Certified Water-Based Systems Professional (CWBPSP)

Candidate Handbook

This Water-Based Systems Professional Candidate Handbook contains important program information along with the following documents:

- Recertification Points Table
- Exam Content Outline / Blueprint

Please carefully review this handbook and retain it for reference.
Copyright © 2021 National Fire Protection Association, All Rights Reserved.

This material is provided for illustrative purposes only and is not intended to be nor should it be relied on as engineering, design, legal, or other professional services. If such services are required, you should seek the assistance of the appropriate professional.

NFPA codes, standards, recommended practices, and guides (“NFPA Standards”) including the NFPA Standard that is the subject of this material, are made available for use subject to Important Notices and legal Disclaimers which can be viewed at www.nfpa.org/disclaimers.
## TABLE OF CONTENTS

- NFPA’s MISSION..............................................................................................................................5
- MISSION OF NFPA CERTIFICATION PROGRAMS.................................................................5
- CERTIFIED WATER BASED SYSTEMS PROFESSIONAL......................................................5
- CWBSP PROGRAM GOALS:.....................................................................................................5
- FEATURES & BENEFITS..............................................................................................................6
- ELIGIBILITY...................................................................................................................................6
- APPLICATIONS & FORMS...........................................................................................................6
- APPLICATION ELIGIBILITY AUDIT............................................................................................6
- APPLICATION ACCEPTANCE.......................................................................................................6
- PROGRAM FEES..........................................................................................................................6
- NON-DISCRIMINATION..............................................................................................................7
- SPECIAL ACCOMMODATIONS....................................................................................................7
- STEPS TO CERTIFICATION.......................................................................................................8
- REFERENCE MATERIALS...........................................................................................................8
- EXAM PREPARATION....................................................................................................................9
- EXAM FORMAT..........................................................................................................................10
- EXAM RULES AND PROCEDURES..........................................................................................10
- EXAM RESCHEDULE / CANCEL POLICY...............................................................................10
- EXAM SECURITY.........................................................................................................................10
- COPYRIGHT...............................................................................................................................11
- EXAM RESULTS..........................................................................................................................11
- RETEST.........................................................................................................................................12
- CONFIDENTIALITY......................................................................................................................12
- USE OF YOUR CWBSP CREDENTIAL.....................................................................................12
- RECERTIFICATION......................................................................................................................12
- RECERTIFICATION AUDIT.........................................................................................................12
- RECERTIFICATION REQUIREMENTS CHART.........................................................................14
- DOCUMENTATION.....................................................................................................................15
NFPA’s MISSION

Founded in 1896, NFPA is a global, nonprofit organization devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards.

MISSION OF NFPA CERTIFICATION PROGRAMS

The overall mission of NFPA’s Certification Program is to enhance human and organizational performance as related to the use and application of NFPA codes and standards.

CERTIFIED WATER BASED SYSTEMS PROFESSIONAL PROGRAM

The NFPA Certified Water Based Systems Professional (CWBSP) was created in 2018 after discussions with leaders in the field of water-based systems design who indicated a strong desire for a credential that will assess and verify demonstration of the knowledge and expertise necessary to be a water-based systems professional. CWBSP was then developed in consultation with professionals from a wide variety of specialties.

CWBSP is a credential targeted at experienced professionals who can correctly design, prepare, review and submit new layouts of fire sprinkler systems such as standpipe, sprinkler, fire pump and similar systems. Additionally, they must be able to correctly and accurately review existing system layouts for code compliance and accuracy. Professionals targeted for this exam are expected to be able to conduct the necessary hydraulic calculations required in the design process and those required to evaluate existing system performance. These candidates must also be able to coordinate the specification and coordination of materials and manage the project from design through final installation and testing.

Completion of the credential highlights an individual’s knowledge and understanding of water-based systems layout.

CWBSP PROGRAM GOALS:

- Recognize and provide evidence of competence in water-based systems layout and design
- Ensure proficiency in the use of NFPA codes and standards
- Enhance professionalism
- Ensure a uniform, fair process for certification that is accessible to everyone who is eligible
- Facilitate success for those seeking certification
- Promote professional development through continuous learning
FEATURES & BENEFITS
CWBSP credential holders receive the following benefits:

- A nationally recognized certification
- Recognition as an expert by your colleagues
- Greater confidence in your abilities
- Improved job performance
- Career advancement opportunities

Certificate holders also receive an NFPA certificate that further highlights their accomplishment.

ELIGIBILITY
Candidates for this certification must have:

- A high school diploma or a GED or International equivalent
- A minimum of 5 years of relevant experience

APPLICATIONS & FORMS
All CWBSP applications including the program application, and retest application can be found at www.nfpa.org/CWBSP.

APPLICATION ELIGIBILITY AUDIT
When you fill out your application, you must submit documentation supporting your eligibility. Acceptable documentation includes a resume reflecting work experience in the field of practice.

A portion of all applications will be selected at random, and if your application is selected for an audit, you will be notified that you must provide documented proof of the experience.

Failure or inability to provide such evidence will render your application void and you will forfeit your application fee. Therefore, it is important to have your documentation readily available at the time of application in the event you are audited.

APPLICATION ACCEPTANCE
An application is accepted only when the following requirements are met:
• The completed and signed application is received by NFPA
• Documentation supporting your eligibility is received by NFPA
• The examination fee is processed by NFPA
• If you are selected for the random documentation audit, you must provide your documentation of proof of eligibility

**IMPORTANT:** When emailing this application to NFPA, you must use the [NFPA secure email server](https://www.prometric.com/nfpacert). Once you access this server and create your NFPA secure email account, you should select OTHER from the "To" pull-down list, and then enter adminsycs@nfpa.org in the address box. Complete the email process by attaching your personal documentation and clicking "Send."

Following the receipt of your CWBSP application form, training documentation (if audited), and examination fee, the NFPA will send you an authorization letter with instructions on how to schedule your computer-based exam. A list of test centers may be found at [https://www.prometric.com/nfpacert](https://www.prometric.com/nfpacert).

**PROGRAM FEES**

$350 USD for the initial exam. $150 USD to recertify at the end of each three (3) year certification period. The most up to date fee schedule may be found on the applicable forms at [www.nfpa.org/CWBSP](http://www.nfpa.org/CWBSP).

**NON-DISCRIMINATION**

NFPA evaluates all CWBSP candidates without regard to race, color, religion, sex, sexual orientation, national origin, ancestry, age or disability.

**SPECIAL ACCOMMODATIONS**

NFPA provides special accommodations in accordance with the Americans with Disabilities Act of 1991 (ADA). If a disability prevents you from taking the examination under standard conditions, you may request special accommodations. Written requests explaining the nature of the disability (i.e., the diagnosis), the type of accommodation you feel is appropriate, and any supporting documentation of the diagnosis from a qualified healthcare professional must accompany the registration application. NFPA reserves the right to request reasonable documentation from healthcare or other professionals to support requests for special accommodations.

**STEPS TO CERTIFICATION**
• Submit your application with the appropriate examination fee to the NFPA certification department (see application form for details).
• If selected for an eligibility audit, submit additional documentation. You may not schedule an exam until you have passed the audit check.
• Examination - You will have to sit for a computer-based examination within 12 months of entering the CWBSP program.
• If you fail your exam, you are permitted to retest two (2) additional times (completing a retest application and paying a retest fee each time) within twelve (12) months from the day your original CWBSP application was accepted. If you fail the examination three (3) times within this period, you must wait until the twelve (12) month testing period expires before you will be allowed to restart the registration process. The retest application is found in the CWBSP candidate handbook as well as online at www.nfpa.org/CWBSP.

REFERENCE MATERIALS
The exam is based on:

• NFPA 14, Standard for the Installation of Standpipe and Hose Systems – 2016 Ed.
• NFPA 22, Standard for Water Tanks for Private Fire Protection – 2018 Ed.

It is the candidate’s responsibility to obtain these reference sources for study purposes and to have present during the examination. These are the only reference sources allowed in the examination room. If you would like to purchase these NFPA documents please go to the NFPA website at www.nfpa.org/catalog.

EXAM PREPARATION
Regardless of how long you have been on the job, you should still prepare for the CWBSP exam. Candidates should have a strong working knowledge of the principles and practices contained in the body of knowledge. NFPA also offers online learning modules on a wide variety of topics. While seminars and online modules are not test preparation courses, they do cover material found on the exam. Participation in these training options is not a prerequisite of the certification and does not
guarantee success on the exam. More information on NFPA training solutions can be found at www.nfpa.org/training.

REVIEW REFERENCE MATERIALS - It is not necessary to memorize the reference material, but it is important to know the general format of the NFPA code books and where to look for specific content within the chapters and annexes.

EXAM FORMAT
The CWBSP exam is a three (3)-hour, open-book examination, containing 100 multiple-choice questions. The examination is only available in English. It is designed to evaluate the candidate’s knowledge and application of the principles and practices required in water-based systems design.

The examination is available in a computer-based format at test centers throughout the world. Upon approval of the CWBSP program application and receipt of the test fee, the candidate will receive their authorization letter with instructions on how to schedule the computer-based examination. A list of computer-based test centers is available on the test administrator’s website at https://www.prometric.com/nfpacert

EXAM RULES AND PROCEDURES
The following suggestions, regulations, and procedures pertain to every candidate taking the examination:
• You must present a valid photo ID at the test center.
• Smart phones and other electronic devices are not permitted in the testing area.
• Only silent, hand-held, battery-operated calculators, without paper-tape printing capabilities are permitted. Calculators with an exponent function are necessary.
• You will not be permitted to continue the test beyond the established three (3)-hour time limit.
• You should bring only the approved, published and copyrighted NFPA document identified in this handbook into the exam room. Photocopies of the NFPA document, additional pages with notations, and other test taking aids are not permitted. All materials taken into the exam room are subject to review by the test center proctor.
• You may highlight, tab, and make notations within your NFPA documents prior to entering the exam room. Only commercial permanent adhesive type tabs are allowed. Post-it type notes and flags or other types of easily moveable tabs are not permitted. You may not write on, mark in, or tab the pages of your NFPA document during the examination.
• Electronic versions of the NFPA document are not permitted to be used at the test site.
• If you wish to leave the room during the test, you must secure the proctor’s permission. You will not be allowed to make up lost time.
• Visitors are not permitted at the test center.
• Smoking is not permitted in the testing area.
• Candidates may provide comments on exam items. All comments will be reviewed by NFPA certification staff. Candidates will not receive responses to their comments. Comments may be entered directly on the computer screen.

EXAM RESCHEDULE / CANCEL POLICY
If you wish to change your exam date or time, you may do so through the Prometric scheduling portal at https://proscheduler.prometric.com/?prg=NFPA2&path=confirm or by contacting Prometric’s contact centers listed on https://www.prometric.com/nfpacert.

There is no charge for reschedule or cancellation of an appointment if the change is made 30 or more days prior to your appointment date. Between 29 and 5 calendar days prior to your appointment date, you may cancel or reschedule your appointment, but you will be required to pay a $50 fee (to Prometric). Four (4) or fewer days prior to your appointment date, you may not reschedule. If you cancel your appointment during this period or fail to appear for your appointment, you will be considered a no-show, and will need to submit a retest application with NFPA and pay applicable fees prior to scheduling a new appointment. Information on how to submit retest application can be found on the applicable certification program website at https://www.nfpa.org/certification.

EXAM SECURITY
Failure to follow candidate instructions regarding examination security will result in your application being voided and forfeiture of your application fee. Conduct that results in violation of examination security or disrupts the administration of the examination could result in cancellation of your examination and dismissal from the testing center. In addition, your examination will be considered void and will not be scored.

Examples of misconduct include, but are not limited to, the following: writing on anything other than the margins of your test booklet, looking at another candidate's examination, or talking with other candidates anytime during the entire examination period. You are particularly cautioned not to do so after you have completed the examination, as other candidates in the area might be taking a break and still have not completed the examination. You may not attend the examination only to review or audit test materials. You may not copy any portion of the examination for any reason. No examination information may leave the test room under any circumstances. This includes memorizing questions for distribution to any other
person. No unauthorized persons will be admitted into the testing area. It is very important for you to note all examination content is strictly confidential. You may only communicate about the test, or questions on the test, using the appropriate forms provided within the examination delivery system.

At no other time, before, during or after the examination, may you communicate orally, electronically or in writing with any person or entity about the content of the examination or individual examination questions.

The NFPA shall have the right to revoke or invalidate any examination score with or without a finding of fault or misconduct if data forensic analysis or other credible evidence establishes a reasonable possibility that a score is not valid or the integrity or security of the examination was compromised.

COPYRIGHT

Exam questions are copyrighted by the NFPA. All rights reserved. Reproduction, distribution or display in any form or by any means, electronic, mechanical or otherwise, is strictly prohibited.

EXAM RESULTS

The computer-based examination allows candidates to receive their results immediately upon completion of the examination. The CWBSP exam is a pass/fail exam. Your actual number (%) exam score will never be reported to you for either a passing score or a failed score. If you pass the exam, you will only be told that you passed. If you fail the exam, you will be provided with a list of the five exam domains and the percent (%) of items you answered correctly within each domain. Note: This is not your exam score – it is just a percent (%) correct value for each domain. This domain percent (%) correct information is provided so you may focus on areas of improvement for your retest. See the CWBSP exam weighted criteria table in the appendix section of this handbook for a listing of the CWBSP exam domains.

RETEST

If you fail your exam, you are permitted to retest two additional times (completing a retest application and paying a retest fee each time) within 12 months from the day your original CWBSP application was accepted. If you fail the examination three times within this period, you must wait until the 12 month testing period expires before you will be allowed to restart the registration process. The retest application
is found in the CWBSP candidate handbook as well as online at www.nfpa.org/CWBSP. The cost to retest is $175 USD.

CONFIDENTIALITY

The identity and information concerning all candidates is confidential. Information regarding exam results are only communicated in writing from the NFPA certification department directly to the candidate. Exam results are never provided over the phone.

USE OF YOUR CWBSP CREDENTIAL

Once granted the CWBSP credential, the certified may refer to themselves as a CWBSP credential holder as long as the certified has an active certification status. The certified is authorized to use the CWBSP designation after their name on business cards, personal letterhead, resumes, websites and in their email signature.

RECERTIFICATION

Once a candidate has been certified, to remain active, they must recertify every three (3) years. The fee for recertification is $150 USD. In order to maintain currency and relevancy with the challenges in the water-based systems profession, CWBSP certification holders are required to demonstrate their continuing participation in professional development activities. NFPA awards points towards recertification for various activities. Sixty points of professional development activities related to the water-based systems design profession must be earned and submitted during the recertification cycle. Certification holders must complete the Summary of Recertification Points Form, and submit it to NFPA for processing. It is important that you begin accumulating the required points as soon as possible. If college courses are declared for training hours, the same course cannot be taken twice within the 3-year period, and the candidate must convert credit hours to actual hours spent in the classroom.

RECERTIFICATION AUDIT

Certification holders will be subject to a random audit of their CWBSP recertification documentation for a period of up to six (6) months after their recertification date. Accordingly, certification holders are expected to retain recertification documentation in their possession for six months beyond their recertification date. Recertification points forms are available at www.nfpa.org/CWBSP. Back up documentation is not required when submitting the Summary of Recertification Points Form.
# RECERTIFICATION REQUIREMENTS CHART (3-year cycle)

In order to maintain currency and relevancy in the profession, CWBSP certificate holders are required to submit sixty (60) points of documented professional development. The sixty (60) points must be submitted during the 3-year recertification cycle and related to the water-based systems design profession.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>POINTS ALLOTTED</th>
<th>MAX POINTS</th>
<th>REQUIRED DOCUMENTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Membership in Fire Protection Organization</td>
<td>2 per membership per year</td>
<td>6</td>
<td>Proof of membership</td>
</tr>
<tr>
<td>Online or Classroom Training / Professional development Seminars and Conferences</td>
<td>1 per contact hour</td>
<td>20</td>
<td>Certificate or Proof of attendance</td>
</tr>
<tr>
<td>Professional Practice</td>
<td>1 point per month</td>
<td>36</td>
<td>Letter from Supervisor or client(s)</td>
</tr>
<tr>
<td>College Credit</td>
<td>3 per course</td>
<td>12</td>
<td>Official transcript from College</td>
</tr>
<tr>
<td>Publish an article or paper</td>
<td>2 per article or paper</td>
<td>12</td>
<td>Copy of first page of the article/paper indicating the title, name and date of publication, and your name as author</td>
</tr>
<tr>
<td>Publish or edit a chapter in a book</td>
<td>4 per chapter</td>
<td>12</td>
<td>Copy of the title page of book indicating the title, publisher, date of publication, and your name as author or editor</td>
</tr>
<tr>
<td>Teaching College course</td>
<td>4 per course</td>
<td>12</td>
<td>Letter from college verifying details of course and your teaching it or documentation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------</td>
<td>----------------</td>
<td>-----------------------------------</td>
<td></td>
</tr>
<tr>
<td>Teaching class/seminar</td>
<td>2 per curriculum</td>
<td>12 Program outlines and objectives, and date of presentation</td>
<td></td>
</tr>
<tr>
<td>Other Fire Protection Certifications</td>
<td>3 per certification</td>
<td>9 Proof of active certification</td>
<td></td>
</tr>
<tr>
<td>Additional Voluntary Professional Service</td>
<td>5 per committee per year</td>
<td>15 Letter from organization</td>
<td></td>
</tr>
</tbody>
</table>

Note: NFPA reserves the right to alter any recertification requirements as deemed necessary

**DOCUMENTATION**

Reasonable proof of attendance/participation in the described categories will be accepted. Reasonable proof includes copies of agendas, rosters, or other descriptive program materials which have been signed and dated by the presenter/sponsor indicating the certificate holder’s attendance. The certificate holder is required to sign the descriptive materials as an attestation of their attendance.

**RENEWAL**

If NFPA does not receive the necessary recertification materials within the three year period, the certification holder will no longer be considered a Certified Water Based Systems Professional (CWBS), and will no longer be entitled to use the CWBS credential in professional communications. To regain certification, the candidate must successfully complete the entire CWBS certification program (subject to the applicable application fees).

**REPLACEMENT CERTIFICATES**

Replacement certificates are available at a charge of $15.00 per certificate by contacting the certification department at 617-984-7495.
CONTACT INFORMATION
NFPA Admin & Support Services
11 Tracy Drive
Avon, MA. 02322
Email: adminsycs@nfpa.org

CWBSP Exam Weighted Criteria Table
The following table indicates the approximate percentage (%) of exam content (exam items) for the four (4) major domain areas and the components of those domain areas:

<table>
<thead>
<tr>
<th>Domain Area</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Project Development</td>
<td>15%</td>
</tr>
<tr>
<td>a. Understand Project Scope</td>
<td></td>
</tr>
<tr>
<td>b. Identify Occupancy Type</td>
<td></td>
</tr>
<tr>
<td>c. Review Contract Documents</td>
<td></td>
</tr>
<tr>
<td>d. Evaluate plans and specifications</td>
<td></td>
</tr>
<tr>
<td>e. Submittal and Approval Requirements</td>
<td></td>
</tr>
<tr>
<td>II. Survey Existing Systems</td>
<td>15%</td>
</tr>
<tr>
<td>a. Review plans</td>
<td></td>
</tr>
<tr>
<td>b. Evaluate existing fire protection systems</td>
<td></td>
</tr>
<tr>
<td>c. Evaluate existing system components</td>
<td></td>
</tr>
<tr>
<td>d. Identify fire protection needs and constraints</td>
<td></td>
</tr>
<tr>
<td>e. Evaluate inspection, testing, and maintenance results</td>
<td></td>
</tr>
<tr>
<td>f. Verify compliance with contract, codes, and standards</td>
<td></td>
</tr>
<tr>
<td>g. Coordinate interfaces with other fire protection systems</td>
<td></td>
</tr>
<tr>
<td>III. Design System Layouts</td>
<td>40%</td>
</tr>
<tr>
<td>a. Determine appropriate water-based system type</td>
<td></td>
</tr>
<tr>
<td>b. Evaluate water supply for all water-based systems</td>
<td></td>
</tr>
<tr>
<td>c. Design systems</td>
<td></td>
</tr>
<tr>
<td>i. Underground system</td>
<td></td>
</tr>
<tr>
<td>ii. Fire pump system</td>
<td></td>
</tr>
<tr>
<td>iii. Tank system</td>
<td></td>
</tr>
<tr>
<td>iv. Standpipe system</td>
<td></td>
</tr>
<tr>
<td>v. Sprinkler system</td>
<td></td>
</tr>
<tr>
<td>d. Design hangers and bracing</td>
<td></td>
</tr>
<tr>
<td>e. Evaluate a materials and fabrication list</td>
<td></td>
</tr>
<tr>
<td>f. Verify compliance with contract, codes, and standards</td>
<td></td>
</tr>
<tr>
<td>g. Coordinate interfaces with other fire protection systems</td>
<td></td>
</tr>
<tr>
<td>h. Field test system</td>
<td></td>
</tr>
</tbody>
</table>
IV. **Hydraulic Calculations** 30%
   a. Understand hydraulic formulas
      i. Friction loss
      ii. Pressure
      iii. Flow Rate
   b. Apply Hydraulic design methods
      i. Room
      ii. Density/Area
      iii. CMSA
      iv. ESFR
      v. Residential
      vi. Standpipe
   c. Evaluate hydraulically Most Remote Calculation Area
NFPA Admin & Support Services
11 Tracy Drive
Avon, MA. 02322

Email: adminsycs@nfpa.org
Website: www.nfpa/CWBSP