as an approved training provider, also known as a training sponsor. See Section 2 for details on becoming a training sponsor.

Training sponsors are expected to adhere to the responsibilities and reporting requirements found in Section 8 of this manual. DEP may suspend or revoke approval of a sponsor as necessary (see Section 10 for details).

#### 2. Training Activity Approval

Training sponsors must obtain DEP approval of training activities before they can count toward pre-certification or continuing education credit for water or wastewater operators. The approval process establishes that the training activity content is relevant to drinking water or wastewater system operations, is of creditable substance, and uses effective adult education concepts and learning techniques.

Training courses submitted by training sponsors for approval will be reviewed in detail.

Conferences and certificate or associate degree programs are subject to a separate approval process.

### **3. Application Submissions and Fees**

All applications for approval of training sponsors, courses, conferences, and certificate or associate's degree programs are handled through GlobalTAPS, the web-based training approval system. GlobalTAPS is accessible through GreenPort as a self-enrolled DEP application. Register for GreenPort at <https://greenport.pa.gov/gpl>.

Application instructions can be found in Sections 2 through 6 of this document.

Application and roster upload fees are as follows:

- Sponsor Application: \$90
- Course Application: \$115
- Conference Application: \$70
- Post-presentation credit Application: \$250
- Course Rosters: \$1 per name (billed quarterly)
- Post-presentation credit Application: \$250

### **4. Post-Presentation Credit**

Post-presentation credit refers to a water or wastewater operator's request to DEP to obtain credit for a training course that DEP has not pre-approved. In such instances, it is the operator's responsibility to submit information about the course and the course provider, using the application form described in Section 6, as soon as possible after completing the course. However, DEP will not accept Post-presentation credit applications beyond 90 days following an operator's cycle expiration date. This topic is included in this manual to make training providers aware that operators have this option available to them.

### **5. Retroactive Award of Credit**

Retroactive award of credit refers to the award of continuing education credit to an operator for a course or conference session that was not approved until after it was completed by the operator. In order for the operator to receive credit, DEP must approve the course or conference before the operator's certification expiration date.

## **C. Contact Information**

The web-based training approval process can be found at: <https://greenport.pa.gov/gpl>.

If you have questions related to this manual, contact DEP at:

PA DEP  
Bureau of Safe Drinking Water  
Training, Technical and Financial Assistance Division  
Training Section  
P.O. Box 8467  
Harrisburg, PA 17105-8467

Phone: 717-787-0122  
Fax: 717-772-5630  
E-mail: [DEPWSTechtrain@pa.gov](mailto:DEPWSTechtrain@pa.gov)

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## 2. Application for Training Sponsor Approval

### A. Introduction

Any training provider who wants to offer training to Pennsylvania water and/or wastewater operators for pre-certification or continuing education credit must first be approved as a training sponsor by DEP. **Before applying to become a Pennsylvania training sponsor, applicants should first read Sections 8 and 9 of this manual to ensure that they can comply with all the sponsor responsibilities and course guidelines.**

Allow 60 calendar days for processing of training sponsor applications following receipt of a complete application and payment. Incomplete submissions may delay the process. There are no renewal requirements.

Requests for additional information or clarification will be conveyed electronically via the GlobalTAPS system or via email. Applicants are required to make changes and additions to the application within GlobalTAPS as needed and resubmit to DEP. Approval and denial letters, and application fee invoices are also delivered electronically.

Training sponsors agree to comply with the responsibilities and reporting requirements listed in Section 8 of this manual. DEP may suspend or revoke sponsorship (see Section 10), or the sponsor may voluntarily withdraw from being a sponsor.

### B. Instructions for Completing New Training Provider Application

The provider application is completed through GlobalTAPS, the web-based approval system, via GreenPort at <https://greenport.pa.gov/gpl>.

If you are not registered in GreenPort, you need to first register a new GreenPort account. Go to the GreenPort website and click the “Register” button and follow the steps in the page that is displayed.

Once you are registered in GreenPort, request access for GlobalTAPS. Under “Request DEP Application,” click on the “Request Access” button. Scroll down to “Other,” find “GlobalTAPS,” and click on the “Enroll” button. Then you should be able to enter GlobalTAPS from the GreenPort dashboard.

Upon entering GlobalTAPS for the first time, click on “Provider Registration” on the left.

#### 1. Provider Registration

To complete the provider registration in GlobalTAPS, follow these steps:

- Click on the blue “Provider Registration” button.
- Complete Part I - Contact Information. Click “Next.”
- In Part II - Training Partner Information, click on the “New Training Provider” button.

- Complete the training partner contact information, type, and function in questions 1 through 3. In question 4, select “Yes”.
- Click the “Finish” button to proceed to the training provider application.

## 2. Provider Application

The training provider application is broken into six steps. In Steps 1 through 4 you will answer a series of questions relative to your training program policies and procedures. To complete the application, answer the questions pertaining to the following:

- Primary market and customer base
- Leading products and services
- Brief history of your company or organization
- Identification of a continuing education or training unit
- Instructional materials
- Delivery methods
- Qualifying course instructors/developers
- Credentials of key training staff
- Methods for assessing achievement of course objectives
- Providing learner support
- Scheduling and advertising courses
- Tracking course registrations
- Tracking student attendance
- Recordkeeping and reporting processes
- Issuing satisfactory course completion certificates
- Post-course or program evaluations
- Reporting operator completions to DEP
- Written policies and standards for needs assessments, determining course objectives, planning training courses, evaluating and approving your own course content, ensuring consistency between multiple instructors, evaluating and approving instructional methods, ensuring a suitable learning environment, conducting course audits, and establishing and implementing review procedures to ensure training courses meet DEP criteria.

In Step 5, you will be asked to upload certain required attachments and documentation. Required attachments include a sample student tracking form, a sample course completion certificate, and a sample course evaluation form. You may also provide additional documents that will assist DEP in assessing your application. For example, you may wish to submit an Organizational Chart for your training department or a sample slide deck.

Documentation can be provided in one of three ways. You may:

- Upload an electronic version via GlobalTAPS;
- Mail in the documents using regular postal or courier service;
- Provide a website where the documents can be downloaded.

In Step 6, you are asked to check the “I Agree” box to certify that you have read the sponsor responsibilities and course guidelines of the Pennsylvania Water and Wastewater Training Program and agree to abide by those responsibilities and guidelines.

If you selected to mail in the required documentation in Step 5, you also have the option in Step 6 to download a report that lists all of the documents you agreed to submit by mail.

Upon clicking the “Finish” button, you will be emailed an invoice and confirmation that we have received your application.

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### 3. Application for Training Course Approval

#### A. Introduction

In order to submit course applications electronically, you must first be an approved training sponsor in Pennsylvania. Contact hours are awarded only for courses that have been previously approved by DEP. Courses may not be advertised or otherwise promoted as approved for Pennsylvania water or wastewater pre-certification or continuing education credit until they have been approved in writing. **A course will not be assigned Pennsylvania contact hours until written approval of the course has been issued to the training sponsor by DEP. All training courses are expected to conform to the course guidelines listed in Section 9 of this manual.**

Allow 45 calendar days for processing of course applications following receipt of a complete application and appropriate payment. Incomplete submissions may delay the process. A separate, complete application is required for each training course for which approval is requested. This includes the same or similar course material delivered in different training formats; for example, a separate application is required for a classroom course and a virtual synchronous course with the same title. Requests for additional information or clarification may be conveyed electronically by the GlobalTAPS system or DEP personnel may contact you directly. Applicants are required to make edits and additions to the application within GlobalTAPS and resubmit to DEP. Approval letters, denial letters, and application fee invoices are also delivered electronically.

A training course consists of both content and delivery. Therefore, a training course will not have any Pennsylvania water or wastewater operator contact hour value until the entire course is approved and linked to an approved training sponsor who will administer and deliver the course. It is recommended that you limit the number of course applications that are submitted at any one time. This will help to keep DEP's application and review process efficient.

#### B. Instructions for Completing Application for Approval of Training Course

The course application is completed through the web-based approval system (GlobalTAPS) at <https://greenport.pa.gov/gpl>.

To login, use the credentials that you created during the training provider registration process. To begin a new application:

- Click on "Applications" in the upper menu
- Click on "Course" in the drop-down menu
- Click on the "Add New" button below the right side of the application table

##### 1. Part I: Applicant Description


The system will automatically populate your information in the fields shown based on your login, except for the Contact Name. Use the drop-down box to choose the appropriate contact for the application.

**2. Part II: Standard Course Information**

1. Enter the full course title. Do not use abbreviations.
2. Check the box for Proprietary or Public Domain. If you have created or have permission to use the course materials, check “Proprietary”. Very few courses are public domain, and you may still need permission to use these materials. If you do not own the content, you will be asked to provide the name and contact information for the content owner.
3. From the lists shown, select all applicable topics that the course covers.

**3. Part III: Course Information**

1. Indicate the suggested level of the course.
2. Indicate whether the course applies to drinking water, wastewater, or both.
3. List training course objectives or expected training course learning outcomes. Each objective should be only a few words or a sentence. Refer to Appendix C for examples of acceptable and unacceptable course objectives as well as a verb list for training course objective construction.
3. The brief description of the course should summarize the course information as you would in a brochure. DEP will use this information to answer inquiries on available Water and Wastewater Operator Training and publish the information to the course catalog at <https://greenport.pa.gov/Earthwise/Catalog/CourseCatalog>.
  - a. Describe the background and purpose of the course.
  - b. Briefly summarize the course content. You may use bulleted statements.
  - c. Briefly describe who should attend the course (for example, water or wastewater operators, plant superintendents, authority or board members).
4. Course Availability
  - a. Indicate whether the course is available on an on-going basis or if the course is given as a single event.
  - b. Indicate if the course is open to the public or if it is designed for company employees as an in-house only program. DEP will not direct the public to courses designated as in-house only.
6. Check whether the course is designed as a classroom, virtual synchronous, virtual asynchronous, or correspondence course. You will be required to answer additional questions based on the format of the course. Refer to Section 9 of this manual for the specific requirements of each course format.

7. Select all the teaching techniques used for this course from the list. If it is a correspondence course, you should check “self-paced reading/activities” and generally would not check “interactive activities.” All other types of courses, including classroom and virtual courses, should contain techniques other than self-paced reading.
8. Select all the teaching tools used for this course from the list.
9. Indicate how many Pennsylvania water/wastewater contact hours you are requesting for the course (see Section 7 for information on awarding continuing education credit and calculating contact hours).
10. Indicate if the course has been assigned academic credits or Continuing Education Units (CEUs) by a state- or nationally-approved college or university or if the course has International Accreditors for Continuing Education and Training (IACET) CEUs.
-  11. Indicate the timeframe of course delivery. For example, is it a single 8-hour classroom session or is it self-paced correspondence or web-based training?
12. Select which method(s) you will use for assessing the achievement of training course objectives. Also indicate the performance standards or requirements you will use associated with each assessment method used. For example, for a test or quiz, indicate whether completion is the standard or whether a minimum passing grade is required. Indicate only the methods and associated standards that apply to this course. All courses are expected to have at least one additional assessment method other than attendance.

#### **4. Part IV: Attachments**

You are required to upload the training course agenda and course materials, such as slide decks, instructor guides, workbooks, as well as any assessment material such as exams or projects. For virtual courses, submit an electronic version of the course, or provide full temporary access to the course on the internet by uploading the username and password. For correspondence courses, you are required to submit the entire course. If the files are too large to upload through GlobalTAPS, the Training Section in DEP’s Bureau of Safe Drinking Water will provide alternate means to submit the necessary information.

#### **5. Part V: Certification**

You are asked to check the “I Agree” box to certify that you have read the sponsor responsibilities and course guidelines of the Pennsylvania Water and Wastewater Training Program and agree to abide by those responsibilities and guidelines.

Upon clicking “Finish” on the Confirmation page, you will be emailed an invoice and confirmation that DEP received your application.

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## 4. Application for Approval of Certificate or Associate Degree Program

### A. Introduction

A training sponsor may offer a certificate program or associate degree program in water and/or wastewater (that is, an entire curriculum or series of DEP-approved training courses). Upon completion of a certificate or associate degree program, the participant would receive a certificate or diploma from the sponsor indicating satisfactory completion of all the courses and requirements of the program. Operators will receive credit for each of the DEP-approved courses in the program. More importantly, operators completing a DEP-approved certificate or associate degree program will be eligible for reduced operating experience necessary to qualify for certification. For more information, please refer to DEP's *Drinking Water and Wastewater Systems Operator Certification Program Handbook* ([391-2300-001](#)).

The key elements of a certificate or associate degree program are:

1. The provider is a DEP-approved training provider.
2. For a certificate program, the program consists of the following:
  - a. At least 180 contact hours (18 CEUs or 12 college credits) of DEP-approved courses organized into a curriculum for either drinking water or wastewater. Normally a certificate program will involve either drinking water or wastewater, not both. DEP may consider a certificate program for both if the training sponsor demonstrates it contains sufficient hours or college credits to adequately address both disciplines. For example, a program approved for both water and wastewater would require at least 180 hours of courses approved for drinking water and 180 hours of courses approved for wastewater. However, courses approved for both drinking water and wastewater may be applied to both 180-contact hour programs.
  - b. At least one qualified instructor with operational experience in the applicable industry (either drinking water or wastewater). If the certificate program consists entirely of DEP-approved courses that are distance education in format, such as correspondence courses or virtual asynchronous training courses, the instructor is expected to hold at least one virtual synchronous session during a student's program and be available to each student to provide additional guidance and respond to questions as needed, either via email or by phone during set office hours.
3. For an associate degree program, the program consists of at least 360 contact hours (36 CEUs or 24 college credits) of DEP-approved courses organized into a curriculum for drinking water, wastewater, or both. When the degree involves both water and wastewater, the training sponsor is expected to demonstrate that it contains sufficient hours or college credits to adequately address both disciplines. For example, a program approved for both water and wastewater would require at least 360 hours of courses approved for drinking water and 360 hours of courses

approved for wastewater. However, courses approved for both drinking water and wastewater may be applied to both 360-contact hour programs.

4. The program should consist of an appropriate mix of DEP-approved industry-specific technical courses that will provide a well-rounded education in water and/or wastewater operation, as determined by DEP.
5. The program may consist of additional courses that are not approved by DEP, provided the minimum number of drinking water and/or wastewater hours or college credits is met.
6. The training sponsor should organize the courses into a logical sequence or progression of topical areas related to drinking water and/or wastewater. The sponsor should also indicate courses that are not approved by DEP but are contained in the program.
7. The training sponsor should provide additional information about its certificate or associate degree program that supports the usefulness and the value of the program's content. Include any restrictions or rules imposed by the sponsor upon the certificate program candidates.

## **B. Instructions for Completing Application for Approval of a Certificate or Associate Degree Program**

The Certificate and Associate Degree applications are completed through GlobalTAPS, the web-based approval system, via GreenPort at <https://greenport.pa.gov/gpl>.

Allow up to 45 calendar days for processing applications. Incomplete submissions may further delay the process. There is no application fee for the certificate or associate degree (individual course application fees still apply).

Requests for additional information or clarification will be conveyed electronically by the GlobalTAPS system. Applicants are required to make changes and additions to the application within GlobalTAPS and resubmit to DEP. Approval and denial letters, and application fee invoices are also delivered electronically.

To login, use the credentials that you established during the training provider registration process. To begin a new application:

Click on the "Applications" drop-down in the upper-left corner of the page and then click on "Certificate" click on the blue "Add New" button located at the bottom right corner below the application table.

### **1. Part I: Applicant Description**

All applicants complete this part. Your information, except for the "Contact Name" will be prepopulated based on your login.

**2. Part II: Certificate or Associate Degree Program Information**

Enter all information about your drinking water and/or wastewater certificate or associate degree program. Use the drop-down menu in Item 4 to associate your approved courses with the program.

**3. Part III: Certification**

In the electronic application, you are asked to check the “I Agree” box to certify that you have read the sponsor responsibilities and course guidelines of the Pennsylvania Water and Wastewater Training Program and agree to abide by those responsibilities and guidelines.

Upon clicking “Finish” on the Confirmation page, you will be emailed a confirmation that DEP received your application.

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## 5. Water and Wastewater Industry Conferences

### A. Using Conferences for Continuing Education Credit

Approved training sponsors may apply to have conferences approved for continuing education credit.

- Conferences are valued at one contact hour per one half-day of conference session. One half-day equals at least 2.5 hours of continuous, active, technical session time, not counting mealtimes. For complete information on conference credit, see the guidelines for awarding of continuing education credit in Section 7.B., Continuing Education Credit for Approved Conferences.
- Conference contact hours count toward operator continuing education credit, but do not count toward pre-certification experience.

To obtain approval for a conference, the conference provider must be an approved Pennsylvania training sponsor or the conference must be co-sponsored or sanctioned by an approved training sponsor, and that approved sponsor submits a Conference Application to DEP. The approved training sponsor is ultimately responsible for tracking attendance and reporting a roster of attendees who are Pennsylvania-certified operators to DEP according to the Sponsor Reporting Requirements (see Section 8).

Upon approval of the Conference Application, DEP will assign a separate session ID number worth one contact hour to each half-day conference session and will designate whether the contact hours apply to water, wastewater, or both. Each conference session will have a different session ID number associated with it as stated in the written approval letter. The training sponsor is responsible for tracking and reporting rosters for successful completions for each half-day session separately.

Continuing education credit may be awarded for DEP-approved training courses offered in conjunction with a conference. Training providers should pre-register participants for approved courses at conferences to ensure proper preparation, or set a pre-determined maximum class size and close the class when the maximum size is reached. The provider may award continuing education credit to an operator for either a half-day conference session or for an approved training course, but not both during the same time frame on a given day (see Section 7).

### B. Instructions for Completing Conference Application

The conference application is completed through the web-based approval system (GlobalTAPS) at <https://greenport.pa.gov/gpl>.

Please allow up to 45 calendar days for processing of conference applications following receipt of a complete application and the \$70 conference application fee. Incomplete submittals may delay the process.

To login, use the credentials that you established during the training partner registration process. To begin a new application:

- Click on “Applications” in the upper left menu.
- Click on “Conference” in the drop-down menu.
- Click on the “Add New” button below the right side of the Pending Conference Applications table.

**1. Part I: Applicant Description**

The system will automatically populate your information in the fields shown based on your login, with the exception of the “Contact Name”. Use the drop-down box to choose the appropriate contact for the application.

**2. Part II: Conference Information**

1. Enter the name of the conference as indicated on any brochures or advertisements for the conference.
2. Indicate if this is a conference, half-day seminar, or full-day seminar. Generally, conferences are multiple day events.
3. Indicate whether this conference applies to drinking water, wastewater, or both.
4. Briefly describe how you will track conference attendance – that is, how will you determine if attendees participate in the entire conference or only a portion of the conference.
5. Enter the conference start and end dates. Click on “Auto Generate Sessions” and Item 6 will populate with each half-day session.
6. Each line in the Conference Session Details table represents one half-day conference session. This information is automatically generated from the information in Item 5. You may then click the “Edit” or “Delete” button to adjust each session. Ensure the start and end times listed in the table are accurate and match the submitted conference agenda. Click “Edit” to adjust the times. You can also use the “Add” button to add additional half-day sessions.

**3. Part II: Conference Information (Continued)**

1. If you are holding DEP-approved courses during the conference, please indicate the date, time, training sponsor, and course title. Please note that if courses are offered by another training sponsor, you will need permission from that training sponsor for all approved courses. Those sponsors will be responsible for entering rosters for all certified operators attending their courses during the conference within 30 days of course completion.

2. Provide the conference agenda or schedule by uploading an electronic version. Alternatively, you may select “Website”, which will allow you to add a relevant web link for information. You may also select “Mail In” to indicate that you will send a copy.

**4. Part III: Certification**

In the electronic application, you are asked to check the “I Agree” box to certify that you have read the Sponsor Responsibilities(see Section 8) and Course Guidelines (see Section 9) of the Pennsylvania Water and Wastewater Training Program and agree to abide by those responsibilities and guidelines.

Upon clicking “Finish” on the Confirmation page, you will be emailed an application fee invoice and confirmation that DEP received your application.

## 6. Application for Post-Presentation Credit Approval

### A. Introduction

Post-presentation credit refers to an operator's request to obtain continuing education credit for a training course that has not been pre-approved by DEP. This topic is discussed in this manual to make training providers aware that operators have this option available to them.

This process is the only way an operator can obtain continuing education credit for a course that has not been approved by DEP. Operators should be aware that there is no guarantee that they will obtain credit through this means. The main elements of the DEP post-presentation credit application process are as follows:

- It is the water or wastewater operator's responsibility, not the training provider's responsibility, to apply for post-presentation credit.
- The water or wastewater operator submits the application and all requested information about the course and course provider as soon as possible after successful completion of the course. A post-presentation application shall be submitted within 90 days after an operator's certificate expiration. DEP will only award the requested continuing education credit to the operator upon approval of the application.
- To be considered for post-presentation credit, the operator should demonstrate that the course and the training provider meet the course and training sponsor standards in accordance with this manual.
- Post-presentation credit is not applicable to conferences.
- Approval of contact hours for an operator through the post-presentation process does not constitute approval of the training course. Training sponsors are responsible for obtaining approval of their training courses using the application shown in Section 2.


### B. Instructions for Completing the Post-Presentation Application

An operator must first register and create an Operator Registration in Greenport at <https://greenport.pa.gov/gpl> and enroll in the GlobalTAPS application. Once in GlobalTAPS, go to the upper-left corner of the GlobalTAPS landing page, click on the "Applications" drop-down and choose "Post-Presentation Apps."

Operators are charged a \$250 application fee for each Post Presentation Application.

## 7. Awarding of Continuing Education Credit

### A. Credit Upon Completion of an Approved Training Course

1. Continuing education credit for an approved training course is awarded as contact hours. Contact hours are determined during course review as follows:
  - Only content that is relevant to water and/or wastewater treatment system operators qualifies for contact hours.
  - Course content for which the entirety of the course applies to both industry types equally, such as first aid or safety training, will be awarded contact hours for both drinking water and wastewater. For courses with industry-specific content, contact hours will be awarded for both industry types only if half of the course information applies to each industry type.
  - Only instructional and learning activities qualify for credit. This refers to activities that include planned learning experiences that take place in a suitable learning environment and involve interaction between the learner and the instructor or between the learner and the course materials that have been prepared to enhance learning.
  - The minimum approved length of any course is 0.5 contact hours, and courses are approved in terms of 0.5-hour increments. For example, a course may be worth 2 contact hours or 2.5 contact hours, but not 2.25 contact hours.
  - No training session may last more than a total of 8 hours per day including meals and breaks, unless specifically approved by DEP.
  - College courses that are DEP-approved are worth 15 contact hours for each college academic credit. Courses with established CEUs from a recognized and reputable training organization, such as a college, university, or the IACET, are worth 10 contact hours for each 1.0 CEU.
  - Contact hours for a classroom training course are calculated by adding the minutes of all the active, meaningful sessions of instructional activity during which learning occurs and dividing that sum by 60. Another method is to take the total time spent in the course and subtract the time for all breaks, meal periods, and other periods of time when instructional activity and learning is not occurring.
  -  Any fraction of an hour of instructional activity is calculated as follows:
    - 50-60 minutes = 1 contact hour
    - 30-49 minutes = 0.5 contact hour
    - < 30 minutes = not counted
  - Registration, breaks, lunch, social periods, reading assignments, optional activities or practice problems, homework, or take-home exams do not qualify for credit for classroom courses. Approved courses may not be conducted while attendees are eating a meal. Credit for extensive self-directed reading assignments or projects outside of class that are an

integral requirement of the class may be considered, as negotiated by the provider and approved by DEP.

- For correspondence courses, self-directed reading or study time counts toward calculation of contact hours, because it represents an alternative to time spent in a classroom.
  - Contact hours for virtual asynchronous courses are to be determined based on the average time it takes the learner to complete the course in beta testing.
  - For virtual synchronous courses and correspondence courses, or for blended learning courses that use a mix of training formats, DEP may consider other factors when awarding contact hours, such as assignments given and any off-line activities completed.
2. The training sponsor may not award partial credit to a learner for an approved course. Full credit is awarded for satisfactory completion of an approved course. If the learner does not complete a course, no contact hours may be awarded. Satisfactory completion means that the learner attended the minimum percentage of the course as approved and successfully completed all learning assessments.
  3. Within 30 days of the end of a course, training sponsors are expected to deliver a certificate of completion or other written or electronic notification to each participant who has satisfactorily completed the course. The certificate of completion should contain, at a minimum, the information indicated in Section 8.A, Sponsor General Responsibilities, Item 7.
  4. Within 30 days of the end of a course, training sponsors are expected to report information to DEP about each Pennsylvania certified water or wastewater operator who has satisfactorily completed the course (see Sponsor Reporting Requirements in Section 8.B).
  5. DEP reserves the right to withhold continuing education credit from Pennsylvania-certified operators who participated in a training event that was not delivered as approved by DEP or that otherwise does not meet the course guidelines in accordance with this manual. DEP further reserves the right to withhold credit from Pennsylvania-certified operators who participated in a DEP-approved training event that was delivered by a training sponsor that does not meet sponsor responsibilities in accordance with this manual.

## **B. Continuing Education Credit for Approved Conferences**

1. Conferences offered by DEP-approved training sponsors may be awarded continuing education credit at a rate of one contact hour per every one half-day of conference session. One half-day equals a minimum of 2.5 hours of continuous, technical, active conference session time, not counting meals or breaks. No more than two contact hours may be awarded for one 24-hour period.

2. Training courses provided in conjunction with an approved conference may be worth course credit as described above, if approved by DEP separately as an approved training course, in accordance with this manual.
3. During the same time frame on a given day, a certified operator may be awarded continuing education credit for either a half-day conference session or for an approved training course, but not both.

For example, if the morning session of a conference consists of conference presentations and the afternoon session consists of a DEP-approved three-hour training course, attendees who satisfactorily complete both sessions would receive one contact hour for the morning half-day conference session and three contact hours for the afternoon approved training course (as properly tracked and reported by the training sponsor).

However, if a conference has concurrent sessions, an attendee may only receive continuing education credit for one of the concurrent sessions. For example, if the morning session includes Track A consisting of conference presentations and Track B consisting of a DEP-approved three-hour training course, an attendee may only receive credit for completing Track A (one contact hour) or B (three contact hours) but not both.

4. Attendance at open conference exhibit areas may count toward active conference session time if both of the following apply:
  - the exhibit area is open during the entire half-day session;
  - the session includes the availability of at least 1.5 hours of technical presentations.

Exhibit area availability alone does not constitute a half-day conference session but may be used to supplement conference session time. Conference attendees may obtain continuing education credit for attendance at an approved conference session regardless of whether they are attending technical sessions or visiting an exhibit area that is open during the entire 2.5-hour session. However, if the provider intends to award credit for attendance at conference exhibit areas, the provider may be asked to describe how they will track attendance.

5. To count a half-day conference session for both drinking water and wastewater, at least 1.5 hours of session time is expected to apply to both industry types. During conferences with concurrent sessions, the 1.5-hour criterion can be met by concurrent technical presentations that apply to each industry type separately, or presentations that count toward both.
6. Facilitated or guided water or wastewater system tours count toward active conference session time. If a guided tour lasts less than 2.5 hours, there must be additional technical conference session presentations to total at least 2.5 hours.
7. Business meetings or other related association or sponsor business activities do not count toward active conference session time.

### **C. Retroactive Award of Credit**

DEP encourages training providers to obtain prior approval of their courses to keep post-presentation applications to a minimum. However, training providers may offer courses that are not necessarily directed to water and wastewater operators. These courses may attract operators if the subject matter is relevant to their work (for example, computer courses). If the provider is not already an approved training sponsor, the provider may apply to become a training sponsor and may then apply for approval of the course.

DEP will award credit retroactively to any certified operator who successfully completes a training course or conference upon satisfaction of all the following conditions:

- The operator successfully completed the course or conference before the operator's certification expiration date.
- The training sponsor obtains approval of the course or conference from DEP before the operator's certification expiration date.
- The training sponsor issues a successful completion certificate to the operator and reports the operator information to DEP as required under Sponsor Reporting Requirements (see Section 8) before the operator's certification expiration date.
- DEP has not denied, suspended, revoked or withdrawn approval of the course or conference.

## 8. Sponsor Responsibilities

### A. Sponsor General Responsibilities

DEP expects the following:

1. Training sponsors have provisions for administrative services adequate to deliver training courses or events in a proper and efficient manner, maintain records, and meet the reporting requirements of DEP.
2. Training sponsors have a procedure to identify which course or conference participants are Pennsylvania-certified water or wastewater operators who need to have their completion information reported to DEP for continuing education credit. DEP recommends that sponsors ask course or conference participants if they are Pennsylvania-certified water or wastewater operators. For example, training sponsors may use a tracking sign-in sheet for classroom courses with a space to indicate that they are certified operators, or sponsors may add this question to an assessment that is submitted for a virtual synchronous course. Sponsors should obtain the information needed for submission of the operator roster reports as described in the Sponsor Reporting Requirements (Section 8.B.).
3. Training sponsors use qualified instructors who have demonstrated experience or are considered knowledgeable by their peers in the subject area. The sponsor is responsible for selecting, supervising, and, whenever appropriate, dismissing instructors.
4. Training sponsors have an appropriate advertising method in place. Sponsors are not to advertise or otherwise promote a training activity as approved for Pennsylvania water or wastewater pre-certification or continuing education credit until it has been approved in writing. Sponsors may, however, advertise a course or conference using language that reflects the application status, such as “pending DEP approval” or “applied for DEP approval.” Training activity titles and descriptions should accurately represent the content and training techniques of the activity. Correspondence courses should be clearly advertised as such.
5. Training sponsors develop and apply effective procedures for attendance verification and tracking. The use of electronic tracking systems is acceptable, provided the tracking capabilities have been tested and verified both prior to and at the start of an event by an IT facilitator. For multiple-day events, the functioning of electronic tracking systems should be checked daily. Providers using an electronic tracking system should have a back-up plan for immediately switching over to the use of written tracking forms if the electronic tracking system malfunctions.
6. For training courses, sponsors employ adult learning principles and apply assessment processes that relate to the course objectives. Small group question and answer discussions, written exercises, quizzes, or other activities that provide a means of determining if participants have achieved the learning outcomes are

appropriate (see Section 9). DEP does not consider self-assessment as a satisfactory assessment process.

7. Sponsors issue a certificate, letter, or other instrument of verification of successful completion to participants who have satisfactorily completed courses. Verification to participants should be provided no later than 30 calendar days after the completion of the course or conference. DEP recommends that such verification include the following at a minimum:
  - Name of participant
  - Client ID (for certified operators)
  - Training provider name
  - Course title (as approved by DEP)
  - PA DEP Course ID
  - Course dates or date of course (or conference) completion
  - Contact hours awarded
  - Signature of training provider representative or other indication that the verification is an official course completion instrument of the provider
8. Sponsors use appropriate educational resources for students (for example, textbooks, workbooks, handouts). Sponsors are expected to use adequate physical facilities for training.
9. Sponsors agree to keep all records pertaining to each training event for at least three years following completion of the event. These records should be readily available to DEP upon request.
10. Sponsors develop and apply reliable course evaluation procedures.
11. Sponsors develop and apply comprehensive internal audit procedures for instructors and course materials.
12. Sponsors take into consideration the results of course evaluations and internal and DEP audits when making modifications to courses and training programs.
13. Sponsors' courses and related services conform to applicable provisions of the Americans with Disabilities Act of 1990.<sup>1</sup>
14. Sponsors agree that representatives of DEP and/or its designees, in an official capacity, may:
  - Audit any training activity;
  - Review course materials, instructors' presentations, instructors' qualifications, course records, records of examination and attendance rosters;
  - Attend any course for the purpose of an audit without paying any fees.

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<sup>1</sup> Americans with Disabilities Act of 1990, 42 U.S.C §§12101 *et seq.*

Auditors will not be hindered, obstructed, delayed, prevented, or interfered with while conducting or attempting to conduct audit or review activities. Audits will be conducted with minimum disruption and will in no way interfere with course delivery.

15. Sponsors who deliver web-based training courses have or make provisions for adequate administration of the courses, based upon the type of technologies used. Web-based training sponsors should provide technical support adequate to meet the needs of the learner.
16. Sponsors who deliver correspondence courses have a policy regarding the turnaround time for grading the final test materials that is clearly stated to the student. The turnaround time for grading should not exceed 14 days.
17. Sponsors deliver training events as approved by DEP. DEP reserves the right to withhold continuing education credit for Pennsylvania certified operators that take courses or conferences that are not delivered as approved or in accordance with the guidelines in this manual.
18. Sponsors agree to perform the reporting requirements listed under the Sponsor Reporting Requirements (Section 8B).

## **B. Sponsor Reporting Requirements: Course Roster Reports**

Within 30 days of the end of a training event, training sponsors are expected to upload the course roster information to GlobalTAPS, DEP's training approval system. GlobalTAPS is accessible through GreenPort as a self-enrolled DEP application. Register for Greenport at <https://greenport.pa.gov/gpl>.

Within GlobalTAPS, a sponsor can only upload course completion information for their DEP-approved courses. The information required for upload to the DEP system includes the following:

- Course date
- Course ID number
- Full name and Client ID number of certified operators that complete the course.

Only actively certified operators that successfully complete a DEP-approved course can be uploaded to GlobalTAPS. Uncertified operator attendance information will be blocked from upload into GlobalTAPS.

There are three roster types in GlobalTAPS.

- **Training Course** – Used to report classroom or virtual synchronous training events
- **Distance Education** – Used to report distance education, such as correspondence and virtual asynchronous training on a monthly basis.

- **Conference Roster Report** – For approved conferences, the sponsor is responsible for submitting roster information for each DEP-approved half-day conference session.

Pennsylvania certified operators that instruct a DEP-approved course may include themselves on the course session roster, but may do so only one-time per course, per certification renewal cycle. If multiple instructors shared in teaching the course, then only an instructor teaching at least 50% of the course is entitled to continuing education credit for the course. On a case-by-case basis, and upon approval by DEP, the sponsor may include additional instructors involved with teaching less than 50% of the course on the roster report. DEP will consider the following in making such determinations:

- Involvement in course development
- Time spent in course activities
- Amount of involvement in course delivery
- Length of course
- Number of instructors involved with course delivery

### **C. Sponsor Status and Course Modifications**

Training sponsors should notify DEP within 30 days of any of the following:

1. If the primary contact for a sponsor changes, the new contact's information should be added to GlobalTAPS within 30 days.
2. Any significant changes that may affect the accuracy of the information as submitted in the sponsor application.
3. Any significant changes which affect the ability of a sponsor to meet any of the Sponsor General Responsibilities described above.
4. Any significant changes to a sponsor's training program as submitted in the sponsor application.
5. Any significant modifications to the content or delivery of a training course as approved by DEP; for example, if content is expanded or reduced, resulting in a different number of hours.
6. Any circumstances that alter the ability of a training activity to meet guidelines as described in this manual.

## 9. Course Guidelines

### A. General Course Guidelines

The following criteria differentiate the training course from a typical presentation. A presentation is intended to convey information without regard for the audience's grasp of the material. A training course, offered for continuing education credit, teaches important information or a particular skill and allows participants to demonstrate comprehension.

The following guidelines and standards apply to all training courses regardless of format. DEP reserves the right to provide comments or request additional information relating to any of these guidelines when reviewing course applications. DEP will also use appropriate discretion in applying the guidelines related to adult learning concepts and interactivity when reviewing distance education courses (correspondence) for approval.

To be approved for continuing education credit, DEP expects the following:

1. Course content is accurate, current, and presented in a logical sequence and professional manner.
2. Course content is relevant to the job of water or wastewater treatment system operators, or both. Content should contribute directly to the professional competency, skills, or knowledge base of water or wastewater system operators.
3. Courses contain measurable training course objectives or goals. See Appendix C for examples of acceptable course objectives and a verb list for objective construction. The course content and delivery should fulfill the stated objectives.
4. All courses employ adult learning principles to create an interactive environment that promotes active participation. At a minimum, courses are expected to include periodic interactivity with the course participants, such as posing predetermined questions to elicit discussion and feedback from the participants. A well-designed course includes the following elements:
  - A variety of learning methods (lecture, group activities, demonstrations, questioning).
  - A variety of instructional materials (slides, flipchart, video, whiteboard).
  - Relevant examples, exercises, projects, etc. to practice skills.
  - Hardcopy course material or reference material (see guideline 10 below).
  - Suitable methods to test for understanding (see guideline 6 below).
5. Course structure includes the following components:
  - The training course objectives should be stated at the start of the course.
  - The key points of the training should be summarized at the end of the course.

- During the course, periodic reviews of the material and transitions between sub-topics should be included.
6. All courses include a demonstration of learning by the participants, called an assessment method. The assessment method should reinforce learning, monitor learner progress, and provide feedback on progress. Assessments are based on the training course objectives and course content. Assessments may take the form of performance demonstrations, problem solving scenarios, skill check exercises, written tests or quizzes, reports, or completion of a project. Any activities that provide a means of determining if participants have met the course objectives and achieved the learning outcomes are appropriate. DEP does not consider full-group question and answer a satisfactory assessment process. A self-graded quiz or test is acceptable. If a course uses a quiz or test as the primary assessment method, the number of questions and difficulty level should correspond with the content, course objectives, and length of course. The establishment of a minimum passing grade for a graded quiz or test is at the discretion of the training provider. **If established, the minimum grade must be disclosed to learners prior to the beginning of the course in a manner that is clearly stated.**
  7. A minimum attendance requirement of 85% is required for successful completion and awarding of contact hours for continuing education credit under the Pennsylvania operator training program. Virtual asynchronous courses must be fully and successfully completed for continuing education credit to be awarded.
  8. Contact hours are calculated according to the methodology in Section 7, Awarding of Continuing Education Credit.
  9. Courses are presented during a reasonable time frame conducive to learning and make proficient use of instructional time. The course agenda should allow sufficient time for the assessment method and feedback.
  10. Course instructors have the necessary practical and academic skills to conduct the course effectively, including knowledge of adult education concepts.
  11. Course materials, including slides, workbooks, handouts, or any other materials, are easily perceivable and otherwise conducive to facilitate learning. For example, slides should have text in a font size and style that is large enough to be easily legible for all learners, not distracting in appearance, and with appropriate color contrast and spacing between text.
  12. A course may not be intended to promote specific products or markets. Vendor-sponsored training is eligible for credit if the course covers operational fundamentals of a type of product or process, rather than the benefits of the product itself. A course that provides education about a specific product or market and allows the operator to be better informed for the operator's job responsibilities can be considered for credit.

13. Courses include opportunity for evaluation by participants. This is to be developed while designing the course and may be administered in either paper or electronic format.

## **B. Additional Guidelines for Classroom Training Courses**

In addition to the applicable course guidelines in Section 9.A above, the following guidelines apply to classroom training courses. DEP expects the following:

Classroom courses include hardcopy training materials for participants, such as student workbooks, manuals, and/or job aids as these are a visual tool for adult learners. Additional reference materials that are available electronically may supplement the in-class hardcopy materials but cannot act as the sole course material, **unless negotiated and agreed upon by DEP.**

1. Classroom courses are to be held in an environment conducive to learning that minimizes distractions and provides ample space for the number of participants.
2. For classroom courses that exceed 40 participants, instructors should have experience in facilitating large groups. At a minimum:
  - Provide an additional instructor/facilitator for every 10 to 20 participants over 40, or as negotiated with DEP. Additional instructors or facilitators are to be actively involved in classroom management.
  - Instructors should repeat participant questions, so the entire class is involved.
  - During the course, the instructor should move around the classroom to keep the participants engaged.
  - The demonstration of learning, as discussed in general course guideline A.6. above, may need to be adapted for a larger class size. For example, small group sizes should be kept to five or six participants, which will lead to a large number of groups. The training provider should ensure that enough facilitators are available to manage the groups.
3. A classroom course should not go longer than 30 minutes without interaction with the participants. Asking the participants if they have any questions does not fulfill this interactivity requirement (see adult education concepts in Appendix B).

## **C. Additional Guidelines for Virtual Asynchronous Training Courses**

In addition to the applicable course guidelines in Section 9.A above, the following guidelines apply to virtual asynchronous training courses. DEP expects the following:

1. Virtual asynchronous training courses are comprised of a repeating pattern of presentation, application, and feedback components.
2. Virtual asynchronous training courses include interactivity beyond course navigation functions like scrolling or clicking “next.” At a minimum, the course

includes periodic ungraded knowledge checks with feedback and graded tests for comprehension approximately every 15 minutes or at the end of each section or topic.

3. All virtual asynchronous courses include an assessment method as described in general course guideline A.6.
4. Instructions, prompts, and navigation functions are clear and consistent. If the course contains audio, the course must include a transcript, notes, or captioning.
5. The course navigation restricts the learner from proceeding to the next segment or slide until the current segment or slide is viewed in full and all interactions have been completed. This restriction is important to ensure learners fully and successfully complete the course. However, beyond this restriction, it is ideal to allow the learner to control content flow wherever possible. The learner should also be able to resume the learning process later if the course is interrupted.
6. Graphics, animations, video, simulations, and participant interactions support the course objectives.
7. The course is created specifically for the virtual learner. A recorded classroom course that was intended for a live audience does not meet this guideline.
8. The technology supports the content. The course should focus on the content, not the technology used to deploy it.
9. The course has undergone beta testing and the credit value matches the average pace to complete the course.
10. The course has adequate technical support available. Acceptable technical support includes the following:
  - Ability to communicate with a human being by phone or e-mail
  - Help or assistance from a reliable, responsible source
  - Response within one workday

#### **D. Additional Guidelines for Virtual Synchronous Training Courses**

In addition to the applicable course guidelines in Section 9.A above, the following guidelines apply to virtual synchronous training courses. DEP expects the following:

1. All virtual synchronous training courses include either a written or electronic assessment method as described in general course guideline A.6. An example of an assessment for virtual synchronous training is a post-session quiz. A time limit should be placed on submission of the quiz for grading.
2. All virtual synchronous training courses employ adult learning principles to create an interactive and involving environment as described in course guideline A.4. The session should not go longer than 15 minutes without interaction with the

participants (DEP recommends interactivity every 10 minutes). This can be accomplished using various methods, such as polling, breakout discussions, or posing predetermined questions with participant responses. Asking the participants if there are any questions does not fulfill this requirement.

3. Tracking Attendance – In a virtual synchronous training course, it is difficult to determine if a participant is paying attention and not checking email or working on a different program. To verify consistent attendance, the instructor or facilitator is required to pose questions at various times within the session. The instructor should stop content delivery during this portion. The participants should respond to the questions through the chat feature, using polling, or another method approved by DEP. Using questioning in this way, the instructor can verify that each participant is present and answering questions. This coincides with the required interactivity in virtual synchronous training guideline C.2 above.
4. Course delivery includes a technical producer or facilitator in addition to the instructor. The producer is responsible for all technical aspects of the session. If there are two instructors, and the second instructor is also responsible for all technical aspects of the session, they may serve as a facilitator when not actively instructing.
5. Ground rules and technical instructions are clearly stated at the beginning of the session.
6. It is clearly stated that the students are required to participate throughout the course and complete the assessment method to qualify for continuing education credit. It is explained how credit is achieved (answer all polling questions, complete quizzes, etc.). If a passing grade is necessary, this is disclosed at the beginning of the session.
7. During the session, only one participant is permitted per computer.
8. The maximum number of participants is proportional to the number of instructors, facilitators, and technical producers available. There should be at least two instructors or facilitators, and in general, there should also be at least one instructor, facilitator, and/or technical producer for every 25 participants. For sessions that exceed 50 participants, providers may be asked to explain in writing their plans to provide effective polling interaction and review of polling logs for awarding continuing education credit.
9. The course maintains quality audio throughout the session. Instructors will work with facilitators to ensure thorough testing of the virtual conferencing platforms with audio (microphones and speakers) and visual (video) devices in advance of the session.
10. Virtual conferencing platforms include the following features:
  - Interactive features, such as the ability to chat and/or respond to polling questions

- Ability to track participants by name
11. Total content and assessment time that does not exceed 2 hours. A break should be incorporated into sessions that exceed 1 hour. More than 2 contact hours can be assigned to multiple-session synchronous web-based courses, which are delivered on separate days, but the individual sessions may not exceed 2 hours, unless negotiated and agreed upon by DEP.
  12. Participant handouts or a workbook are provided in electronic form. These materials should be sent to the participants at least one business day prior to the session time.
  13. Contingency plans are available to deal with the potential for technical problems on the user and/or administrator side.
  14. Course instructors should be well-versed in virtual synchronous training best practices and techniques.
  15. The training provider is expected to allow the Training Section in DEP's Bureau of Safe Drinking Water to participate in the course, particularly if the provider is new to delivering virtual synchronous training courses.

## 10. Quality Assurance and Training Program Administration

### A. Quality Assurance

DEP may request information at any time from an approved training sponsor about any training activities, which includes the sponsor organization and personnel, its policies and procedures, conferences, or courses. This is to ensure that approved training sponsors are meeting guidelines and responsibilities described in Section 8, and that sponsors and training activities meet all other provisions described in this manual.

DEP may make such a request by phone, in writing, or by any other means to the primary contact of the sponsor organization. Such requests will include a reasonable time frame agreeable to both parties for responding to the inquiry. Sponsor or training course and conference deficiencies identified by DEP will be discussed and worked out to the mutual satisfaction of both the sponsor and DEP.

Training activity audits will be performed on a random basis subject to DEP's priorities and available resources and time. Audits may also be triggered by operator evaluations of courses, operator complaints or comments about the training activity, or other information that warrants an audit. A training course audit may be either announced or unannounced.

Audits conducted by DEP or its authorized agent are intended to:

- Evaluate compliance with policies and procedures.
- Evaluate adherence to instructional procedures described by the sponsor.
- Evaluate whether course content is presented as approved by DEP.
- Evaluate the ability of a course to meet the intended course objectives and learning outcomes.
- Evaluate the course content for appropriateness in meeting both the objectives of the course and the goals of the operator training program.
- Evaluate the quality of instruction presented by the instructor.
- Evaluate the quality and timeliness of instructor feedback.
- Ensure that the training activity description as presented in any catalog or marketing materials is accurate.
- Evaluate the general effectiveness of a training activity.

DEP or its authorized agent will summarize the results of audits in a written report and send it to the sponsor.

### B. Approvals, Disapprovals, Suspensions, and Revocations

#### Approvals and Disapprovals

Once approved by DEP, training sponsors agree to accept and adhere to the Sponsor Responsibilities, Reporting Requirements, and all guidelines in this manual.

Occasionally, a sponsor may dispute the outcome of an application for approval of a

training activity. If a dispute arises over the approval or disapproval of an application, DEP recommends the following procedures in the sequence listed below:

- Call DEP and discuss the disagreement with a representative of the Bureau of Safe Drinking Water's Training Section, who will attempt to resolve the issue.
- If the dispute cannot be resolved, a training provider may file a written request stating the reason(s) for disagreement and requesting reconsideration of the decision. DEP will review the request and respond in writing within 10 business days. Send such requests to:

Pa. DEP  
Bureau of Safe Drinking Water  
Division of Training, Technical and Financial Assistance  
Training Section  
P.O. Box 8467  
Harrisburg, PA 17105-8467

- DEP will make every effort to discuss and work out a resolution to the mutual satisfaction of all parties. If a dispute cannot be resolved, either party may submit a written request to the Pennsylvania State Board for Certification of Water and Wastewater Systems Operators (Board) to review DEP's decision at:

Pennsylvania State Board for Certification  
of Water and Wastewater Systems Operators  
P.O. Box 8454  
Harrisburg, PA 17105-8454

### **Suspensions**

DEP may suspend approval of a training sponsor if DEP finds:

- That a sponsor willfully and negligently withholds information affecting that sponsor's approval.
- That a sponsor fails to meet responsibilities in accordance with this manual.
- That a sponsor commits any fraudulent or unethical acts.
- That audits or evaluations of a sponsor or of training activities given by a sponsor reveal that the sponsor is not adhering to the responsibilities or guidelines in accordance with this manual.
- That any activities of the sponsor are not in the best interest of the water and wastewater operator continuing education and training program.

If approval of a training sponsor is suspended, all training courses and conferences previously approved by DEP for that sponsor are automatically suspended. Operators attending suspended courses or conferences will not receive pre-certification or continuing education credit for those activities. However, operators that attended a course prior to suspension will receive course credit. Sponsors should notify operators

that the sponsor's courses have been suspended. DEP will remove the courses from the approved course catalog.

DEP may suspend approval of a training course or conference if:

- It is not being presented as approved.
- The content is not current.
- The sponsor fails to meet its responsibilities.

Training sponsor and course/conference suspensions will remain in effect until the sponsor corrects the identified deficiencies to the satisfaction of DEP, at which time DEP will reinstate the sponsor and/or training course or conference approval in writing.



If the sponsor disagrees with DEP's suspension action, its representative should follow the same procedure outlined above under Approvals and Disapprovals. Sponsors and training activities will remain active while a Board review is in progress if the sponsor submits a written request to the Board within 30 days of a DEP suspension notice.

### **Revocations**

DEP may revoke approval of a sponsor for cause. This may include situations where:

- A sponsor who is under suspension does not make the necessary corrections within a reasonable time frame stipulated by DEP; or
- A sponsor repeatedly or persistently violates any of the criteria for suspension listed above.

If approval of a sponsor is revoked, all training courses and conferences previously approved by DEP for that sponsor are automatically revoked. Operators attending revoked training activities will not receive pre-certification or continuing education credit for those activities. Sponsors should notify operators that the sponsor's course and conference approvals have been revoked. DEP will remove revoked courses and conferences from the approved course catalog.

In some instances, DEP may revoke approval of a training course or conference without revoking the approval of a sponsor if it finds the deficiencies which were the basis for the course or conference suspension have not been corrected.

Revocations are permanent.

If the sponsor disagrees with DEP's revocation action, it should follow the same procedure outlined above under Approvals and Disapprovals. Sponsors and training activities will remain active while a Board review is in progress if the sponsor submits a written request to the Board within 30 days of a DEP revocation notice.

## Appendix A: Glossary of Terms

There are a number of terms used in the education and training industry that may have different meanings to different audiences. To ensure a common understanding of the terms included or used in conjunction with this manual, we have included our definitions of these terms.

**Asynchronous Learning:** See *Virtual Asynchronous Training*.

**Blended Learning:** Learning that blends or combines different types of training formats, such as web-based and classroom training.

**Contact Hour:** Standard unit of measure assigned by DEP for participation in a DEP-approved training course provided by an approved training provider. One (1.0) contact hour is equal to one hour of instructional time, not counting breaks or meal periods, or 0.1 Continuing Education Unit (CEU) from a recognized and reputable training organization such as an IACET provider or the continuing education department of a university. One college academic credit is equal to 15 contact hours. For technical conferences that do not meet the requirements of a training course, one contact hour may be approved for each one-half day of technical conference sessions.

**Continuing Education Credit:** In the context of the Water and Wastewater System Operator Certification Program, this refers to credit awarded to a certified operator for successful completion of an approved training course. Continuing education credit is applied to the continuing education requirements of the operator certification program. Credit may be awarded in units of contact hours or CEUs.

**Continuing Education Unit (CEU):** Unit of measure for continuing education credit issued by a recognized and reputable provider such as a college, university, or the International Association of Continuing Education and Training (IACET). Ten (10) contact hours of instruction is equal to one (1.0) CEU.

**Correspondence Course:** A form of distance education that allows students to complete coursework at their own pace, using printed materials sent to the learner or online resources.

**Course Agenda:** See *Training Course Agenda*.

**Course Objectives:** See *Training Course Objectives*. Also known as *learning objectives*.

**Distance Education:** An educational system consisting of the methodologies and technologies that support learning when the learner and learning resources are separated by time and/or space. Distance education includes a wide variety of program designs that can be delivered through an array of media, including print, audio, video, and computers. Distance education may involve interaction between learners, instructors, and instructional materials at the same predetermined time (synchronous) or interaction at any time convenient for the learner (asynchronous). Correspondence courses and web-based training courses are types of distance education.

**Learning Outcomes:** See *Training Course Objectives*. Also known as *learning objectives*.

**Post-presentation Credit:** Pre-certification or continuing education credit for a training course not previously approved by DEP. An operator may obtain post-presentation credit upon application to DEP. See Section 6 of this manual for details.

**Proprietary Content:** Course content protected by copyright law that can only be delivered by, or with permission of, the owner.

**Provider:** See *Training Provider*.

**Public Domain Content:** Course content that is not protected by copyright law and is eligible to be delivered by any training provider.

**Sponsor:** See *Training Sponsor*.

**Synchronous Learning:** See *Virtual Synchronous Training*.

**Training Activity:** Any training course, conference session, certificate program or associate degree program offered by an approved training provider for the Pennsylvania water and wastewater system operator certification program.

**Training Course Agenda:** An outline of the course which includes approximate time spent on each topic. The agenda should be presented in logical groupings of practical course content (see an example course agenda in Appendix D).

**Training Course Objectives:** Also known as *learning outcomes* or *learning objectives*. Statements that describe the purpose or goals of a training course or describe what students can expect to accomplish during training or learn as a result of successful completion of the training (see example training course objectives in Appendix C).

**Training Format:** The arrangement, manner, or setting used to deliver a training course. There are four basic training formats for water and wastewater system operators: classroom, correspondence, virtual synchronous, and virtual asynchronous.

**Training Provider:** A person who designs or delivers any type of education or training activities, courses or programs. Also known as a *provider*.

**Training Sponsor:** A training provider approved by the Department to provide training to water and wastewater system operators in this Commonwealth in accordance with the Department's training approval process guidelines, as described in this manual. Also known as a *sponsor*.

**Virtual Asynchronous Training:** Web-based training in which learners complete coursework *on their own time*, independent of instructors or other learners. Also known as *asynchronous web-based training (AWBT)* or *asynchronous learning*.

**Virtual Synchronous Training:** Web-based training that involves *live interaction* between learners, instructors, and instructional materials at the same predetermined time. Also known as *synchronous web-based training (SWBT)* or *synchronous learning*.

**Web-Based Training (WBT):** An entire training course designed to be taken interactively through a website and completed online. WBT involves learner interactivity and other elements of web-based training based on widely accepted web-based training instructional design and authoring principles. WBT can be delivered as virtual asynchronous or virtual synchronous training courses.



DRAFT

## Appendix B: Adult Education Design and Delivery

Adults learn best when they are actively involved in the learning experience and are given the opportunity to apply what has been taught.

DEP recommends using a 9-step course design process to ensure an interactive learning experience:

Step 1 - Create an Introduction with Overall Training Objectives

Step 2 - Create a Motivation

Step 3 - Analyze content

Step 4 - Create examples

Step 5 - Make it relevant

Step 6 - Create a method to check for comprehension

Step 7 - Create a Summary

Step 8 - Create transitions between concepts

Step 9 - Make it interactive!



### Technical Classroom Training Tips

In addition to the 9-step process, DEP has compiled the following tips for delivery of technical training to adult learners:

- Begin the class by explaining what the participants are expected to learn (that is, learning objectives or outcomes).
- Periodically pose questions to the students. This not only allows for interaction to maintain the learner's interest, it can also be used to determine if key concepts are understood.
- Have students solve practice scenarios:
  - This can involve a handout with a scenario description and corresponding questions to answer about the scenario.
  - After allowing the participants time to answer the questions individually or in groups, review the expected answers.
  - Practice exercises aid in learning since students have a break from listening and have an opportunity to process and practice the technical information.
  - During a testing situation, many students become stressed. Use application scenarios or small group exercises instead of tests to facilitate learning and check for comprehension.
  - Give students an opportunity to practice applying technical information after every 1-1.5 hours of listening.
- Give students a handout that contains the technical information you are covering. Handouts can provide information that is too detailed for slides. This also gives students a reference for later use.

- Don't have more course objectives than you can reasonably cover during the course with time for practice included.
  - Technical training contains a myriad of details. If you find yourself saying "We don't have *time* for people to practice this information because we have too much to tell them," it may be time to separate the course into two courses.
  - Also, think about what information can be moved to a workbook appendix which is referenced during the course, rather than covered in detail.
- Practice a dry run of your technical training on co-workers (include someone from your intended audience if possible). This will help you with several important issues, including timing and determining if certain key points need more clarification.
- Don't put too many students in a classroom. Beyond 35 or 40 students, it becomes increasingly difficult to effectively interact and assess the students. If more than 40 students are in attendance an additional instructor or assistant should be available for facilitating and assessing the students. Plan for the appropriate room space including enough table space for handouts and writing.

### Training versus Presentation

Presentations are not the same as technical training. The following table presents the differences between the two.

<b>Characteristic:</b>	<b>Technical Training</b>	<b>Presentation</b>
Measurable training goals or objectives (that is, what will the learner be able to do after this session?)	X	
Used to explain concepts and teach tasks	X	
Consistent interactivity between the instructor and participant	X	
Small chunks of information with opportunities for the learners to practice the concepts and receive feedback before moving on	X	
Measurement of learner comprehension through scenario/problem solving or skill check exercises, performance demonstrations, exams/quizzes, or completion of a project	X	
Frequently based on the results of a needs assessment	X	
Typically used to summarize information such as study results or product features.		X
Information dispensed in a given timeframe without regard for learner comprehension		X
No expectation of learner input and participation		X
Slide decks used as the primary handout		X
Case Studies	X	X

## Appendix C: Training Course Objectives

The training course application requires the sponsor to list the training course objectives, also sometimes referred to learning outcomes. Well written course objectives are concise statements that describe what the learner will be able to do, or know how to do, as a result of the learning experience and course completion. Training course objectives should begin with the phrase “At the end of this course, the participant will be able to...”

The following are examples of acceptable and unacceptable training course objectives, followed by a list of suggested verbs to use in course objective construction. This verb list is not intended to be exhaustive but provides a starting point in constructive actionable learning outcomes for a training course.

### Example of Acceptable Training Course Objectives

**Course Title:** Corrosion Control Treatment Training for Operators

**Training Course Objectives/Learning Outcomes:**

At the end of this training program, participants will be able to:

- Perform mathematical calculations for conversions and dosage feed rates.
- Calibrate chemical feed pumps.
- Perform water quality analysis (pH, alkalinity, phosphates).
- Achieve finished water stability through process control.
- Develop and/or update O&M plan for corrosion control treatment facilities (operating procedures, pump calibration procedures, sampling protocol).

### Example of Unacceptable Training Course Objectives

**Course Title:** Corrosion Control Treatment Training for Operators

**Training Course Objectives/Learning Outcomes:**

The following topics will be covered:

- Conversions and dosage feed rate calculations
- Chemical feed pumps
- Water quality analysis
- Finished water stability
- O & M plan development

These are not acceptable training course objectives or learning outcomes for the following reasons:

1. They are not written from the learner’s point of view.
2. They do not describe what the learner will achieve upon course completion (for example, “upon completion of this course, the learner will be able to...list, solve, identify, explain, define, access, use, perform”).

## Suggested Verb List for Construction of Training Course Objectives

### Knowledge Level

Attend	Designate	Imitate	Note	Select
Choose	Detect	Indicate	Omit	State
Collect	Differentiate	Isolate	Order	Tally
Complete	Discriminate	Label	Place	Tell
Copy	Distinguish	List	Point	Underline
Count	Distribute	Mark	Provide	
Define	Find	Match	Recall	
Describe	Identify	Name	Repeat	

### Comprehension

Arrange	Convert	Gather	Relate	Underline
Attempt	Defend	Include	Reproduce	Volunteer
Categorize	Diagram	Itemize	Return	
Chart	Document	Locate	Search	
Cite	Estimate	Map	Signify	
Circle	Find	Organize	Sort	
Classify	Follow	Quote	Suggest	
Compile	Formulate	Record	Support	

### Application

Adopt	Classify	Employ	Prove	Use
Apply	Collect	Exercise	Predict	Utilize
Avail	Develop	Illustrate	Relate	Wield
Capitalize	Devote	Organize	Show	
Consume	Discover	Operate	Solve	
Construct	Elaborate	Ply	Try	

### Analysis

Analyze	Conclude	Discover	Induce	Present
Appraise	Contrast	Evaluate	Infer	Save
Breaks down	Criticize	Explain	Paraphrase	Show
Combine	Deduce	Formulate	Plan	Solve
Compare	Defend	Generate	Predict	Switch

### Synthesis

Alter	Discover	Paraphrase	Reconstruct	Rewrite
Change	Expand	Propose	Regroup	Signify
Categorize	Extend	Question	Rename	Simplify
Design	Generalize	Rearrange	Reorganize	Synthesize
Develop	Modify	Recombine	Retell	Systematize

### Evaluation

Appraises	Compare	Determine	Judge	Referee
Assay	Conclude	Evaluate	Prioritize	Settle
Accept	Contrasts	Explain	Rule	Summarize
Assess	Criticize	Grade	Rate	Support
Arbitrate	Describe	Interpret	Rank	Umpire
Award	Decree	Justify	Reject	Weigh

## Appendix D: Acceptable Training Course Agenda

With each training course application, the sponsor is required to provide a course agenda. An acceptable agenda includes the total course time, time spent on each topic, time spent on breaks, and the time designated for the assessment. The following is an example agenda for an approved 3-hour course.

**Course Title:** Method 334.0 Training for Operators

**Course Length:** 3 hours

**Course Times:** 8:00 am to 11:30 am  
15-minute breaks at 9:00 am and 10:15 am

### Agenda:

8:00 – 8:15	Introduction
8:15 – 8:30	Grab Sample Methodology Overview
8:30 – 9:00	Initial Calibration Verification and workshop
9:00 – 9:15	Break
9:15 – 9:45	Initial Demonstration of Capability (IDC)
9:45 – 10:15	Secondary Standard Verification and workshop
10:15 – 10:30	Break
10:30 – 10:45	On-line Analyzer Methodology Overview
10:45 – 11:15	IDC and Comparative Grab Sampling
11:15 – 11:30	Assessment Quiz

## Appendix E: Instructor Qualification Verification



COMMONWEALTH OF PENNSYLVANIA  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 BUREAU OF SAFE DRINKING WATER

### INSTRUCTOR QUALIFICATION VERIFICATION

#### Sponsor Information

Sponsor Name	Sponsor ID #
I certify that the information on this form is true and correct to the best of my knowledge. It accurately represents the qualifications of the individual named on this form as an instructor. Further, I certify that the individual named as an instructor has been approved by this sponsor for the courses to which the individual is assigned to teach.	
_____ Typed/Printed Name of Sponsor Representative	_____ Title
_____ Signature	_____ Date

#### Instructor Information

Instructor Name (First, Middle, Last)		
Home Street Address		
City:	State:	Zip:
Business Phone:	Residence Phone:	
Most relevant academic credentials:		
Certificate/Degrees in	Institution	Year Graduated
_____	_____	_____
_____	_____	_____
_____	_____	_____
Work Experience (starting with current)		
Employer	Your Title or Position	No. of Years
_____	_____	_____
_____	_____	_____
_____	_____	_____

### Instructor Information (Continued)

Most relevant teaching experience (starting with most recent):

Organization	Position Title or Course Taught	Dates of Experience
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Licenses, certifications, or other relevant qualifications:

I certify that the information on this form is true and correct to the best of my knowledge, and that the information accurately represents my qualifications to teach training courses relevant to water or wastewater operators. I also agree to abide by all Pennsylvania guidelines regarding water and wastewater operator training.

\_\_\_\_\_  
Printed/Typed Name of Instructor

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**Appendix F: Example Student Tracking Form**

**STUDENT TRACKING FORM**

CLASS NAME: \_\_\_\_\_

INSTRUCTOR NAME: \_\_\_\_\_

CLASS LOCATION: \_\_\_\_\_

	STUDENT NAME	ID #	DEP Client ID #	SESSION # DATE			SESSION # DATE			SESSION TOTALS A = TOTAL HRS. ATTENDED H = HOMEWORK REQUIREMENTS Q/T = QUIZZES & TESTS			COURSE COMPLETED Y or N
				A	H	Q/T	A	H	Q/T	A	H	Q/T	
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
13													
14													
15													
16													
17													
18													
19													
20													

**INSTRUCTIONS:** PLEASE LIST NAME AND SOCIAL SECURITY NUMBER OF STUDENT IN APPROPRIATE COLUMN. UNDER COLUMN TITLE "SESSION," LIST SESSION NUMBER AND DATE. THE LETTERS UNDER THE SESSION ARE FOR RECORDING THE FOLLOWING:

FOR SESSION TOTALS PLEASE LIST THE FOLLOWING INFORMATION

**COLUMN A – STUDENT ATTENDANCE**  
PLEASE USE THE FOLLOWING:  
+ = STUDENT PRESENT  
- = STUDENT ABSENT  
0 = STUDENT DROPPED

TOTAL NUMBER OF HOURS STUDENTS ATTENDED

**COLUMN H – HOMEWORK ASSIGNMENTS**  
PLEASE USE THE FOLLOWING:  
C = ASSIGNMENT COMPLETED  
F = FAILED TO TURN IN OR COMPLETE ASSIGNMENT  
N = NO HOMEWORK ASSIGNED THE SESSION

NUMBER OF ASSIGNMENTS COMPLETED OVER THE NUMBER ASSIGNED (EXAMPLE 5/7)

**COLUMN Q/T – QUIZZES OR TESTS**  
PLEASE USE THE FOLLOWING:  
P = PASSED QUIZ (Instructor Discretion on Scores)  
F = FAILED TEST OR QUIZ  
N = NO TEST OR QUIZ THIS SESSION

NUMBER OF QUIZZES OR TESTS SUCCESSFULLY COMPLETED OVER THE TOTAL NUMBER OFFERED (EXAMPLE 3/4)

Appendix G: Example Certificate of Completion

(Training Provider  
Logo or  
watermark)

**Training Provider Name/Information**

*Certifies that*

**Operator's Name (Client ID #)**

*has successfully completed the continuing education course:*

**Course Title (DEP Course ID #)**

**Contact hours: 0.0 W, WW, or both** *(as applicable)*

**Course completion date(s):** (MM/DD/YYYY)

**Training Provider Representative:** (Name, Title)

**Instructor:** (Name, Title)

**Signature:**