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WPI TRAINING CERTIFICATION PROGRAM

WHITEPAPER - WPI TRAINING CERTIFICATION PROGRAM

SUMMARY

This whitepaper presents a collaborative initiative by Water Professionals International (WPI) and key stakeholders aimed at enhancing the caliber of training within the water industry. The proposed strategy encompasses the creation of a trainer certification program, the establishment of industry benchmarks for training design and delivery, and the formulation of standards for organizations involved in content development. These collective efforts are geared toward elevating overall training quality, streamlining approvals for continuing education courses, ultimately benefiting water and wastewater operators.

SECTION 1. INTRODUCTION

a. The Challenge

Training quality for water and wastewater operators varies significantly among trainers in different states and provinces, as well as within some single states and provinces. At present, there is a lack of universally accepted criteria for defining a qualified trainer, establishing design and delivery standards, or identifying organizations qualified to create and provide training programs.

Training is often conducted by subject matter experts (SMEs) who, while having expertise on the technical side, have little formal training on teaching. Training traditionally involves lengthy PowerPoint presentations, which can be tedious and ineffective for learners.

Meeting continuing education requirements to maintain operator certification can be burdensome due to the varied state and province approval processes. These challenges affect operators, trainers, certification organizations, and public health systems equally.

Operators frequently opt for courses that offer Continuing Education Units (CEUs)¹ instead of focusing on training that genuinely enhances their job performance. Limited access to training opportunities and low expectations regarding training quality contribute to this issue. Furthermore, if operators hold licenses in multiple states or provinces and plan to relocate, their course credits are

I have been a certified operator for 21 years and hold multiple state licenses/certifications. I struggle with maintaining each license. National training events that address developments in water science (WPI, WEFTEC, AWWA) are only accepted in select states.

Obtaining my CEUs was exceedingly difficult since 'preferred CEU classes' were held at a training center located far away, and the classes had limited availability.

I lost my license during the pandemic with one state because they would not accept a nationally recognized online course.

Source: Professional Operators

¹ For the purposes of this paper the term CEU is used for all continuing education measurement units. Primacy agencies may use different terms such as professional development hours (PDHs), Training Units (TUs), etc.

often not transferable between jurisdictions.

Approval of CEUs is a labor-intensive process for the **capacity development offices** of states and provinces. This process involves evaluating course content and whether trainers have the required qualifications. In some instances, the offices develop a list of “approved trainers” for their state or province. Resource constraints lead some offices to turn to third-party certification processes such as those offered by the International Accreditors for Continuing Education and Training (IACET) for a blanket class approval in an effort to alleviate this burden. However, the utilization of such third-party certification processes remains limited and burdensome.

Getting classes approved takes upward of 6 months; a couple classes took close to a year to be included on the approved training list.

For classes on state borders and/or online classes, because of cost and time considerations, we often must choose which states to seek CEU approval.

Source: Trainers

Trainers are required to obtain CEU approval in each state and province where they conduct training, necessitating separate applications with unique region-specific requirements and fees. Approval times vary, further raising the cost of training and potentially delaying its delivery. Trainers also must choose which states and/or provinces to provide training in, limiting access to necessary training in certain contexts.

It is important to note that subject matter experts (SMEs) and trainers are not synonymous.

Effective training demands both subject matter expertise and expertise in training delivery. Being a subject matter expert alone is insufficient for creating an effective training course; SMEs must also possess and develop training delivery skills.

While course approval typically relies on subject matter expertise, which can be demonstrated through years of experience, operator certification, or post-secondary degrees, few states or provinces require documented training delivery or teaching expertise. Although train-the-trainer programs exist, there is no universally recognized certification for trainers in the water industry.

Lack of common training design and delivery standards.

There currently are no universally accepted training design and delivery standards in the water industry. This became notable as the industry was required to transition to an online format during the COVID pandemic. Each state and province were compelled to hastily devise online training prerequisites, encompassing considerations like platform choice, attentiveness verification, and camera usage. This rapid adaptation resulted in substantial disparities in requirements between states and provinces. Consequently, the absence of standardized guidelines and the ensuing inconsistencies had a notable impact on the swiftness of training approval, the delivery process, and the overall quality of training.

The current region-by-region approval system for training, whether in-person or online, leads to inconsistent requirements for trainers, course design, curriculum, course delivery, and outcome measurement metrics. This imposes a substantial burden on both the primary

agency and trainers, ultimately increasing costs and limiting opportunities for trainees.

Current training approval processes often hinder innovation. Emerging training methodologies such as microlearning, synchronous and asynchronous online training, virtual reality, and blended learning are gaining traction and are here to stay. Unfortunately, some of these methodologies may be ahead of current verification requirements for CEU approval. Online training is not bound by state or province borders, necessitating common design standards to foster innovation and cross jurisdictional standardization.

Lack of approved content.

Evaluating the content of training courses poses difficulties for all stakeholders. Many states and provinces ensure that topics align with need-to-know criteria, legislative requirements, or other state/provincial priorities. Some jurisdictions require submission of every PowerPoint slide and corresponding speaker notes. While various sources of "best practice" and quality water industry training content exist, there is no established process for approving or ensuring the quality of training course content without scrutinizing each course individually.

b. WPI Goal

The proposed goal for WPI is to lead an effort with stakeholders to enhance the quality of operator training and assist primacy agencies and trainers in establishing a standardized approval process for courses. To achieve this, WPI should address the following key areas:

- Trainer certification. WPI aims to provide standards for trainers, establish a process for trainer certification, and create a mechanism for obtaining and maintaining certification.
- Standards for Course Design, and Delivery. WPI seeks to gain consensus on standards for course design and delivery and develop a process for verifying that courses adhere to these standards. This applies to in-person, synchronous and asynchronous online, and hybrid courses.
- Standards/Requirements for Training Organizations. WPI aims to create a process to assure primacy agencies (e.g., states/provinces) and operators that any course offered by approved organizations or trainers will meet course design and content standards. Agencies could approve continuing education credit without requiring individual course-by-course review and approval or could expedite review of courses from an approved organization. Timeliness of approval and a reduced review burden would be additional benefits.

This approach aims to ensure a consistent level of training quality in the water industry. Trainers would be certified in both training design and delivery, in addition to having documented subject matter expertise. Training courses would meet established design requirements, with content sourced from recognized and approved providers.

WPI acknowledges that many states and provinces have existing statutory requirements or long-standing commitments related to training approval. The proposed approach should align with or surpass most of those requirements. States and provinces could also adopt components of the WPI approach, such as requiring a WPI certified instructor, while still retaining the need for separate local content approval.

It is important to note that this initiative may not be practical for courses offered by one-time instructors, in an individual location, or with one-time delivery. States and provinces may still need a process to address these specific cases.

WPI is uniquely positioned to lead this collaborative initiative aimed at elevating the quality of training within the water industry. Several compelling factors make WPI particularly qualified to drive this initiative forward.

1. *Unmatched Certification Recognition*: WPI stands alone as the singular organization in the water industry offering nationally and internationally recognized certification exams. This distinction underscores WPI's unwavering commitment to upholding the highest standards of competence and safety. Their certification exams serve as industry benchmarks, reflecting their dedication to nurturing expertise and ensuring public safety. This recognition is a testament to WPI's ability to set and maintain rigorous industry standards.
2. *Expertise in Certification Exam Development*: WPI's unparalleled expertise in developing certification exams through a meticulous psychometric process sets them apart. Their rigorous approach ensures that each exam item undergoes intense scrutiny, aligns with industry reference materials, and is backed by statistical analysis and psychometric assessments. This precision guarantees that WPI's certification exams are not only comprehensive but also effective in assessing the competence of water and wastewater operators.
3. *Validation Through Comprehensive Job Analyses*: WPI has established a robust system for validating their test content through comprehensive job analyses. They actively engage with over 15,000 industry stakeholders, collecting valuable insights on job tasks and certification criteria. This exacting approach mirrors their dedication to ensuring the competence and safety of water industry professionals.
4. *Leadership in Defining Industry Norms*: WPI's enduring commitment to excellence establishes them as an industry frontrunner in shaping established practices. Their unwavering dedication to exacting criteria harmonizes seamlessly with the goals of the proposed program, which aims to institute industry norms for training design and delivery, as well as guidelines for content development organizations.
5. *Capacity for Innovation*: The water industry is evolving rapidly, with emerging training methodologies such as microlearning, synchronous and asynchronous online training, virtual reality, and blended learning gaining traction. WPI's capacity for innovation is evident, and their leadership can drive the establishment of common design standards to foster innovation while ensuring the quality of training content.
6. *Global Standardization Through Professional Operator Designation*: WPI's groundbreaking Professional Operator (PO) program is a testament to their commitment to global industry standards. This unique program sets WPI apart by providing a universal set of standards and testing criteria for water and wastewater safety professionals. While most jurisdictions have their own operator certification programs, these programs often vary widely. WPI's PO Designation aims to harmonize these differences by reflecting the best practices and protocols in the industry on a global scale. By offering this designation in Water Treatment, Water Distribution, Wastewater

Treatment, and Wastewater Collection at multiple levels, WPI is not only shaping the industry but also empowering professionals to demonstrate their commitment to public safety and environmental protection. This program serves as a catalyst for raising the bar in competence, safety, and environmental stewardship within the water industry.

WPI's reputation, commitment to rigorous standards, expertise in certification, and ability to set global industry benchmarks make them the ideal organization to lead this initiative. By leveraging their experience and dedication, WPI can spearhead the effort to enhance training quality, streamline approvals in states and provinces, and ultimately benefit water and wastewater operators. Their leadership ensures a consistent level of program quality and a commitment to excellence within the water industry.

SECTION 2. PILLAR 1: TRAINER CERTIFICATION

This section will delve into the criteria for trainers and the trainer certification process. WPI's objective is to provide assurance to primacy agencies and operators that any trainer who undergoes the WPI certification process possesses a profound understanding of adult education principles and practices, ultimately enhancing the quality of training. Furthermore, WPI can validate that these trainers possess subject matter expertise aligned with the WPI Need-to-Know criteria.

By addressing these issues, the aim is to establish a robust and widely accepted framework for trainer qualifications and certification, ultimately enhancing the effectiveness and reliability of training programs in the water industry.

“Qualified Trainer” Requirements The requirements for a "qualified trainer" can vary between jurisdictions and within the water industry. Requirements are often a combination of factors aimed at ensuring trainers have the necessary expertise and capabilities to effectively educate and guide students. Here are the key elements that may be considered:

- ***Professional Experience:*** Trainers are expected to have extensive professional experience working with water or wastewater, as relevant to the specific class they are instructing. The exact number of years of experience required may vary depending on the level and complexity of the training being delivered. This experience helps trainers relate real-world scenarios to theoretical concepts, enriching the learning experience.
- ***Education and/or Certification:*** Instructors are usually required to hold relevant educational qualifications and training related to water or wastewater treatment and operations. This may include degrees or certifications in fields such as environmental science, engineering, or related areas. In some areas, trainers might need to maintain a valid water or wastewater operator certification or license, which demonstrates their practical expertise in the field.
- ***Teaching Experience:*** Prior teaching or instructional experience is often preferred. Effective communication of complex technical information to students and the ability to facilitate their learning process are vital skills. Experienced trainers can employ various teaching methods to engage students and make learning more accessible. Teaching qualifications and/or train-the-trainer certification are rarely required.

- **Up-to-Date Knowledge:** Trainers are expected to stay abreast of the latest developments, regulations, and best practices within the water industry. This ensures that they can provide students with accurate and current information. Some areas may require trainers to engage in ongoing continuing education to maintain their qualifications and stay current with industry advancements.
- **Communication Skills:** Effective communication is paramount for trainers. They must possess strong written and verbal communication skills to convey information clearly, answer students' questions, and foster a positive learning environment. The ability to adapt communication styles to various audiences and learning styles is an essential aspect of successful training.

These criteria collectively contribute to the qualifications of a "qualified trainer" and are aimed at ensuring that trainers possess the necessary knowledge, experience, and skills to educate and empower students effectively. While specific requirements may vary by area, they all share the common goal of enhancing the quality of training in the water industry.

Subject Matter Expertise Demonstrating subject matter expertise can encompass a blend of formal education, operator certification, or a wealth of practical experience. It is most fitting when aligned with specific criteria tailored to the essential knowledge domains. The most effective approach to managing this expertise is to categorize it at a high level, such as encompassing broad areas like water treatment, water distribution, wastewater treatment, wastewater collection systems, or management and finance. Alternatively, it can be specified further, delving into particulars like water distribution/valves.

To enhance the recognition of subject matter expertise, we propose the following recommendations:

- ❖ **Recommendation 1:** Enable trainers to showcase their proficiency through formal education, operator certification, or accrued years of hands-on experience. Develop clear approval criteria for each distinct category.
- ❖ **Recommendation 2:** Link subject matter expertise to comprehensive "need to know" categories, such as water treatment, water distribution, wastewater treatment, wastewater collection systems, and management and finance, to ensure a well-rounded understanding.
- ❖ **Recommendation 3:** Implement a credentialing and tracking system within WPI to monitor and validate an individual's subject matter expertise over time, promoting transparency and accountability.

Training/Teaching Expertise Expertise in training and teaching is an essential criterion for trainers. This expertise can be demonstrated through various means, such as formal education in the field of education, completion of an accredited "train the trainer" program, or a proven track record of effective training delivery. Given the imperative need to revamp the current training model in the water sector, demonstration of this expertise is necessary. To formally recognize and document teaching proficiency within the water sector, the implementation of a dedicated certification program for water sector training is recommended. This program could involve a written examination as well as a practical demonstration of teaching skills.

To enhance training and teaching expertise within the water sector, we recommend the following actions:

- ❖ **Recommendation 4:** Establish a Water Sector Certification Program for Teaching Proficiency. Utilize a psychometric approach to conduct a comprehensive task analysis, create essential "need-to-know" criteria, and formulate examination questions. Determine whether the certification process should solely involve an examination or also incorporate a skills demonstration component.
- ❖ **Recommendation 5:** Develop a Water Industry Train-the-Trainer Program. Given the current scarcity of water industry-focused train-the-trainer programs, it is advisable to design a dedicated program tailored to the specific needs of training water professionals. Alternatively, consider allowing participation in existing train-the-trainer programs while incorporating a water industry-specific examination to assess training proficiency.
- ❖ **Recommendation 6:** Entrust WPI with the responsibility of developing and maintaining the certification examination and associated credentials. Additionally, either WPI or another suitable organization should take the initiative to create and manage the train-the-trainer program, ensuring its relevance and effectiveness within the water sector.

Maintaining Trainer Expertise To ensure trainers maintain their expertise effectively, it is crucial that they stay current in both technical knowledge and teaching skills. Continuing education should be mandatory to sustain proficiency in both domains.

- ❖ **Recommendation 7:** Establish ongoing education requirements for maintaining expertise in both subject matter knowledge and teaching abilities. The responsibility for managing these requirements could be entrusted to WPI as part of the credentialing program.

Moving forward, the following actions are recommended:

1. WPI should conduct a comprehensive psychometric process to support the development of a professional trainer certification program specifically tailored to the water industry. This process would encompass a thorough task analysis, the formulation of essential "need-to-know" criteria, and the creation of examination questions.
2. WPI should either develop its own train-the-trainer program or collaborate with another organization experienced in such training program development, ensuring its alignment with the unique needs of the water sector.
3. WPI should establish a framework for trainer certification and the maintenance of trainer credentials. This framework should also include guidelines for ongoing certification maintenance requirements.

Key Points for Discussion:

- **Qualifications for Trainers:** What prerequisites should trainers meet to be considered "qualified trainers"? Should trainers be required to obtain train-the-trainer continuing education? This discussion will outline the essential qualifications and expertise required for trainers to effectively impart knowledge.

- Acceptance of WPI Trainer Approval: What would prohibit primacy agencies from recognizing and accepting trainers certified by WPI? This question addresses potential barriers to primacy agency approval of an outside organization certifying trainers.
- Equivalency of Third-Party Certifications: Should other third-party training certifications, such as ATD or CET, be deemed equivalent to WPI certification or granted reciprocity? This discussion assesses whether existing certifications from reputable organizations align with WPI's standards and can be recognized as equally valid.

SECTION 3. PILLAR II - CURRICULUM / COURSE DESIGN AND DELIVERY STANDARDS

There is a clear need for well-defined training design and delivery standards in Pillar II, which will greatly benefit trainers and primacy agencies. These standards are essential to ensure that training programs align with the objectives of primacy agencies, funders, participants, and trainers. These standards should encompass various aspects, including the emphasis on outcome-based training and the adoption of appropriate adult education methodologies to enhance learning outcomes and, in turn, the performance of water and wastewater operators.

The importance of such standards became particularly evident during the COVID-19 pandemic, as the lack of widely accepted guidelines for online training presented challenges. Each primacy agency had to independently develop standards pertaining to acceptable training platforms, methods for verifying participant attentiveness, camera usage (on or off), and more.

These training design standards are essential across a range of training formats, including:

- In-Person Training Courses: Guidelines for designing and conducting in-person training sessions to ensure effectiveness and alignment with agency objectives.
- Asynchronous Online Training: This encompasses various forms of self-paced online learning, including eLearning, prerecorded webinars, and microlearning. Standards are crucial to optimize the quality and engagement of these materials.
- Synchronous Online Training: Standards for delivering real-time online training and webinars to a live audience to enhance interactivity and learning outcomes.
- Hybrid Training: Training that integrates both in-person and online participation requires clear standards to balance the strengths of each format effectively.
- Blended Learning: In cases where training combines online, in-person, and self-paced activities, standards are vital to ensure seamless integration and a cohesive learning experience.

The establishment of these nine comprehensive design and delivery standards for training courses will serve as a foundation for developing high-quality, effective training programs that meet the diverse needs and expectations of stakeholders in the water industry.

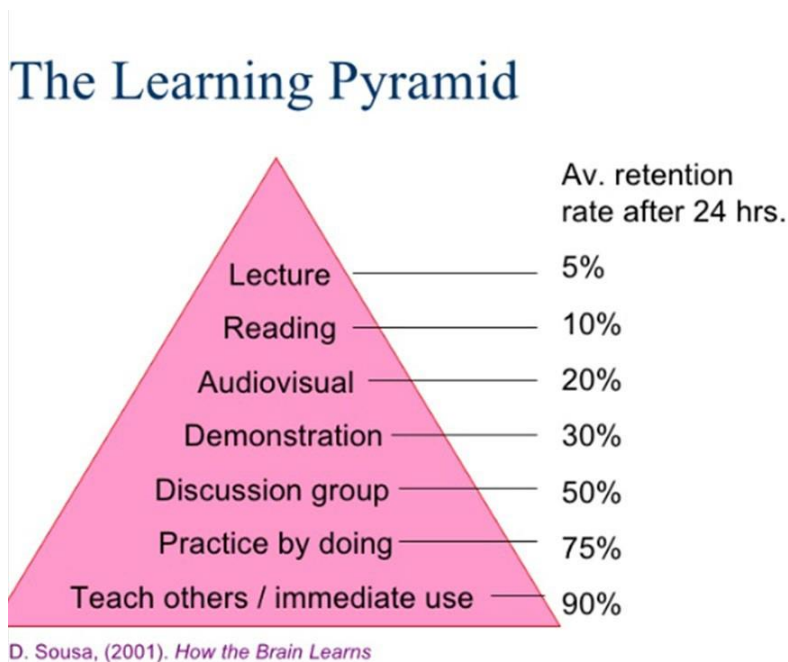
1. Learning Objectives: Clearly outline the training course's goals and objectives, specifying what participants should be capable of achieving or comprehending by the course's conclusion. These objectives serve as guiding principles for both course content and assessment methods.

2. Target Audience Definition: Identify the specific characteristics, knowledge levels, and unique needs of the training participants. This information aids in customizing course content, activities, and materials to align with their backgrounds and requirements.
3. Content: Identify reliable sources for course content, ensuring that it remains up to date, adheres to current national and local regulations, remains practical, and reflects industry best practices. Establish a defined process for content development, review, and approval.
4. Curriculum Structure/ Agenda Development: Organize the course content into logical modules or sections that progressively build on one another and contribute to achieving the stated learning objectives. Craft an agenda that effectively mirrors the course content.
5. Content Delivery/Engagement: Employ suitable methods for delivering content, which may include lectures, discussions, case studies, hands-on activities, videos, and interactive simulations. Diverse instructional strategies keep participants engaged and cater to various learning preferences. Direct interaction with the content is crucial for knowledge retention.
6. Assessment and Evaluation: Create assessment methods to assess participants' understanding and progress, potentially including quizzes, assignments, group projects, presentations, or examinations. Providing regular feedback allows learners to monitor their own development.
7. Resources: Supply participants with supplementary materials such as reading lists, reference guides, and links to online resources. These materials support self-directed learning and in-depth comprehension.
8. Feedback Mechanisms: Integrate opportunities for participants to provide feedback on the course content, structure, and delivery. Such feedback can be instrumental in enhancing future iterations of the course.
9. CEUs/ Time Management: Divide the course content into manageable units, taking into consideration the total duration of the training. Ensure that participants have sufficient time to absorb and apply what they have learned.

It is essential to note that the current qualification metric for continuing education units (CEUs) often relies on time spent in training sessions. However, this time-based metric does not necessarily correlate with actual learning outcomes. Design standards should prioritize participant learning outcomes alongside time-based requirements.

Moreover, while some states/provinces mandate the submission of learning objectives for course approval, few require assessments to determine whether the training effectively meets these objectives. It is a challenge to bridge the gap between course objectives and the actual learning outcomes achieved.

In the water supply industry, a predominant training approach involves PowerPoint-based lectures, where a speaker imparts knowledge to the audience. Research has revealed that this method yields low knowledge retention rates, as illustrated in the figure below. Therefore, there is a clear need to reevaluate and enhance training methodologies to improve learning outcomes.



- ❖ **Recommendation 8:** WPI will take the initiative in spearheading the development of comprehensive training design and standards for water supply training courses. The initial focus could be on in-person content delivery, subsequently expanding to encompass online (both synchronous and asynchronous) and blended formats. These standards should be complemented by the creation of a checklist that can be utilized by WPI or primacy agencies to ensure adherence.
- ❖ **Recommendation 9:** WPI will undertake the development of a robust training assessment process to accompany the established design standards. This assessment process should be intricately linked to the awarding of Continuing Education Units (CEUs) and should serve as a mechanism to verify the attainment of learning objectives.

Moving forward, the following actions are recommended:

1. **Development of Training Design Standards:** WPI will lead the development of comprehensive training design standards, beginning with in-person content delivery and subsequently expanding to encompass various online and blended formats. This initiative should engage industry experts, educators, and stakeholders to ensure the standards are both relevant and effective.
2. **Creation of a Checklist:** In addition to the standards, WPI will develop a practical checklist that can be employed by WPI itself and/or by primacy agencies. This checklist should serve as a tool for evaluating training courses to ensure compliance with the established standards.

3. Training Assessment Process: WPI will design a rigorous training assessment process that aligns closely with the design standards. This process will include methods for evaluating learning outcomes and should be integrated with the awarding of CEUs, ensuring that participants receive recognition for their achieved competencies.

By implementing these recommendations and actions, WPI will play a pivotal role in enhancing the quality, effectiveness, and consistency of water supply training courses, ultimately benefiting the industry, its professionals, and our public health systems.

Key Points for Discussion:

- Acceptance of Design Criteria: What barriers might exist to the use of design criteria developed through a stakeholder process? What would be the best approach to assist trainers in applying these criteria?
- Emerging Training Technologies CEU Approval: Should criteria be developed for all training methodologies or just in-person training? What criteria need to be established for CEU approval of these methodologies?
- Competency vs Time: Typically, CEU approval is awarded based on time of attendance. Should measurement of competency (or outcomes) be considered in lieu of/or in addition to time for CEU approval?
- Assessment of Training Design: Would a WPI training assessment process that aligns closely with the design standards be sufficient to ensure compliance with the standards?

SECTION 4. PILLAR III - CONTENT DEVELOPMENT ORGANIZATION STANDARDS

In this section, we outline the requirements for content development organizations and propose a certification or approval process that would enable WPI to accredit organizations capable of creating "approved content." States and provinces could add organizations that go through this process to the approved trainers list. This process would eliminate the need for separate reviews of each course and its associated materials or assist states and provinces in developing an expedited review process. Essentially, if a course were developed by an approved organization (e.g., AWWA, WEF, RCAP, NWRA, etc.), its content and design would not necessitate additional review for primacy Continuing Education Unit (CEU) approval. WPI would accredit the organization itself, rather than scrutinizing every individual slide deck or training module. These approved organizations would be obligated to adhere to the course design standards, with an auditing process in place to ensure ongoing compliance over time.

Furthermore, a process should be established for one-off training courses, such as those developed by individual trainers or small organizations. For instance, if an individual is a certified trainer and adheres to the design standards, they could submit a course for review and approval.

The process for accrediting organizations for content development would comprise the following key components:

- Guidance/Standards for Organization Approval: Clear guidance and standards should be established to evaluate and approve content development organizations. These

standards should encompass criteria related to course design, content quality, and adherence to industry best practices.

- Organization Approval and Monitoring Process: A well-defined process should be developed for granting approval to content development organizations. This process should also outline ongoing monitoring mechanisms to ensure continued compliance with established standards.
- Audit, Peer Review, and Performance Evaluation: Robust procedures should be established for auditing and peer-reviewing approved organizations to assess their performance and adherence to course design standards. This evaluation process should be structured to maintain high-quality content development.

By implementing these components within the accreditation process, WPI can streamline the approval of content development organizations, enhance the quality and consistency of training materials, and promote industry-wide compliance with established standards.

Criteria for content development organizations could include the following:

1. Content Development Process:
 - Clearly align content with the needs of the water sector and the target audience by developing a content strategy with defined goals and content types.
 - Ensure that content addresses current regulations, standards, and best practices.
 - Write, design, or produce content in accordance with established guidelines and style.
 - Guarantee that content is accurate, thoroughly researched, and fact checked.
 - Incorporate visuals, multimedia elements, and other resources as appropriate.
2. Content Verification Process:
 - Document the process for verifying facts, data, and sources used in the content.
 - Conduct comprehensive quality checks to ensure that content meets established standards.
3. Content Approval Process:
 - Establish a workflow for content approval, involving key stakeholders and decision-makers.
 - Implement a review and editing process that includes subject matter experts and editors.
 - Check content for grammar, spelling, and style errors.
 - Evaluate content for accessibility compliance, including providing alt. text for images and proper semantic structures.
4. Feedback and Evaluation:
 - Provide key metrics for measuring the achievement of training outcomes. Incorporate feedback from the audience through evaluations, comments, surveys, and user reviews.

5. Content Maintenance:
 - Regularly update and maintain content to ensure accuracy and relevance.
 - Monitor for broken links and outdated information.
 6. Continuous Improvement:
 - Use feedback to make improvements to future content.
 - Conduct periodic content audits to identify areas for improvement.
- ❖ Recommendation 10: WPI will establish a dedicated workgroup tasked with defining and establishing standards for content development organizations.

Moving forward, two approaches could be considered:

- WPI Approves Content Developers: In this approach, WPI would accredit or approve organizations that develop reference materials, manuals, and other content related to specific subjects. Certified trainers would then use this approved content and adhere to the training design standards when developing training modules. States and provinces could approve courses based on the assurance that the content be developed by reputable organizations following established development processes, and that approved trainers are applying the training design standards in course development and delivery. Assurance would be established through a WPI-led peer review and auditing process to verify that a specific number or percentage of trainings meet the standards.
- WPI Approves Content Developers and Curriculum Design: In this alternative approach, organizations (either independently or in partnership) would be evaluated and approved by WPI for both content development and curriculum design. States and provinces would then be provided a list of approved/accredited organizations capable of delivering curriculum modules that certified trainers could use for their training programs.

These approaches would help standardize content development, enhance the quality and consistency of training materials, and ensure that approved organizations meet rigorous standards in their content creation and curriculum design processes.

Key Points for Discussion:

- Acceptance of Content Development Organizations: What would prevent primacy agencies from recognizing approved content development organizations? Would this alleviate the need to review content from each course?
- Content Development and Curriculum Design: Would organizations that have both approved content and curriculum development process be automatically approved by primacy agencies? Would this alleviate the need to review content from each course?

SECTION 5: IMPLEMENTATION PLAN

To successfully implement the program, involving key stakeholders is crucial. The following steps leading up to the launch of the three pillars in 2026 are advised:

Initial Discussions with Stakeholders (November 5, 2023 – December 30, 2023):

- Share the idea of the whitepaper/proposal with select stakeholders to initiate discussions.
- Distribute a preliminary draft of the whitepaper in November 2023 to collect input from stakeholder groups.
- Request feedback from stakeholders by December 7, 2023.
- Revise whitepaper/proposal and make it available for participants at the 2024 WPI Innovation in Certification conference.

Trainers Workshop Discussion (January 2024):

- Devote the Trainers Workshop at the 2024 WPI Innovation in Certification conference to discuss the whitepaper among stakeholders.
- Organize small group discussions on the overall concept and each of the three core areas.
- Aim to begin gaining consensus on the proposed approach.

Development of Trainer Standards and Certification Program (February 2024 – February 2025):

- Conduct a psychometric process to support the development of a water industry professional trainer certification. This should include a job analysis, the formulation of need-to-know criteria, and the development of exam questions for piloting.
- Develop the train-the-trainer program, either by WPI or in partnership with another organization.
- Create a supporting mechanism for trainer certification and credentialing, including certification maintenance.
- Pilot the train-the-trainer workshop and exam at the WPI 2025 annual conference.

Development of Training Development Standards (Concurrent with Trainer Standards or Following):

- Lead a process to develop training design standards for water supply training courses. Begin with in-person content delivery and then expand to online (both synchronous and asynchronous) and blended formats.
- Develop a training assessment process that accompanies the design standards to ensure the attainment of learning objectives. Link this assessment process to the awarding of Continuing Education Units (CEUs).

Content Development Organization Standards (2025):

- Lead a process to identify criteria for content development organizations.

By following these steps, involving key stakeholders, and systematically developing standards and certification programs, the program's successful launch in 2026 becomes more achievable.

APPENDIX A

EXAMPLE PROGRAMS

This appendix provides summaries of organizations that offer components similar to what is proposed by WPI:

IACET - International Accreditors for Continuing Education and Training (IACET)

- IACET authorizes organizations to offer IACET CEUs as an Accredited Provider based on their demonstrated processes for planning, designing, developing, delivering, and administering learning events.
- They focus on how continuing education and training programs are developed, not on the subject matter they cover, and do not accredit trainers.
- The IACET Standard defines a model for developing effective CE/T programs by measuring a provider's training program across nine internationally recognized categories.
- IACET is introducing a new Competency-Based Learning (CBL) standard that focuses on mastery of competencies and skills rather than time-based learning.

The [International Accreditors for Continuing Education and Training \(IACET\)](#) is the developer of the original Continuing Education Unit (CEU) and today ensures that providers of continuing education and training can prove they provide high-quality instruction by following the *ANSI/IACET 1-2018 Standard for Continuing Education and Training* through a rigorous accreditation process. The Standard is a universal model for learning process excellence. It defines a proven model for developing effective and valuable continuing education and training (CE/T) programs by measuring a provider's training program from procedure to process to result. Because the ANSI/IACET Standard focuses on how continuing education and training programs are developed - not what they cover - it provides a certifiable framework of researched and proven best practices that can be applied across disciplines and industries

[ANSI/IACET 2018-1 Standard for Continuing Education and Training](#) - The ANSI/IACET Standard measures all aspects of a CE/T provider's program development across nine internationally recognized categories:

1. Organization, Responsibility and Control
2. Learning Environment and Support Systems
3. Planning and Instructional Personnel
4. Needs Analysis
5. Learning Outcomes
6. Content and Instructional Requirements
7. Assessment of Learning Outcomes
8. Awarding the IACET CEU and Maintaining Learner Records
9. Evaluation of Learning Events

This is being revised in the [IACET 1-2023 Standard for Continuing Education and Training](#). This practice provides guidance for organizations designing, developing, and delivering continuing education and training (CE/T) programs. This practice is intended for organizations who want to demonstrate that:

- The structure of their CE/T organization and the personnel who support it meet the requirements and rigor of a globally recognized standard.
- The design, development, delivery, and administrative support of their learning program(s): meet the requirements and rigor of a globally recognized standard, demonstrates a commitment to education that is accessible and applicable to their workplace, and demonstrates a commitment to continuous improvement.
- A learner completing the Provider's learning program and/or learning event has completed a training activity that adheres to a globally recognized standard.

[IACET - 2018 Competency Based Learning Guidelines](#)

IACET's current Continuing Education and Training standard focuses on continuing education units (CEUs), which are based on time spent in a learning event. By contrast, IACET's new CBL standard focuses on **mastery of competencies and concrete skills and is not time-based**. This will be a shift for many and reflect the new world of on-demand, adaptive, micro-learning, and other transformational trends in the training industry.

The IACET CBL guidelines seek to provide direction and recommendations to providers. These guidelines include requirements and references for processes commonly used in the field of learning and development, talent management, and training. The guideline focuses on the provider and the provider organization and has implications for the designer, facilitator, learner, and the learner's organization.

CERTIFIED ENVIRONMENTAL TRAINER

- The Board of Certified Safety Professionals (BCSP) accredits the [Certified Environmental, Safety & Health Trainer \(CET\)](#).
- The CET certification confirms expertise in developing, designing, and delivering health, safety, and environmental (HSE) training.
- The CET certification exam measures knowledge of adult education theories and practices, as well as knowledge and experience in the HSE field.

ASSOCIATION FOR TALENT DEVELOPMENT (ATD)

[Association for Talent Development](#) (ATD) members and customers are professionals who help others achieve their full potential by improving their knowledge, skills, and abilities in the workplace. ATD offers a range of certification programs including:

- [ATD Master Trainer® Program](#), focused on practice and theory in delivering effective training solutions.
- Certified Professional in Learning and Performance (CPLP) is a credential that signifies proficiency in the field of workplace learning and performance. It is recognized globally and is aimed at professionals who design, deliver, and evaluate training programs.

OCCUPATIONAL SAFETY AND HEALTH AGENCY (OSHA)

OSHA mandates training under the Occupational Safety and Health Act of 1970 and emphasizes the importance of training in workplace safety and health. OSHA offers various training programs and certifications. Here are two key aspects of OSHA's safety training:

- OSHA Outreach Training Program: OSHA provides the Outreach Training Program for both general industry and construction. This program educates workers and employers on the recognition, avoidance, abatement, and prevention of safety and health hazards in the workplace.
- Authorized OSHA Training Providers: OSHA does not directly conduct training courses. Instead, it authorizes qualified trainers and training organizations to deliver OSHA Outreach Training Program courses. These authorized trainers may include independent consultants, colleges, universities, and other organizations with expertise in occupational safety and health.

Project Management Institute (PMI):

PMI is a globally recognized professional association for project management professionals. It offers various certifications, including the Project Management Professional (PMP) and the Certified Associate in Project Management (CAPM), among others.

- Authorized Training Partner (ATP) Program: The PMI Authorized Training Partner program ensures that training providers meet PMI's standards for delivering high-quality project management training. Training organizations that become PMI Authorized Training Partners are authorized to offer PMI-approved training courses.

Program Requirements

These program requirements were created to provide consistent and high-quality training for our customers. All partners must adhere to these requirements to participate in the program.

General Program Requirements	PMP [®] Exam Prep	Disciplined Agile [®]	CAPM [®]
1. Authorized Training Partners and instructors must use PMI-developed course content.	✓	✓	
2. Instructors must complete and pass the Authorized Training Partner Train the Trainer session.	✓	✓	✓
3. Instructors must be certified in the certification they are teaching and be in good standing with PMI.	✓	✓	✓
4. Authorized Training Partners must be able to provide in-person and/or virtual instructor-led courses.	✓	✓	✓
5. Authorized Training Partners and instructors must adhere to all PMI brand guidelines and policies.	✓	✓	✓
6. Authorized Training Partners must have a documented issue-resolution process for customers.	✓	✓	✓
7. Organizations must be a legal business entity for 3 years.	✓	✓	✓
8. Authorized Training Partners must pass a background check and financial review.	✓	✓	✓
9. Instructors must have agile project experience to teach PMP exam prep courses.	✓		
10. Authorized Training Partners must agree to upload "guaranteed to run" public courses.	✓	✓	✓

If you deliver PDU-only training or training for other PMI certifications:

- You are not required to use PMI-provided content.
- Instructors are not required to complete the Authorized Training Partner Train the Trainer course.
- Instructors do not need agile experience.

APPENDIX B

PRIMACY AGENCY REQUIREMENTS

This section provides a detailed breakdown of the requirements typically set by primacy agencies for the approval of Continuing Education Units (CEUs) related to water management. These requirements encompass various aspects of the training or educational program that ensure the program meets the necessary standards for professionals in the field. The key components include:

1. Course Content:

- Content relevant to the field of water management, covering essential topics such as the collection, storage, treatment, and distribution of water, as well as the treatment and disposal of wastewater, all pertinent regulations, safety, and environmental protection.
- Submission of a comprehensive course description, including the course title, objectives, and a syllabus outlining the topics covered.
- Details about instructor qualifications, including their professional credentials, relevant experience, and any certifications they hold.
- Copies of training materials (e.g., textbooks, presentations, handouts, etc.) used during the course to provide insight into the course content.
- A schedule or agenda outlining dates, times, and locations of training sessions, along with the total duration of the course in hours or days.
- Clearly defined learning objectives specifying what participants will learn and the skills or knowledge they will acquire.
- Consistent knowledge and skill assessments conducted throughout the course to evaluate understanding, identify gaps, reinforce learning, measure progress, enhance motivation, and provide feedback. Additionally, they inform instructional design for a more effective and tailored learning experience.
- Documentation of any prior accreditation or approvals received by the organization offering the training from other agencies or organizations.
- Inclusion of supporting documentation, such as letters of recommendation from industry professionals, case studies, or research materials, to demonstrate the quality and relevance of the course content.

2. Instructor Qualifications:

- Ensuring that instructors or presenters delivering the training possess the necessary qualifications and expertise in the subject matter.
- Verification of relevant certifications or experience in the water and wastewater field.

3. Course Duration:

- Meeting the minimum duration requirements specified by the primacy agency, which may involve a specific number of hours or days of instruction.

4. Learning Objectives:

- Development of clearly defined learning objectives that outline what participants will learn and achieve by the end of the program.

- Alignment of these objectives with the expected goals and competencies of water and wastewater professionals.
- 5. Accreditation or Approval:**
- Potential accreditation or approval requirements for the organization or institution offering the training, either from the primacy agency or a recognized accrediting body.
- 6. Documentation:**
- Provision of proper documentation, such as certificates or transcripts, to participants who complete the training, indicating the number of CEUs earned.
- 7. Record Keeping:**
- Requirements for the organization offering the CEU program to maintain records related to participants, course content, and completion certificates.
 - These records may be subject to review by regulatory agencies.
- 8. Compliance with Regulations:**
- Adherence to relevant federal, state, provincial, and local regulations governing water and wastewater management, including environmental and safety standards.
- 9. Renewal and Recertification:**
- Consideration of renewal requirements for CEUs, ensuring that professionals stay current with industry developments.
 - Renewal may involve completing additional training or education.
- 10. Application Process:**
- Procedures for professionals seeking CEUs to apply for approval before attending a course or program.
 - This process typically includes providing detailed information about the training, its content, and the qualifications of the instructors.

Meeting these specific CEU approval criteria is essential, and individuals or organizations seeking approval should directly contact the relevant primacy agency or regulatory body responsible for water and wastewater management for comprehensive guidance on their specific requirements and the application process.

	Colorado	
Organization	Colorado Certified Water Professionals	
Website	https://cdphe.colorado.gov/ccwp-course-provider-information https://drive.google.com/file/d/16OI3P517L3OIkr1R\VVUz3N3uzQq8N01/view w	
Applying	https://drive.google.com/file/d/1o-R_ltosPOKnjrcBlugltnbvyyR587VI/view	

	<p>Criteria used to determine if the subject matter offered in a training class is relevant and approvable are based on the Associated Boards of Certification (ABC) Need to Know Criteria and the WWFOCB-approved training unit matrix. Relevant training is instruction or education that:</p> <ul style="list-style-type: none"> • Is pertinent to or consistent with what an operator needs to understand to successfully perform a job in the drinking water or wastewater field; and • Includes instruction that familiarizes operators with public health issues, source water protection issues and receiving water protection issues; and • Is identifiable as only that information an operator "needs to know," which does not include information ancillary to the drinking water or wastewater aspect of the job (such as sexual harassment training). 	
For training approval (content)	<p>Submission of a course description, learning objective, description of teaching techniques used and criteria for successful course completion. Attach an agenda and speaker bio. Identify topics and requests for TU's.</p> <ul style="list-style-type: none"> • Provide the knowledge or skills necessary to perform one or more of the occupation's critical job tasks as determined by the ABC Need to Know Criteria. • Not promote or endorse the products, product lines, or services of a manufacturer, distributor, or service provider or used as an opportunity for advertisement; 	
Training approval design	<ul style="list-style-type: none"> • Provide the means to accomplish the learning objectives identified for the training. • Contain learning aids, such as visual aids and graphics to enhance learning and attain learning objectives. • Include regular monitoring of participant comprehension throughout the training and provide feedback from the course provider, instructor, or subject matter expert. • Be monitored for successful participant completion. • Require attendees to sign in on each day of training. One way to do this is by requiring signing in at the beginning of the course, after breaks, and again at the end of the day. Instructors must track attendees who leave for extended periods of time or leave before training is complete and adjust awarded training units accordingly. • Online training classes must require positive interaction such as pressing a button to progress through the course. Training that self-completes (runs automatically), such as videos, with no intervention by the participant is not acceptable. • On-line training courses must prevent skipping of material and/or progressing through the course faster than the requested training units awarded. 	
Training approval instructors	<p>Utilize, at a minimum, subject matter experts and instructional design experts or effective qualified instructors to develop training materials for approval.</p>	

	Additionally, development of technology-based training must also utilize qualified subject matter experts in technology delivery methods.
Expectations for instructors	<p>Be responsible for the content and delivery of the training.</p> <ul style="list-style-type: none"> • Ensure the CCWP Program has the most current electronic edition of training materials if requested. • Keep manuals and training content updated to reflect rule changes. • Submit material with substantial changes, including a summary, list, or other indication of changes, for review and reapproval. • Allow CCWP staff access to training in order to audit training content, manner of delivery, and the effectiveness of instructors and subject matter experts. • Retain accurate training records for a minimum of five years. • Ensure that instructors and subject matter experts are qualified and provide the CCWP program with qualifications if requested. • Notify participants of all fees associated with completing a training. • Accurately present the approved training credit along with any other criteria for obtaining full training credit to participants. • Provide participants with copies of texts, manuals, or other training materials to use during the training and for future reference required by the delivery. • Provide acceptable procedures for participant identity verification. • Maintain procedures to protect student identity and personal information. • Electronically report the students' successfully completed training credit hours, not to exceed approved training credit hours, within ten business days of training completion.
CEU definition	<p>TUs are measured in the following increments and based on actual instruction and participation time.</p> <p>1-29 minutes = 0 training units 30-45 minutes = 0.05 training units 46-60 minutes = 0.1 training units</p>
Anything special about the State/Province approval.	Colorado does have requirements for “regulatory training” modules. A separate approval process.

APPENDIX C

CERTIFICATE VS. CERTIFICATION

This section provides an in-depth exploration of the distinctions between offering a certificate program and a certification program, particularly within the context of water industry training professionals. Understanding these differences is crucial for individuals and organizations seeking to design and implement training and professional development initiatives. Here is a breakdown of the content:

CERTIFICATE Program:

- The "WPI Master Trainer CERTIFICATE program" is designed for water industry training professionals.
- It shares similarities with ATD's "Training & Facilitation Certificate," which is aimed at all talent development professionals.
- The program would be conducted annually at the liC during WPI's Train the Trainer workshop, and consideration would be given to determining the number of Continuing Education Unit (CEU) credits it is worth.
- Each year, the program must maintain consistency in curriculum content to ensure that all participants who earn a certificate have gone through the same educational experience. While the presentation and delivery of information can be updated annually, core content elements remain constant. Methods for evaluating the "soft skills" portion of the CERTIFICATE assessment would need to be established.
- The CERTIFICATE earned through this program can stand alone as a notable achievement for individuals. To enhance recognition, digital badges can be provided and linked to the WPI website, similar to ICE's certificate programs. A database listing individuals who have earned the certificate can be maintained on the website.
- Importantly, the CERTIFICATE does not confer a professional credential or designation upon completion.

CERTIFICATION Program:

- The "WPI's Master Trainer CERTIFICATION" program is intended for water industry training professionals and shares parallels with [ATD's "Associate Professional in Talent Development \(APTD\)"](#) certification.
- Certification involves multiple requirements and periodic renewal. They are:
 - Part 1: Professional Development (e.g., CEUs, PDH, training hours, etc.) - The WPI Master Trainer CERTIFICATE program can fulfill this requirement, and its training can be deemed acceptable for certification purposes, provided that the total CEU hours required do not exceed what the CERTIFICATE program offers.
 - Part 2: Experience requirements.
 - Part 3: Education requirements (GED, transcripts, or diploma).
 - Part 4: Signing a code of conduct.

- Part 5: Passing a written exam once all other requirements are met.
- A database listing the individuals who have successfully earned certification can be maintained on the website. This database may be interactive, allowing trainers to link their names to websites or apps they use for training, providing exposure and incentives for trainers to pursue certification.
- The objective is to market the WPI MASTER TRAINER PROGRAM for water industry professionals in a manner similar to ATD's Master Trainer Program.
- Creating the CERTIFICATION exam involves several steps, including the involvement of Subject Matter Experts (SMEs) who collaborate with PSI to develop a Job Analysis (JA) survey.
- The SME committee analyzes survey responses to define the Need-to-Know (NTK) criteria, specifying the areas to be covered on the exam and assigning weights (percentages of questions) to each area. They also determine the number of questions the exam will contain, with guidance from a PSI psychometrician.
- SMEs create and submit exam items to PSI based on the NTK criteria.
- A subsequent phase involves the SME committee collaborating with a PSI psychometrician to review and edit each submitted question, a process that may require multiple meetings.
- The timeline for this certification creation process is estimated to take no less than 9-12 months from the receipt of JA survey responses.

This comprehensive discussion clarifies the distinctions between certificate and certification programs and outlines the steps necessary for the development and implementation of a water industry training professional CERTIFICATION program.