Utah Fire Service Certification System

TECHNICAL RESCUE

STRUCTURAL COLLAPSE RESCUE

CERTIFICATION STANDARD

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Structural Collapse Rescue Technical Committee

The Certification Council would like to recognize and extend a voice of appreciation to the following fire service professionals for their work on the Structural Collapse Rescue certification standard. These individuals devoted many hours to reviewing the National Fire Protection Association (NFPA) 1006 standard, certification test banks, and curriculum textbooks to develop the wording for the skills for each discipline within this standard.

Thank you.

Structural Collapse Rescue Committee

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INTRODUCTION

The Utah Fire and Rescue Academy (UFRA) has evolved into a dynamic organization that provides fire and emergency service–related training, professional accredited certification, and resource assistance. The Utah Fire Service Certification System (UFSCS) has been administered by UFRA since the system's inception in the early 1980s. The governing body for the firefighter certification system in the state of Utah is the Utah Fire Service Certification Council (UFSCC). The members of the council represent various areas of the state as well as a variety of department types.

The entire system is based on international professional job performance standards from NFPA and NWCG. Fire service training must be utilized to its maximum potential. Any overlap, fragmentation, and lack of basic structure must be eliminated. Standardization is the natural complement and necessity. Through these national standards and certification, firefighters and fire departments have a tool to measure specific levels of skills, abilities, and knowledge. Testing takes place all over the state of Utah and is usually scheduled by fire department training officers for members of one or more local agencies to test at their own facilities using their own equipment.

The Utah Fire Service Certification System creates uniformity through certification. Certification allows a fire service professional to be a part of the National Registry (Pro Board and IFSAC), which verifies that a person has been trained at a national standard. Firefighters, hazardous materials responders, and rescue personnel can earn various certifications. Volunteer, part-time, and career firefighters must all meet the same standard to certify. Most fire departments in Utah have certified personnel even though there is no law requiring it.

> "Certification from an accredited entity is a statement of success, an indisputable mark of performance belonging to individual fire service professionals. Each successful candidate for certification from an accredited entity knows that he or she has been measured against peers and meets rigorous national standards. Certification affords the individual a uniformity and portability of qualifications. In addition, the creditability of an organization is enhanced by having members certified to national consensus standards."
>
> —theproboard.org
>
> IFSAC "provides accreditation to entities that certify the competency of and issue certificates to individuals who pass examinations based on National Fire Protection Association (NFPA) fire service professional qualifications and other standards approved by the Assembly."
>
> —ifsac.org

The following certification requirements are based on the objectives listed in Chapter 6, "Structural Collapse Rescue," in NFPA 1006, *Standard for Technical Rescue Personnel Professional Qualifications* (National Fire Protection Association, 2021), as verified and adopted by the Utah Fire Service Certification Council (UFSCC).

TECHNICAL RESCUE CERTIFICATION REQUIREMENTS

Entrance Requirements

Certification at the Technical Rescue – Structural Collapse Rescue: Awareness, Operations or Technician levels is a unique process. Because of the method and manner in which NFPA has established to become certified, candidates must complete the prerequisites and/or requirements for any of the specialty areas as set forth in Chapter 6 of NFPA 1006 (2021). In order to certify at the Technical Rescue – Structural Collapse Rescue: Awareness, Operations or Technician levels, candidates must fulfill the following requirements:

1. Complete entrance requirements.
2. Set up and maintain department records.
3. Train on the required written and practical objectives in the specialty areas outlined in Chapter 6, "Structural Collapse Rescue."
4. Pass an in-house practical skills examination for each specialty area.
5. Meet any other training requirements/prerequisites as defined by the Certification Council.
6. Pass both written and practical skills examinations administered by the Certification Council.
7. Request Technical Rescue Certification for each specialty area completed.
8. Request recertification at the end of each 3-year certification period.

Physical Fitness Requirements

The UFSCC acknowledges the importance of and need for physical fitness requirements as listed in NFPA 1006. Many agencies and departments have existing policies, regulations, etc. already in place regarding these requirements. The handling of physical fitness requirements is a **LOCAL MATTER**, outside the authority and jurisdiction of the UFSCC. The Council will not check, test, evaluate, or determine how individual agencies meet these requirements. Some departments have found it necessary to waive any type of physical fitness requirements due to their own special needs. As a local decision, this is permitted. However, due to the amount of physical, mental, and emotional stress inherent in this profession, **the Utah Fire Service Certification Council strongly recommends careful evaluation before altering or doing away with any existing physical fitness requirements.**

"All technical rescue activities should be carried out in the safest possible manner, including the consideration that all risks taken are to benefit the operation. Technical rescue skills require a high degree of physical activity, coordination, operational planning, and a strong knowledge of all applicable protocols" (NFPA 1006, 1.3.9).

Here are the entrance requirements outlined in NFPA 1006 (1.3.9, A.1.3.9):

1. Meet the minimum educational requirements established by the authority having jurisdiction.
2. Utah Fire Service Certification Council Policy 11.3 requires that a candidate must be at least 18 years of age to test and be certified.
3. Meet the medical requirements of NFPA 1582, *Standard on Comprehensive Occupational Medical Program for Fire Departments,* 2022 edition*,* as determined by the medical authority of the AHJ.
4. Technical rescue operations involve activities that pose great physical and mental challenges, requiring the rescuer to perform challenging physical activities in a high-stress environment. Physical fitness requirements for entry-level personnel should be developed and validated by the authority having jurisdiction. Physical fitness requirements should be in compliance with applicable Equal Employment Opportunity regulations and other legal requirements.
5. Prior to beginning training as technical rescue personnel, a minimum medical training

requirement should be met.

6. People having the potential for encountering hazardous materials on an incident scene should be trained to recognize the hazard and to implement exposure and control methods.
7. Meet psychological support/education requirements established by the authority having jurisdiction.

Department Training Officers

For a department to enroll in the certification process, it is necessary for the department to assign training officers. Departments who **do not** have certified personnel to act as training officers for certification training should contact the Utah Fire & Rescue Academy at (801) 863-7709 for assistance in setting up and monitoring certification training.

Department training instructors shall be certified at the level they are teaching. In addition, the Certification Council strongly recommends that training officers and instructors be state certified at the Instructor I level.

Department training officers or instructors will be responsible for certification training. Their primary responsibility will be to teach, evaluate, and in-house test department personnel on the skill and evolution requirements for each level of certification training.

The final entrance requirement is to complete the **Intent to Participate** form provided in Appendix C and return it to the Certification Council. Remember, participation in the certification process is **VOLUNTARY**. Once you have enrolled, you can withdraw if desired.

If a department is already participating in the Utah Fire Service Certification System, it will not be necessary to file another Intent to Participate form.

DEPARTMENT TRAINING

The position of a Structural Collapse Rescuer is one that requires a high level of skill and knowledge. The training that is given to and received by the candidate should be of the highest quality and degree. All training received must meet the requirements of NFPA 1006 (2021), including the sections regarding technical specialty areas contained in Chapter 6, and cover the skills approved by the UFSCC contained in this Utah certification standard. All training received must be documented and recorded in the Training Record. All testing for Structural Collapse Rescue will be conducted following the Policies and Procedures of the UFSCC.

Training for Structural Collapse Rescue can be obtained by completing one of the following training courses or methods in order to qualify to take the state certification examination.

1. A Structural Collapse Rescue course which meets the requirements of NFPA 1006 (2021), Chapter 6. A Training Record, as given in this standard, must be completed for each person.

2. Department-Based Training. Departments can create their own Structural Collapse Rescue course which meets the requirements as outlined in the “Structural Collapse Rescue” section of Chapter 6 in NFPA 1006 (2021). A Training Record, as given in this standard, must be completed for each person involved in the department-based training.

To prepare the candidate to successfully pass the state certification examination, the course material should be based on: NFPA 1006 (2021), the TEEX Computer-Based Training (CBT) Structural Collapse Specialist course (9P2630), the Structural Collapse Specialist Instructor-Led Training Guide (2017) for TEEX course 9P2631, and the US&R Structures Specialist Field Operations Guide, (2021, 9th edition).

Written Objectives

Written objectives for Structural Collapse Rescue are covered in:

- Chapter 6, "Structural Collapse Rescue," in NFPA 1006 (2021)
- Computer-Based Training (CBT) Structural Collapse Specialist course (9P2630). This is an online learning module.
- Structural Collapse Specialist Instructor-Led Training Guide (2017) for TEEX course 9P2631. This is the guide for an online learning module.
- Urban Search and Rescue Structures Specialist Field Operations Guide (FOG), 9th edition (2021)

These resources are available on the internet. A list of current resources is available online at uvu.edu/ufra.

There are numerous methods departments have used to help prepare their personnel for the written examination. Considering the high level of skill and knowledge that is required of a Structural Collapse Rescuer, the Council recommends that the candidate participate in a comprehensive course and receive instruction on both skills and written requirements.

Skill Objectives

Each participant **must** be trained and evaluated in the performance of **all** skills as found in this Utah certification standard. Each of the skill objectives shall be completed swiftly, safely, and with competence as defined below:

- **Swiftly.** Each skill objective must be completed within the allotted time.
- **Safely.** Each skill objective must be completed safely. Conduct that could injure an individual or damage equipment is unacceptable. Equipment should be checked prior to skill testing or training to see that it is safe and functional.
- **With Competence.** Each skill objective must be performed in accordance with this Utah certification standard. This includes performing the proper steps in sequence. Competence will be measured in accordance with the UFSCS skill objectives.

Department Training Records

Each candidate shall have a current, accurate, and complete Training Record on file with the department which indicates that they have been trained on all skill objectives. **The Training Record must be completed in its entirety in order to test.** Training Records may be completed on a computer or by hand. Departments may set up their own Training Records, use the one provided in this standard, or use the fillable Training Record found online on UFRA's website. If a department chooses to set up their own Training Record it must meet the following requirements:

1. Indicate the certification level and its corresponding NFPA standard number and edition.
2. Include a signature line for the candidate, which attests that all skills have been trained on and a complete in-house comprehensive exam was administered and passed.
3. Include a signature line for the Chief/Training Officer, which attests that the candidate has been trained on all skills and a complete in-house comprehensive exam was administered and passed.
4. Include a line to record the date the Training Record was completed.
5. List all the skills from this Utah certification standard for this level. Include columns indicating the dates of trainings, training instructors, the date of exams, exam instructors, and whether the candidate passed each exam (see the Training Record examples in this standard).

Department In-House Skills Examination

At the completion of the department's skills training, the department is required to hold an in-house skills examination for the level being trained. This is a comprehensive in-house skills test conducted by the department training officers. This test is to ensure that skill mastery has been maintained from the beginning to the end of the training process, and to prepare candidates for the state examination. Training officers may utilize other personnel to assist in administering the exam; however, they must be certified at the level they are in-house testing.

Proctor instructions for the examination are in Appendix B in this standard. In-house testers shall follow the proctor instruction sheet to provide for uniformity and fairness during the exam. It is recommended that candidates be given two attempts at any skill. **If they fail on the second try, then they have failed the evaluation and are required to go through additional training by the department trainer.** No training, teaching, or coaching is allowed during the test. After the evaluation, using the test to teach and train is recommended.

If skill weaknesses are evident, the department should conduct additional training and hold a new department in-house skills examination to ensure their personnel have fully mastered all required skills. Only those individuals who successfully pass the department's skills test will be allowed to participate in the Certification Council's skill spot check examination. Department records must show that all candidates have successfully passed the in-house exam.

CERTIFICATION EXAMINATIONS

After completion of the training process, the Chief/Administrator can request testing for the candidate using the Examination Request form in Appendix C. The candidate will then have three attempts to pass the written examination. A separate request must be sent to the Certification Office for each attempt. Request forms must reach the Certification Office no later than 30 days prior to the examination date. The entire examination process must be completed within one year of the first written exam date.

Written Examinations

The written examination is a randomly generated test covering the written objectives of the Technical Rescue standard of NFPA 1006 (2021).

Chapter 6 Certification Level	**# of Questions**
Structural Collapse Rescue - Awareness	30
Structural Collapse Rescue - Operations	30
Structural Collapse Rescue - Technician	30

A minimum score of 70% is required to pass the certification exam. Candidates failing the first attempt of the written exam will be permitted to retest no sooner than 30 days from the date of the last exam. Three attempts area allowed to pass the exam. If a candidate fails the written examination three times, they have failed the certification process and must wait one year from the date of the last failed exam before reentering testing. Exam results are forwarded to the Chief/Administrator within 30 days following the receipt of the completed exam.

Skills Spot Check Examinations

This is a two-step examination. The first step is a department records check and the second is the skills spot check examination. A Certification tester appointed by the Utah Fire Service Certification Council conducts the examination.

Training records are checked. If records are inadequate, corrective action must be taken before proceeding to the next step. The records must meet minimum requirements and are checked for the following:

1. Candidate has been trained in each skill for the level being evaluated.
2. A department training officer has signed off each skill.
3. Each candidate has passed a department in-house skills examination.

The skills spot check examination is graded on a 100% pass/fail basis. The test is graded in the following three areas:

- **Swiftly.** Each skill objective must be completed within the allotted time.
- **Safely.** Each skill objective must be completed safely. Conduct that could injure an individual or damage equipment is unacceptable. Equipment should be checked prior to skill testing or training to see that it is safe and functional.
- **With Competence.** Each skill objective must be performed in accordance with this Utah certification standard. This includes performing the proper steps in sequence. Competence will be measured in accordance with the UFSCS skill objectives.

Evolution Examinations: Candidates are spot checked on one Evolution Examination for each level (Awareness, Operations, Technician), or three skills for that level (chosen randomly). This is a 100% pass/fail test. If a candidate fails any portion of the skill, then they have failed the evolution/skill and must retest the entire evolution/skill. Candidates who fail the second attempt must wait **30 days** before the third and final attempt. **No training, teaching, or coaching is allowed during this state test.**

- Structural Collapse Rescue Awareness: one evolution examination, or three skills for that level
- Structural Collapse Rescue Operations: one **team** evolution examination, or three skills for that level
- Structural Collapse Rescue Technician: one **team** evolution examination, or three skills for that level

The skills will be from NFPA 1006 (2021), Chapter 6. Candidates are given two attempts to perform each skill/evolution. If they fail on the second attempt, the applicants must wait 30 days before the third and final attempt. Participants taking third attempts will test on the skill/evolution they missed and one additional skill.

Candidates who have failed the third attempt of the written examination or the skills examination have failed the certification process and must wait **one year** from the date of the failed third attempt to reenter state testing. The candidate will begin testing with a new **first attempt** of the written examination, following a request for examination. If a candidate wishes to enter a new course, the candidate may petition the Certification Office to reenter the certification examination process no sooner than 120 days after their **third attempt** failure. In the petition, candidates must explain the reason(s) behind their request to reenter the process.

TECHNICAL RESCUE CERTIFICATION

When all requirements for certification have been met, applicants are eligible to be certified. The chief/administrator may apply to the Utah Fire Service Certification Council for certification for those candidates who have successfully completed the certification training/testing process. Requests for state certification must be submitted to the Certification Office using the Certification/Recertification Request form provided in Appendix C. The names are then checked against the official state records to ensure that each individual listed has met all requirements and prerequisites.

Effective January 1, 2025, the fee structure for first, second, and third attempts on exams has changed. All exam attempts are $75, except for Firefighter I and II, Hazardous Materials Awareness and Operations. (See Appendix C for more details.)

Candidates who have met the requirements for certification will continue to have access to their wallet ID card and certificate online via the UFRA Certification and Training Lookup System at https://uvu.edu/ufra/lookup/. Patches are included with each certification (if available for that level). Additional patches are $10. New printed certificates with an original seal attached may be requested from the Certification Department for a fee of $20 per certificate. A hard wallet ID card is $20.

The new fee structure applies to Utah fire departments only. All other Utah agencies will be assessed a $90 fee per attempt for each level. Reciprocity is $200 per application (for all levels), but it must include Pro Board or IFSAC certificates (with an IFSAC seal).

Prerequisites for Structural Collapse Rescue Certification

To qualify to train on the NFPA 1006 section listed in the left column, candidates must have completed the prerequisite training indicated in the right column.

Training	**Prerequisites**
Trench Rescue - Operations (12.2)	12.1
Rope Rescue - Technician (5.3)	5.2
Confined Space Rescue - Technician (7.3)	7.2
Structural Collapse Rescue - Awareness (6.1)	
Structural Collapse Rescue - Operations (6.2)	5.3, 7.3, 6.1, 12.2
Structural Collapse Rescue - Technician (6.3)	5.3, 7.3, 6.1, 6.2, 12.2

Certification at the Technical Rescue level is valid for a three-year period. Each certified Technical Rescuer may renew certification by having the Chief/Administrator of the participating agency submit the Certification/Recertification Request provided in Appendix C.

Certified candidates should participate in at least 36 hours of structured class and skill training per year to maintain competency and stay current on their skills. This 36 hours is for all certified levels combined, not 36 hours for each individual level. **A total of 108 hours of training is required** for the previous three-year certification period.

Recertification for Technician Levels

Certifications are valid for a three-year period. Each certified technician may renew certification by having the Chief/Administrator of the participating agency submit an "Application for Recertification" provided in Appendix C. Because of the high level of skill required of a Structural Collapse Rescue Technician, the Certification Council requires that candidates must complete an in-house comprehensive examination on all technician level skills contained in this standard, as part of their recertification process. The original copy of the completed in-house comprehensive exam must accompany the recertification request.

For more information on Utah firefighter certification, contact the:
Utah Fire Service Certification Council
Utah Fire & Rescue Academy, 3131 Mike Jense Parkway, Provo, UT 84601, 801-863-7709, www.uvu.edu/ufra

TECHNICAL RESCUE CERTIFICATION CHECKLIST

ENTRANCE REQUIREMENTS:

- ❑ Each candidate has met the requirements listed in NFPA 1006, 2021 edition.
- ❑ Each candidate has trained on the Technical Rescue level written objectives.

DEPARTMENT TRAINING RECORDS:

- ❑ Each candidate has a training record on file with the department that shows:
  1. A learning experience in each skill objective
  2. Dates of training
  3. Initials of instructors
- ❑ Each candidate has trained on the Technical Rescue level written objectives.

DEPARTMENT IN-HOUSE SKILLS EXAMINATION:

- ❑ Each candidate has successfully completed an in-house skills and evolution examination.
- ❑ Exam results are documented in department training records.

CERTIFICATION EXAMINATIONS:

- ❑ Each candidate has passed the UFSCC written examination.
- ❑ Each candidate has passed the UFSCC skills and evolution examination.
- ❑ A Spot Check examination was administered by an approved UFRA Certification Tester(s).

TECHNICAL RESCUE CERTIFICATION:

- ❑ The Chief/Administrator has requested certification for candidates using the Certification/Recertification Request.

SECTION I
STRUCTURAL COLLAPSE RESCUE – AWARENESS

STRUCTURAL COLLAPSE RESCUE – AWARENESS SKILLS

For the skills in this section, the AHJ must be able to provide a safe testing environment for the candidates and accept all liability for candidate safety. Refer to Appendix A for the Structural Collapse photo examples.

1. **Conduct a scene size-up and initiate search for a structural collapse rescue incident (including search parameters, risk-benefit analysis, etc.). Identify and mitigate potential hazards and establish control zones.**

   REFERENCE: NFPA 1006, 2021 edition, 6.1.1, 6.1.2, 6.1.6, 6.1.7

   CONDITION: Given PPE and a graphic (photo) of a scene (or an AHJ-approved location) and applicable reference materials (FOG), perform an effective scene size-up for a structural collapse rescue incident (verbalize)

   SCENARIO: A residential structure collapse incident (photo)

   COMPETENCE:

   - Identify construction type (lightweight, heavy)
   - Identify and describe 5 collapse types (verbalize):
     - Lean-to
     - Pancake
     - V-shape
     - Cantilever
     - A-frame
   - Identify the nature of the incident (rescue or recovery)
   - Initiate search
   - Describe the nature of the incident. What happened (i.e., victims, witnesses, parties involved, etc.)?
   - Describe ways to identify the victim(s) point last seen
   - Determine search parameters and search measures, and identify collapse zones
   - Describe or identify any existing or potential hazards (i.e., gas, hazmat, electrical, additional collapse hazards, etc.)
   - Identify and establish search parameters to include: surface and non-entry void search
   - Request and identify types of additional resources needed (utilities, hazmat, operations or technical rescue, etc.)
   - Describe support operations at a rescue incident following AHJ operational protocol (i.e., lighting, rehab, environmental control, etc.)
   - Describe securing the scene and denying access (control zones)
   - Describe basic sight, hailing search techniques and triangulation methods to communicate and locate victims.
   - Describe your access and egress points
   - Maintain rescuer accountability
   - Relay information to command
   - Complete skill in allotted time

TIME: 10 minutes

2. Identify type of PPE, initiate a search, and equipment requirements for a structural collapse rescue incident.

REFERENCE: NFPA 1006, 2021 edition, 6.1.2

CONDITION: Given PPE and a structural collapse rescue incident (photo), information, applicable reference materials, and appropriate PPE (verbalize)

SCENARIO: Given a structural collapse incident (photo), identify appropriate PPE.

COMPETENCE:

- Identify situation hazards (potential fire hazards, hazmat, electrical, etc.)
- Identify the appropriate level of PPE (boots, turnouts/long-sleeved coveralls, hearing protection, etc.) AHJ-approved
- Identify eye protection
- Identify helmet (and hood if appropriate)
- Identify gloves
- Initiate search
- Identify and establish search parameters to include: surface and non-entry void search
- Maintain rescuer accountability
- Complete skill in allotted time

TIME: 2 minutes

3. Identify the different types of information that should be recognized during a search assessment. Demonstrate placement of the information in the correct locations on a Search Assessment Marking placard.

REFERENCE: NFPA 1006, 2021 edition, 6.1.3

CONDITION: Given appropriate PPE, scenario information, FOG manual, a white board, flip chart, or blank paper, with drawing utensils.

Note: *Scenario marking is typically placed on the structure using fluorescent orange marking paint – but this is not required for testing. <u>The candidate needs to verbalize.</u>*

SCENARIO: You have been assigned to conduct a search assessment of a residential collapsed structure based on a 911 call. Demonstrate how to draw a Search Assessment Marking from the details given.

COMPETENCE:

- Identify appropriate PPE
- Sketch appropriate Search Assessment Markings and describe location of markings
  - Identify the location, date, and time team left the structure.
  - Identify the location of the team identifier
  - Identify and mark the location of information regarding the number of alive and dead victims
  - Identify the location where personal hazards are listed
- Identify access and egress points
- Report findings to command
- Complete skill in allotted time

TIME: 5 minutes

4. **Demonstrate the ability to transport a victim, using appropriate transport techniques, while preventing further injuries.**

REFERENCE: NFPA 1006, 2021 edition, 6.1.4

CONDITION: Given appropriate transport equipment (i.e., backboard, stokes, sked, etc.), and/or other specialized equipment (AHJ), SOGs/SOPs, PPE, 3-4 member team: properly secure, package, and move a victim 10 feet without causing further injuries.

SCENARIO: Given a structural collapse incident requiring extrication or disentanglement of victim(s). Determine, follow, and implement applicable department SOGs/SOPs or AHJ standard practices. Demonstrate ability to properly move a victim.

COMPETENCE:

- Wear appropriate PPE
- Determine incident needs and hazards
- Direct personnel effectively, using operational commands
- Determine appropriate method(s) and equipment for victim removal
- Secure victim
- Manage the movement of the litter 10 feet
- Identify safety concerns during litter operations
- Ensure victim is safely moved without further injury
- Ensure risk to rescuers are minimized
- Complete skill in allotted time

TIME: 10 minutes

5. **Demonstrate the proper setup of rehab and other support operations for a structural collapse rescue operation.**

REFERENCE: NFPA 1006, 2021 edition, 6.1.5

CONDITION: Given support equipment (lighting systems, shade, hydration, etc.)

COMPETENCE:

- Determine environmental and lighting conditions

- Position and operate equipment properly
- Mitigate safety hazards
- Ensure rehabilitation is facilitated
- Complete skill in allotted time

TIME: 10 minutes

STRUCTURAL COLLAPSE RESCUE – AWARENESS EVOLUTION

For the evolution in this section, the AHJ must be able to provide a safe testing environment for the candidates and accept all liability for candidate safety. Refer to Appendix A for the Structural Collapse photo examples.

To create a more realistic testing environment, the individual skills have been assembled into this examination evolution. Candidates must train and complete an in-house skills and evolution examination. The evolution will be graded on a 100% pass/fail basis.

SKILL EXAM EVOLUTION: **Describe an appropriate scene size-up and initiate a search, create a Search Assessment Marking, and report findings to command for a structural collapse scenario.**

REFERENCE: NFPA 1006, 2021 edition, 6.1.1, 6.1.2, 6.1.3, 6.1.6, 6.1.7

CONDITION: Given PPE and a graphic (photo) of a scene (or an AHJ-approved location) and applicable reference materials (FOG), a white board, flip chart, or blank paper with drawing utensils, perform an effective scene size-up for a structural collapse rescue incident (verbalize).

SCENARIO: Given a structural collapse incident, you have been assigned to conduct a size-up and a search assessment of a residential collapsed structure based on a reported incident. Demonstrate how to draw a Search Assessment Marking from the details given.

COMPETENCE:

- Identify construction type (lightweight, heavy)
- Identify the collapse type on the scenario provided (i.e., V-shape, pancake, lean-to, A-frame, cantilever)
- Identify nature of incident (rescue or recovery)
- Initiate size up. Describe the nature of the incident. What happened (i.e., victims, witnesses, parties involved, etc.)?
- Determine search parameters and search measures to include: surface and non-entry void search, and identify collapse zones
- Identify number of victim(s) and location(s) based off of witness interviews
- Identify any existing or potential hazards (i.e., gas, hazmat, electrical, additional collapse hazards, etc.)
- Request and identify types of additional resources needed (utilities, hazmat, operations or technical rescue, etc.)
- Secure the scene and deny access (control zones)
- Sketch appropriate Search Assessment markings (see attached)
    - Identify the location of the date and time the team left the structure
    - Identify the location of the team identifier
    - Identify and mark the location of information regarding the number of alive and dead victims
    - Identify where personal hazards are listed
    - Identify access and egress points

- Develop initial IAP
- Support operations at a rescue incident following AHJ operational protocol (i.e., lighting, rehab, environmental control, etc.)
- Maintain rescuer accountability
- Report findings and relay information to command

TIME: 10 minutes

UTAH FIRE SERVICE CERTIFICATION SYSTEM
STRUCTURAL COLLAPSE RESCUE – AWARENESS

NFPA 1006, 2021 Edition
6.1

STRUCTURAL COLLAPSE RESCUE - AWARENESS
TRAINING RECORD / IN-HOUSE COMPREHENSIVE FORM

Candidate Name:	**Department:**
Candidate Signature:	**Date of Completion:**
Chief/Training Officer:	**Chief/Training Officer Signature:**

This form may be completed on a computer but must be printed out for the Certification Tester to verify on test day. The date of completion must be filled in. The signatures of the Chief/Training Officer and the candidate must be original signatures. The signatures attest that all skills have been trained on and a complete in-house comprehensive exam was administered and passed. Falsification of signatures or any component of this document may result in the revocation, suspension, or denial of certification.

SECTION	TRAINING RECORD		IN-HOUSE COMPREHENSIVE EXAMS			SKILL
	DATE	INSTRUCTOR	DATE	INSTRUCTOR	PASS	
6.1.1, 6.1.2, 6.1.6, 6.1.7						1. Conduct a scene size-up for a structural collapse rescue incident (including search parameters, risk-benefit analysis, etc.). Identify and mitigate potential hazards and establish control zones.
6.1.2						2. Identify type of PPE and equipment requirements for a structural collapse rescue incident.
6.1.3						3. Identify the different types of information that should be recognized during a search assessment. Demonstrate placement of the information in the correct locations on a Search Assessment Marking placard.
6.1.4						4. Demonstrate the ability to transport a victim, using appropriate transport techniques, while preventing further injuries.
6.1.5						5. Demonstrate the proper setup of emergency lighting (AHJ) for a structural collapse rescue operation.
EVOLUTION						**Demonstrate awareness level skills for a structural collapse rescue incident**

SECTION II
STRUCTURAL COLLAPSE RESCUE – OPERATIONS

STRUCTURAL COLLAPSE RESCUE - OPERATIONS SKILLS

For the skills in this section, the AHJ must be able to provide a safe testing environment for the candidates and accept all liability for candidate safety. The AHJ must have the capacity to provide an engineered Structural Collapse prop/simulator and/or pile for testing purposes. Refer to Appendix A for more information.

1. **Conduct a scene size-up/site survey and Incident Action Plan (IAP) for a structural collapse rescue incident (including search parameters, risk-benefit analysis, etc.).**

   REFERENCE: NFPA 1006, 2021 edition, 6.2.1, 6.2.2, 6.2.3, 6.2.4

   CONDITION: Given a structural collapse incident, structural collapse tool kit, photo showing type of occupancy and construction, time of day and collapse pattern, , or AHJ-approved testing location, applicable reference materials (FOG), IAP or AHJ tactical worksheets, perform an effective scene size-up for a structural collapse rescue incident and apply operational protocols (verbal and/or written).

   SCENARIO: Given a photo of a building with lightweight construction (structural collapse incident)

   COMPETENCE:

   - Identify construction type (lightweight, unreinforced masonry, heavy, etc.)
   - Identify type of collapse (lean-to, V-shape, etc.)
   - Determine occupancy type (residential, commercial, etc.)
   - Identify nature of the incident (rescue or recovery)
   - Describe the nature of the incident. What happened (i.e., victims, witnesses, parties involved, etc.)?
   - Determine search parameters and search measures, identify collapse zones
   - Determine victim location
   - Identify any existing or potential hazards (i.e., gas, hazmat, electrical, additional collapse hazards, etc.)
   - Create an Incident Action Plan (IAP) or AHJ tactical worksheet, and apply operational protocols (in writing)
   - Identify victim rescue and extrication techniques
   - Request and identify types of additional resources needed (utilities, hazmat, or technical rescue, etc.)
   - Monitor dynamic conditions internally and externally
   - Secure the scene and deny access (control zones)
   - Relay information to command
   - Complete skill in allotted time

   TIME: 10 minutes

2. **Identify the different types of information that should be recognized during a search assessment. Demonstrate placement of the information in the correct locations on a Victim Location Marking.**

REFERENCE: NFPA 1006, 2021 edition, 6.2.5

CONDITION: Given structural collapse tool kit, appropriate PPE, scenario information, FOG manual, and a white board, flip chart, or blank paper, with drawing utensils.

SCENARIO: You have been assigned to conduct a search assessment of a residential collapsed structure based on a 911 call and information given. Demonstrate how to draw a Victim Location Marking.

Note: *Scenario marking is typically placed on the structure using fluorescent orange marking paint – but this is not required for testing. The candidate needs to verbalize.*

COMPETENCE:

- Identify appropriate PPE
- Sketch appropriate victim location marking (verbalize proper color) - see attached
  - Identify the location, date, and time the team left the structure
  - Identify the location of the team identifier
  - Identify and mark the location of information regarding the number of alive and dead victims
  - Identify the location where personal hazards are listed
- Determine mode of operations (rescue or recovery)
- Maintain rescuer safety
- Report findings to command
- Complete skill in allotted time

TIME: 5 minutes

3. Create and implement an Incident Action Plan (IAP) for a structural collapse incident.

REFERENCE: NFPA 1006, 2021 edition, 6.2.3, 6.2.4

CONDITION: Given a structural collapse incident (photo), an ICS or tactical worksheets (AHJ), develop and implement an IAP (AHJ).

NOTE: *Sample IAP forms are located in Appendix A of this standard. AHJ form may be used also.*

COMPETENCE:

- Utilize size-up information
- Use provided ICS forms or AHJ-approved tactical worksheets to document assignments
- Implement an Incident Management System (ICS)
- Establish incident priorities
- Monitor changing conditions (internally and externally)
- Identify specialized resources
- Determine construction and occupancy types
- Identify and address any existing or potential hazards (i.e., gas, hazmat, electrical, additional collapse hazards, etc.)
- Secure scene
- Identify victim rescue and extrication techniques

- Request and identify types of additional resources needed (utilities, hazmat, technical rescue, etc.)
- Complete skill in allotted time

TIME: 30 minutes

4. Demonstrate procedures for rehabbing a chainsaw and making it ready for service.

REFERENCE: NFPA 1006, 2021 edition, 6.2.11, 6.2.14

CONDITION: Given a chainsaw, cleaning/rehab kit, PPE, maintenance records. Follow AHJ protocols for inspection procedures and equipment replacement.

COMPETENCE:

- Appropriately use PPE, including: eye protection, hearing protection, and chainsaw chaps
- Address all safety concerns
- Check the spark plug for fouling and gap
- Describe general cleaning (vents, etc.)
- Check the filters (air and fuel)
- Check the pull cord
- Check the chain
- Inspect and clean the bar sprocket hole
- Remove the side cover plate, chain and bar, sprocket drum, and needle bearing
- Grease needle bearing and reassemble
- Examine guide bar for cracks, gouges and rough edges. File rough edges prior to returning bar to sprocket housing
- Turn the guide bar over, and reverse the removal procedures when reinstalling the chain and guide bar
- Check for proper tension. Check to see if the chain is in the correct direction, is properly tensioned when resting on the bottom of the guide bar, and can be pulled with minimum resistance.
- Check all fluid levels
- Demonstrate a safe start-up procedure
- Test chain break trigger lock
- Document in maintenance records deficiencies that are repaired and items subject to replacement
- Complete skill in allotted time

TIME: 20 minutes

5. Demonstrate a horizontal breach using a pneumatic, electric, hydraulic or hand tool on a light frame structural component.

REFERENCE: NFPA 1006, 2021 edition, 6.2.11

CONDITION: Given one Pneumatic Shore as used by the AHJ, one control box including all hoses and gauge, one air bottle, disassembled pneumatic, and structural

collapse tool kit.

COMPETENCE:

- Use appropriate PPE including eye protection, hearing protection, and respiratory protection
- Address all safety concerns
- Make an opening large enough for entry and rescue objectives
- Cut through all materials completely while maintaining structural stability
- Safely and efficiently remove debris to facilitate access
- Maintain structural stability
- Complete skill in allotted time

TIME: 5 minutes

6. a. Construct a T-Shore in a building collapse (A-frame, pancake, lean-to, V-shape, etc.), following US&R Field Operating Guide (FOG) skill steps.

REFERENCE: NFPA 1006, 2021 edition, 6.2.6

CONDITION: Given a FOG manual, PPE, a structural collapse tool kit, 2-3 member team, materials (wood) provided by AHJ, construct a T-Shore following FOG skill steps. Follow AHJ protocols.

COMPETENCE:

- Wear appropriate PPE
- Identify hazards, establish hazard warning systems and safety zones, and assign RIT (Rapid Intervention Team)
- Determine where T-Spot Shores should be built in order to quickly reduce risk. (Prior to building more stable shores)
- Discuss confinement, containment, and avoidance measures
- Perform load calculation
- Determine height of area to be shored and remove least amount of debris required to place the shore
- Cut header and sole to 3 feet long
- Cut post to proper height (remember to deduct header, sole and wedge height when cutting post)
- Prefabricate header to post
  - Toe-nail post to header and make square
  - Place and nail full gusset plate on one side
  - Flip shore over and place/nail another full gusset on other side
- Place T-Shore in position, centered under the load
- Position header across (perpendicular to) the roof/floor joists and position the post directly under a joist
- Slide sole plate under T and tap wedges into position
- Check for straightness and position directly under the load, and then tighten the wedges
- Install bottom half gusset; nail 4-8d nails to post and to sole
- Note that a 2 x 4 x 18" cleat may be used, but the 3-16d nails to post and sole may tend to split the cleat. Also, the nailing of 16d nails causes more impact within the danger zone than for 8d nails
- Anchor the shore to the floor above and the sole to the floor below, if practical (verbalize)
- Ensure structural movement is minimized
- Maintain incident stability and scene safety
- Complete skill in allotted time

TIME: 15 minutes

6. b. Construct a Double T-Shore in a building collapse (A-frame, pancake, lean-to, V-shape, etc.), following US&R Field Operating Guide (FOG) skill steps.

REFERENCE: NFPA 1006, 2021 edition, 6.2.6

CONDITION: Given a Field Operating Guide (FOG) manual, PPE, a structural collapse tool kit, 2-3 member team, materials (wood) provided by the AHJ, construct a Double T-Shore following FOG skill steps and AHJ protocols.

COMPETENCE:

- Conduct scene size up
- Wear appropriate PPE
- Identify hazards and establish hazard warning systems and safety zones, and assign RIT (Rapid Intervention Team)
- Perform load calculation
- Discuss confinement, containment, and avoidance measures
- Determine overall height of area to be shored and remove least amount of debris required to place the shore
    - The maximum length of the 4x4 post should be 11'-3", so the total height of the shore is not more than 12 feet
- Measure and cut 4x4 header, sole and post (remember to deduct header, sole and wedge height when cutting post). Header and sole are 3 feet long
- Prefabricate header to posts
    - Toe-nail posts to header and make square.
    - Place and nail double gusset plate on one side of both posts.
    - Nail 5-8d nails to each post and 14-8d nails to header.
    - Flip shore over and place another double gusset on other side
- Nail mid-height plywood, double gusset to one side of posts (8- 8d nails to each post)
- Place Double T in position, centered under the load
- Slide sole plate under Double-T and tap 2x4 wedges into position
- Check for straightness plus stability, and then tighten wedges
- Install bottom half gussets and nail 4-8d nails to each post and sole
- Anchor the shore to the floor above and the sole to the floor below, if practical (verbalize)
- Ensure structural movement is minimized
- Maintain incident stability and scene safety
- Complete skill in allotted time

TIME: 20 minutes

6. c. Construct a Window/Door Shore in a building collapse (A-frame, pancake, lean-to, V-shape, etc.), following US&R Field Operating Guide (FOG) skill steps.

REFERENCE: NFPA 1006, 2021 edition, 6.2.6

CONDITION: Given a Field Operating Guide (FOG) manual, PPE, a structural collapse tool kit, 2-3 member team, materials (wood) provided by the AHJ, construct a Window/Door Shore following FOG skill steps and AHJ protocols.

COMPETENCE:

- Wear appropriate PPE
- Identify hazards, establish hazard warning systems and safety zones, and assign RIT (Rapid Intervention Team)
- Survey, remove finishes (if required) and debris
- Discuss confinement, containment, and avoidance measures
- Perform load calculation
- Measure and cut the sole plate and header to the proper length, deducting the width of the wedges to be used
- Make header 1" deep for every foot of opening (4x4 minimum)
- Have structures specialist (StS) design a header for an opening over 4 feet wide
- Measure and cut the posts to the proper height
    - Place the header on top of the sole plate
    - To determine post height, place the end of the tape measure on top of the header where the posts are to be installed and slide the tape up to the bottom of the structural element to be shored. Deduct the thickness of the wedges to be used. (Use the shorter of the two measurements)
- Install the sole with a set of wedges at one end and tap them together simultaneously until the sole is tight
- The sole should be as level as possible: use shims as necessary under the sole plate
- Install the header with a set of wedges at the opposite end of the sole and tap them together until the header is tight
- The header should be as level as possible (use shims as necessary above the header)
- Install the posts between the header and sole, and against the sides of the opening
- Install the first post under the wedge side of the header to prevent movement if the header wedges loosen
- Keep posts in line and plumb with header and sole
- Install a wedge set under each post, on top of the sole. Wedges are then tightened to lock shore in place
- Attach cleat and half-gusset to at least one side of the header and posts and nail in place
- Confine the wedges by placing a cleat against the inside face of each post at the bottom and nail them in place with 3-16d nails to each post and 2-16d toe nails to the sole
    - May use duplex nails for future adjustment of the wedges
- Ensure structural movement is minimized
- Maintain incident stability and scene safety
- Complete skill in allotted time

TIME: 20 minutes

7. Construct a Cribbing System in a building collapse (A-frame, pancake, lean-to, V-shape, etc.), following US&R – Field Operating Guide (FOG) skill steps.

REFERENCE: NFPA 1006, 2021 edition, 6.2.6, 6.2.12

CONDITION: Given a FOG manual, PPE, structural collapse tool kit, cribbing, lumber, wedges/shims (provided by AHJ), construct a 3-tier Cribbing System following FOG skill steps. Follow AHJ protocols.

COMPETENCE:

- Conduct scene size up
- Wear appropriate PPE
- Identify hazards establish hazard warning systems and safety zones, and assign RIT (Rapid Intervention Team)
- Perform load calculation
- Discuss confinement, containment, and avoidance measures
- Determine overall height of area to be shored and remove least amount of debris required to place shore
- Determine the desired width dimensions of the crib to safely support the load
- Determine the size of the members to be used, and the configuration of the crib layers
  - Use 6x6 members if crib needs to be more than 4 feet high
  - Note that the 3-member x 3-member configuration is more than 2 times as strong as 2-member x 2-member
- Decide if the first layer needs to be a solid layer, depending on the type of bearing material (soil or other surface softer than a concrete slab).
  - If the supporting surface is concrete, make sure that it has the required stiffness and capacity, and there is not a basement story below
- Carefully slide the members in for each layer, and keep the crib aligned and as square as possible
- When the crib reaches the required height, add wedges/shims to make sure that all intersections of crib members are in solid contact with the supported structure
- Attach the crib to the supporting surface (or confine its movement), if practical (verbalize)
- Follow safety procedures (i.e., pinch points, hands are not under the load, etc.)
- Ensure structural movement is minimized and stable
- Maintain incident stability and scene safety
- Complete skill in allotted time

TIME: 10 minutes

8. Demonstrate a vertical lift, movement, and stabilization procedures of a heavy concrete object utilizing an inclined plane. Select the appropriate equipment (based on availability).

REFERENCE: NFPA 1006, 2021 edition, 6.2.9, 6.2.10

CONDITION: Given proper PPE, a 6-member team, FOG manual, a structural collapse tool kit provided by the AHJ (airbag and/or levers), and 1 square or rectangular concrete object (with minimum weight of 1,000 lbs.). Follow AHJ protocols.

SCENARIO: Working as part of a 6-member team, perform a lift and move of the concrete object up and over a 12" obstruction, using levers, rollers, and cribbing. The weight of the object must be calculated.

COMPETENCE:

- Appropriately use PPE, including eye protection and steel-toe boots
- Appoint team leader and safety officer
- Establish lookouts(s), communications, escape routes, and safety zones (LCES)
- Calculate the weight of the object
- Give command to lift (team leader)

- Demonstrate initiating the lift of one side of the object using proper lifting techniques and equipment (wedges, pry bars, or air bags)
- Build the incline plane so the weight of the object is supported
- Move object up incline plane to a height sufficient to clear the 12" obstruction and travel a minimum distance of 5' horizontally
- Build second inclined plane on the opposite side
- Move the object onto the inclined plane
- Move the object down the second incline plane with appropriate descent control
- Ensure all movements of the object are stabilized and done in a controlled manner (under the direction of a team leader)
- Maintain control of the lifting and moving process so the object does not fall
- Maintain control and stabilization before, during, and after the lift
- Monitor the lifting operation to its completion and halt the operation if deemed necessary (by the safety officer)
- Maintain incident stability and scene safety
- Complete skill in allotted time

TIME: 45 minutes

9. Demonstrate the ability to search, locate, disentangle, rescue and transport a victim, using appropriate transport techniques, while preventing further injuries. Conduct proper medical assessment and apply interventions as needed.

REFERENCE: NFPA 1006, 2021 edition, 6.2.5, 6.2.7, 6.2.8

CONDITION: Given appropriate transport equipment (i.e., backboard, stokes, sked, basic first aid kit, etc.), and/or other specialized equipment (AHJ), structural collapse tool kit, PPE, manikin, 3-4 member team, resources for breaching, breaking, lifting, prying, shoring and/or otherwise moving or penetrating the offending structural component, following AHJ protocols.

SCENARIO: Given a structural collapse incident requiring extrication or disentanglement of a victim. Determine, follow, and implement applicable department SOG/SOP(s) or standard practices AHJ. Demonstrate the ability to search, locate, disentangle, rescue, treat/package and transport a victim without further injuries, using appropriate transport techniques.

COMPETENCE:

- Wear appropriate PPE
- Determine incident needs
- Identify hazards and establish safety zones
- Determine mode of operation (rescue or recovery)
- Perform search of light frame and unreinforced masonry using proper search techniques
- Identify victim location
- Use marking systems to identify victim location and report to command
- Ensure hazards to rescue personnel and victim are minimized
- Use proper rescue techniques to create access to victim
- Release victim from entrapment, evaluate and treat patient for compartment syndrome to enhance patient survivability
- Wear appropriate PPE (universal precautions), treat any apparent life threats and apply interventions as needed

- Call advance life support if needed
- Package victim properly using intended packaging devices that are compatible with intended routes of transfer and remove from collapse zone
- Identify safety concerns during litter operations
- Ensure victim is safely moved without further injury and integrity of existing structure of support is maintained
- Complete skill in allotted time

TIME: 30 minutes

10. Terminate the incident

REFERENCE: NFPA 1006, 2021 edition, 6.2.13, 6.2.15

CONDITION: Given PPE, isolation barriers, and structural collapse tool kit. At the completion of a structural collapse rescue incident, terminate the incident and identify the need for proper decontamination of PPE and equipment given cleaning and sanitation supplies, and maintenance logs. Following AHJ procedures. (verbalize)

COMPETENCE:

- Scene control is transferred to responsible party
- Responsibly party is notified of any modification or damage created
- Documentation of loss or material use is accounted for (verbal)
- Scene documentation is preformed
- Potential or existing hazards are communicated and reported to the responsible party (AHJ)
- Identify the need for proper decontamination of PPE and equipment and inspect for damage
- Demonstrate proper record keeping of PPE, equipment, and maintenance (AHJ)
- Conduct a post-incident analysis.
- Terminate command
- Complete skill in allotted time

TIME: 5 minutes

STRUCTURAL COLLAPSE RESCUE – OPERATIONS EVOLUTION

For the evolution in this section, the AHJ must be able to provide a safe testing environment for the candidates and accept all liability for candidate safety. The AHJ must have the capacity to provide an engineered structural collapse prop/simulator and/or pile, approved by the AHJ's risk manager. A letter from the risk manager or licensed engineer must be submitted with the Examination Request stating the structure/pile has been approved.

The prop/simulator and/or pile must provide the resource needs for the conditions and skill requirements (for example; wall/floor to breach, location to construct and set shores, area to search and locate victim, ability to entrap a manikin with masonry or light from debris). See Appendix A.

To create a more realistic testing environment, the individual skills have been assembled into this examination evolution. Candidates must train and complete an in-house skills and evolution examination. The evolution will be graded on a 100% pass/fail basis.

SKILL EXAM EVOLUTION:	**Demonstrate structural collapse operations-level skills.** Given a structural collapse incident requiring a breach, shoring, lifting/moving and disentanglement and rescue of a victim. Working as a member of a 5-10 member team, fulfill assigned team roles, including but not limited to: Rescue Officer, rescue specialists, entry team, assembly team, and support personnel (and other AHJ protocols).
REFERENCE:	NFPA 1006, 2021 edition, 6.2
CONDITION:	Given a structural collapse tool kit, time of day, collapse pattern (pancake, lean-to, V-shape, A-frame), isolation barriers, light frame or unreinforced wall, information and applicable reference materials, ICS forms, FOG, PPE, basic first aid kit, manikin (victim), 5-10 member team, resources for breaching, breaking, lifting, prying, shoring and/or otherwise moving or penetrating the offending structural component, stabilization tools and equipment, search, locate, rescue, and remove victim, cleaning and sanitation supplies, maintenance logs, (given an AHJ-approved location and following AHJ protocols). **Requirements**: Wall to breach, location to construct and set shores, area to search and locate victim, ability to entrap a manikin with masonry or light frame debris **Required skills performed during evolution:** 1 breach, 2 shores (one window/door and one vertical shore), 1 lift, patient packaging and rescue
SCENARIO:	Given a structural collapse incident requiring a breach, shoring, lifting/moving, and disentanglement and rescue of a victim. Utilize available resources. Demonstrate operations-level skills.
TESTER NOTES:	The lead instructor will assign team roles (on the exam day). The candidates must not know their "assigned" team roles prior to the evolution exam.

Assigned team roles include/but not limited to; rescue officer, rescue specialists, entry team, assembly team, and support personnel, and other AHJ protocols.

*The evolution exam is a team evolution but is graded individually; the whole team is not penalized if one or more members do not fulfill their required tasks. Each team member must have the knowledge and skills of each role to pass. If one or more team members have failed the 1st attempt by not fulfilling their required tasks as assigned or they have demonstrated they do not have the knowledge and skills in that role, individually they must complete two 2nd attempt skills included in this test packet.

COMPETENCE:

- Wear appropriate PPE (universal precautions)
- Perform an incident size-up, determine construction type, and establish command. Discuss confinement, containment, and avoidance
- Determine mode of operation (rescue or recovery)
- Determine occupancy classification information and assess and categorize type of collapse
- Select and use victim locating devices
- Establish search areas
- Request additional resources and type of resources needed (utilities, hazmat, technical rescue, advance life support (if needed), etc.)
- Assign RIT (Rapid intervention Team)
- Perform structural load calculations (verbalize)
- Secure the scene and deny access (control zones)
- Determine search parameters and search measures, and identify collapse type, collapse zones, and search measures
- Identify any existing or potential hazards (i.e., gas, hazmat, electrical, additional collapse hazards, etc.)
- Ensure hazards to rescue personnel and victims are minimized
- Establish hazard warning systems and safety zones
- Sketch appropriate Search Assessment Markings (victim location(s), hazard types, location(s), and etc.)
- Report victim location(s) to command
- Estimate weight of loads needing to be lifted
- Give command to lift (team leader)
- Demonstrate initiating the lift of one side of the object using proper lifting techniques and equipment (wedges, pry bars, or air bags)
- Build the incline plane so the weight of the object is supported
- Move object up incline plane to a height sufficient to clear the 12” obstruction and travel a minimum distance of 5’ horizontally
- Build second inclined plane on the opposite side
- Move the object onto the inclined plane
- Move the object down the second incline plane with appropriate descent control
- Ensure all movements of the object are stabilized and done in a controlled manner (under the direction of a team leader)
- Maintain control of the lifting and moving process so the object does not fall

- Maintain control and stabilization before, during, and after the lift
- Monitor the lifting operations to its completion and halt the operation if deemed necessary (safety officer)
- Safely breach through wall for access and egress large enough to remove a victim (manikin)
- Construct one window or door shore
- Construct one T-spot or double-T
- Safely stabilize, lift, and move debris to disentangle victim
- Maintain control and stabilization before, during, and after lift
- Ensure access can be gained
- Ensure structural movement is minimized and integrity of existing structure or support is maintained
- Disentangle victim after performing risk benefit analysis
- Treat any apparent life threats to the victim, evaluate and treat patient for compartment syndrome to enhance patient survivability
- Safely remove victim from collapse zone using intended packaging devices that are compatible with intended routes of transfer
- Monitor changing conditions specific to the incident (internally and externally)
- Report and relay information to command
- Maintain rescuer safety and structural stability
- Notify party responsible of any modification or damage created
- Transfer scene control to responsible party
- Communicate potential or existing hazards
- Terminate the incident
- Identify the need for proper decontamination of PPE and equipment and inspect for damage
- Proper record keeping of PPE, Equipment and Maintenance (AHJ)
- Complete all documentation per AHJ (verbalize)
- Perform post incident analysis activities
- Complete skill in the allotted time

TIME: 2 hours

UTAH FIRE SERVICE CERTIFICATION SYSTEM
STRUCTURAL COLLAPSE RESCUE – OPERATIONS

NFPA 1006, 2021 Edition
6.2

STRUCTURAL COLLAPSE RESCUE - OPERATIONS
TRAINING RECORD / IN-HOUSE COMPREHENSIVE FORM

Candidate Name:	**Department:**
Candidate Signature:	**Date of Completion:**
Chief/Training Officer:	**Chief/Training Officer Signature:**

This form may be completed on a computer but must be printed out for the Certification Tester to verify on test day. The date of completion must be filled in. The signatures of the Chief/Training Officer and the candidate must be original signatures. The signatures attest that all skills have been trained on and a complete in-house comprehensive exam was administered and passed. Falsification of signatures or any component of this document may result in the revocation, suspension, or denial of certification.

SECTION	TRAINING RECORD		IN-HOUSE COMPREHENSIVE EXAMS			SKILL
	DATE	INSTRUCTOR	DATE	INSTRUCTOR	PASS	
						All prerequisites have been met prior to Structural Collapse Rescue Operations.
6.2.1, 6.2.2, 6.2.3, 6.2.4						1. Conduct a scene size-up/site survey and Incident Action Plan (IAP) for a structural collapse rescue incident (including search parameters, risk-benefit analysis, etc.).
6.2.5						2. Identify the different types of information that should be recognized during a search assessment. Demonstrate placement of the information in the correct locations on a Victim Location Marking.
6.2.3, 6.2.4						3. Create and implement an Incident Action Plan (IAP) for a structural collapse incident
6.2.11, 6.2.14						4. Demonstrate procedures for rehabbing a chainsaw and making it ready for service
6.2.11						5. Demonstrate a horizontal breach using a pneumatic, electric, hydraulic or hand tool on a light frame structural component
6.2.6						6. Construct these following shores, following US&R Field Operating Guide (FOG) skill steps: a. T-Shore b. Double-T c. Window/Door
6.2.6, 6.2.12						7. Construct a Cribbing System, following US&R Field Operating Guide (FOG) skill steps.
6.2.9, 6.2.10						8. Demonstrate a vertical lift, movement, and stabilization procedures of a heavy concrete object utilizing an inclined plane. Select the appropriate equipment (based on availability)
6.2.5, 6.2.7, 6.2.8						9. Demonstrate the ability to search, locate, disentangle, rescue and transport a victim, using appropriate transport techniques, while preventing further injuries. Conduct proper medical assessment and apply interventions as needed.
6.2.13, 6.2.15						10. Terminate the incident
EVOLUTION						**Demonstrate operations-level skills for a structural collapse rescue incident**

SECTION III
STRUCTURAL COLLAPSE RESCUE – TECHNICIAN

STRUCTURAL COLLAPSE RESCUE - TECHNICIAN SKILL

For the skills in this section, the AHJ must be able to provide a safe testing environment for the candidates and accept all liability for candidate safety. The AHJ must have the capacity to provide an engineered Structural Collapse facility/prop/simulator and/or pile for testing purposes. Refer to Appendix A for more information.

1. **Conduct a scene size-up/site survey and Incident Action Plan (IAP) for a collapsed heavy construction structural collapse rescue incident (including search parameters, risk-benefit analysis, etc.)**

REFERENCE: NFPA 1006, 2021 edition, 6.3.1, 6.3.3, 6.3.4

CONDITION: Given a heavy construction structural collapse rescue incident (AHJ-approved testing location, applicable reference materials (FOG), IAP or AHJ tactical worksheets, perform an effective scene size-up for the collapsed heavy construction structural collapse rescue incident and apply AHJ operational protocols (verbal and/or written)

SCENARIO: Given a heavy construction structural collapse rescue incident of a building or equivalent training facility/prop, conduct a scene size-up and IAP.

COMPETENCE:

- Conduct scene size-up and incorporate incident management system
- Identify construction type (lightweight, unreinforced masonry, heavy, etc.)
- Identify type of collapse (lean-to, V-shape, etc.)
- Determine occupancy type (residential, commercial, etc.)
- Identify nature of the incident (rescue or recovery)
- Describe the nature of the incident. What happened (i.e., victims, witnesses, parties involved, etc.)?
- Determine search parameters and search measures, identify collapse zones
- Determine victim location using search devices
- Victim rescue and extraction techniques are consistent with collapse and construction type
- Identify any existing or potential hazards (i.e., gas, hazmat, electrical, additional collapse hazards, etc.)
- Monitor for changing conditions internally and externally
- Create an Incident Action Plan (IAP) or AHJ tactical worksheet, and apply operational protocols (written)
- Request and identify types of additional resources needed (utilities, hazmat, or technical rescue, etc.)
- Secure the scene and deny access (control zones)
- Relay information to command
- Complete skill in allotted time

TIME: 10 minutes

2. Identify the different types of information that should be recognized during a structure assessment. Demonstrate placement of the information in the correct locations on a hazard location marking.

REFERENCE: NFPA 1006, 2021 edition, 6.2.3, 6.3.3, 6.3.4

CONDITION: Given a heavy construction structural collapse rescue incident, size-up information, structural collapse tool kit, type of construction and occupancy, time of day, and collapse pattern, AHJ-approved location, appropriate PPE, scenario information, FOG manual, and a white board, flip chart or blank paper, with drawing utensils.

SCENARIO: You've been assigned to conduct a structure assessment of a heavy construction building (concrete/steel) based on a 911 call. Demonstrate how to draw the structure/hazard evaluation marking based on given information.

Note: *Scenario marking is typically placed on the structure using fluorescent orange marking paint – but this is not required for testing. The candidate needs to verbalize.*

COMPETENCE:

- Identify appropriate PPE
- Conduct scene size up and incorporate incident management system
- Determine location of victim using search devices
- Victim rescue and extraction techniques are consistent with collapse and construction type
- Sketch an appropriate structure assessment marking
- Identify location, date, and time of marking
- Identify and mark the location of hazardous materials
- Identify potential hazards
- Monitor conditions internally and externally
- Identify and request specialized resource needs
- Notify the structural engineer/resource
- Monitor for changing conditions
- Secure scene and deny access
- Report findings to command
- Develop and verbalize IAP
- Complete skill in allotted time

TIME: 5 minutes

3. Create and implement an Incident Action Plan (IAP) for a heavy construction structural collapse rescue incident

REFERENCE: NFPA 1006, 2021 edition, 6.3.6, 6.3.4

CONDITION: Given a heavy construction structural collapse rescue incident, AHJ-

approved testing location, ICS or tactical worksheets (AHJ), develop an IAP. Follow AHJ protocols.

SCENARIO: Given a heavy construction structural collapse incident, create and implement an IAP (AHJ).

COMPETENCE:

- Utilize size-up information
- Use provided ICS forms or AHJ-approved tactical worksheets to document assignments
- Implement Incident Management System (ICS)
- Establish incident priorities
- Determine location of victim
- Victim rescue and extraction techniques are consistent with collapse and construction type
- Monitor changing conditions internally and externally
- Identify specialized resources
- Determine construction and occupancy types
- Identify any existing or potential hazards (i.e., gas, hazmat, electrical, additional collapse hazards, etc.)
- Request and identify types of additional resources needed (utilities, hazmat, technical rescue team, structure engineer, etc.)
- Secure the scene and deny access
- Complete skill in allotted time

TIME: 30 minutes

4. Demonstrate procedures for servicing a rotary saw, replacing the blade, and making it ready for service.

REFERENCE: NFPA 1006, 2021 edition, 6.3.11

CONDITION: Given a rotary saw, PPE, structural collapse tool kit provided by the AHJ. Follow AHJ protocols

COMPETENCE:

- Use appropriate PPE, including eye protection
- Address all safety concerns
- Ensure engine is off. Insert the locking pin through the spoke in the V-belt pulley to prevent the blade from turning
- Remove the bolt or nut holding the thrush washer in place and remove the thrush washer
- Remove the cutting blade
- Ensure proper blade selection for material being cut
- Reverse the sequence when installing new blade
- Make sure that the blade rotation corresponds to the rotation arrow on the cutting blade
- Check fuel reservoir
- Demonstrate operating the tool safely during the start-up procedure
- Complete skill in allotted time

TIME: 10 minutes

5. a. Demonstrate a <u>clean vertical breach</u> on a concrete slab with lift out.

REFERENCE: NFPA 1006, 2021 edition, 6.3.9, 6.3.10, 6.3.11

CONDITION: Given a concrete slab (minimum 4" thick), materials, PPE, a 2-4 member team, and a structural collapse tool kit provided by the AHJ. Follow AHJ protocols.

SCENARIO: Correctly demonstrate a clean vertical breach on a concrete slab with lift out using appropriate tools.

COMPETENCE:

- Use appropriate PPE including eye protection, hearing protection, and respiratory protection
- Address all safety concerns
- Identify slab depth and estimate weight of the load
- Cut inspection hole to determine victim location, using victim location tools
- Using appropriate cutting techniques, cut through all steel and concrete
- Make an opening large enough for entry
- Insert appropriate bolt or stipple rebar to facilitate lift out maneuver
- Attach web sling
- Build crib stand(s) on the outside of the cutting area to support the slab once it is cut free
- Check anchor system to ensure that it is secure
- Begin lifting out the cut section of concrete using appropriate tools
- Safely complete the lift out maneuver
- Ensure control and stabilization are maintained before, during, and after the lift
- Complete skill in allotted time

TIME: 2.5 hours (+/-)

5. b. Demonstrate a <u>clean horizontal breach</u> on a concrete slab with lift out.

REFERENCE: NFPA 1006, 2021 edition, 6.3.9, 6.3.10, 6.3.11

CONDITION: Given a concrete slab (minimum 4" thick), materials, PPE, a 2-4 member team, and a structural collapse tool kit provided by the AHJ. Follow AHJ protocols.

SCENARIO: Correctly demonstrate a clean horizontal breach on a concrete slab with lift out using appropriate tools.

COMPETENCE:

- Use appropriate PPE including eye protection, hearing protection, and respiratory protection
- Address all safety concerns
- Identify slab depth and estimate weight of the load
- Cut inspection hole to determine victim location, using victim location tools
- Using appropriate cutting techniques, cut through all steel and concrete
- Make an opening large enough for entry
- Insert appropriate bolt or stipple rebar to facilitate lift out maneuver

- Attach web sling
- Lift out the cut section of concrete using appropriate tools
- Safely complete the lift out maneuver
- Ensure control and stabilization are maintained
- Complete skill in allotted time

TIME: 2.5 hours (+/-)

5. c. Demonstrate a <u>dirty horizontal breach</u> on a concrete slab.

REFERENCE: NFPA 1006, 2021 edition, 6.3.9, 6.3.10, 6.3.11

CONDITION: Given a concrete slab (minimum 4" thick), materials, PPE, a 2-4 member team, and a structural collapse tool kit provided by the AHJ. Follow AHJ protocols.

SCENARIO: Correctly demonstrate a dirty horizontal breach on a concrete slab using appropriate tools.

COMPETENCE:

- Use appropriate PPE including eye protection, hearing protection, and respiratory protection
- Address all safety concerns
- Provide air monitoring and ventilation, as needed
- Select an appropriate respiratory protection device suitable for the size of the space and environmental content
- Identify slab depth and estimate weight of load
- Select appropriate tool for the task
- Demonstrate safe start-up procedures
- Operate the tool in a safe and efficient manner
- Breach hole large enough for easy passage
- Clear opening of all sharps and snags
- Maintain safety measures while completing the lift maneuver
- Ensure control and stabilization are maintained before, during, and after the lift
- Complete skill in allotted time

TIME: 1.5 hours (+/-)

5. d. Demonstrate a <u>dirty vertical breach</u> on a concrete slab.

REFERENCE: NFPA 1006, 2021 edition, 6.3.9, 6.3.10, 6.3.11

CONDITION: Given a concrete slab (minimum 4" thick), materials, PPE, a 2-4 member team, and a structural collapse tool kit provided by the AHJ. Follow AHJ protocols.

SCENARIO: Correctly demonstrate a dirty vertical breach on a concrete slab using appropriate tools.

COMPETENCE:

- Use appropriate PPE including: eye protection, hearing protection, and

respiratory protection
- Address all safety concerns
- Provide air monitoring and ventilation, as needed
- Select an appropriate respiratory protection device suitable for the size of the space and environmental content
- Identify slab depth and estimate weight of the load
- Select appropriate tool for the task
- Demonstrate safe start-up procedures (tool)
- Operate the tool in a safe and efficient manner
- Breach hole large enough for easy passage
- Clear opening of all sharps and snags
- Maintain safety measures while completing the lift maneuver
- Ensure control and stabilization are maintained before, during and after the lift
- Complete skill in allotted time

TIME: 1.5 hours (+/-)

5. **e. Demonstrate a <u>vertical stitch cut</u> and lift out on a slab of concrete using a boring tool or heavy duty hammer drill.**

REFERENCE: NFPA 1006, 2021 edition, 6.3.9, 6.3.10, 6.3.11

CONDITION: Given a concrete slab (minimum 4" thick), materials, PPE, a 4 member team, and a structural collapse tool kit provided by the AHJ. Follow AHJ protocols.

SCENARIO: Correctly demonstrate a dirty vertical breach on a concrete slab using appropriate tools.

COMPETENCE:

- Use appropriate PPE including eye protection, hearing protection and respiratory protection
- Address all safety concerns
- Identify slab depth and estimate weight of the load
- Select and use appropriate tools safely
- Demonstrate safe start-up procedures
- Make a triangle cut using stitch cut technique
- Cut through all steel
- Insert the appropriate bolt or stipple (rebar) into center of the area of concrete that is to be cut
- Attach web sling to the eyebolt
- Check anchor system to ensure that it is secure
- Safely lift out and lower concrete to the ground
- Maintain safety measures while completing the lift out maneuver
- Ensure control and stabilization are maintained before, during, and after the lift
- Complete skill in allotted time

TIME: 1.5 hours (+/-)

6. **Demonstrate a vertical lift and horizontal movement of a concrete slab, with stabilization**

procedures. Select the appropriate equipment (based on availability).

REFERENCE: NFPA 1006, 2021 edition, 6.3.9, 6.3.10

CONDITION: Given proper PPE, a 6-member team, FOG manual, equipment, a structural collapse tool kit, and 1 square or rectangular concrete object (minimum weight of 1,000 lbs.) provided by the AHJ. Follow AHJ protocols.

SCENARIO: Working as part of a 6-member team, perform a lift and move of the concrete object up 12 inches and horizontally 6 feet. Use appropriate equipment and procedures. The weight of the object must be calculated.

COMPETENCE:

- Appropriately use PPE including eye protection and steel-toe boots
- Appoint team leader and safety officer
- Establish LCES
- Calculate the weight of the object
- Give command to lift (team leader)
- Demonstrate appropriate lifting techniques
- Lift to a height of 12 inches
- Move the load 6 feet horizontally, while safely stabilizing the load
- Lower the load to the ground safely
- Ensure all movements of the object are done in a controlled manner (under the direction of a team leader)
- Maintain control of the lifting and moving process so the object does not fall
- Monitor the lifting operation to its completion and halt the operation as deemed necessary (by the safety officer)
- Maintain stability and scene safety
- Complete skill in allotted time

TIME: 2 hours

7. Demonstrate cutting/breaching through structural steel using appropriate torch tools and techniques.

REFERENCE: NFPA 1006, 2021 edition, 6.3.14

CONDITION: Given proper PPE, a 2-member team, structural steel (1/2-inch minimum), a structural collapse tool kit provided by the AHJ. Use appropriate torch tools and techniques. Follow AHJ protocols.

COMPETENCE:

- Use appropriate PPE (turnouts, eye protection, hood, gloves, respiratory protection, etc.) AHJ
- Address all safety concerns
- Cut through structural steel using appropriate techniques
- Ensure fire control measures are in place and extinguishing methods are demonstrated
- Safely and efficiently complete the cut
- Complete skill in allotted time

TIME: 20 minutes

8. **Demonstrate the construction of a Raker system using one 45° or 60° solid sole and one 45° or 60° split sole Raker system, which must be appropriately laced together.** Verbalize initial spot shoring. Follow Field Operating Guide (FOG) skill steps.

   REFERENCE: NFPA 1006, 2021 edition, 6.3.6, 6.3.13

   CONDITION: Given an 8-14 member team, FOG manual, PPE, a specific pattern of collapse, specialized equipment, engineering resources (as needed), and a structural collapse tool kit provided by the AHJ. Follow AHJ protocols.

   SCENARIO: Shore a portion of a structure. The insertion point on the wall is between 8 and 12 feet. Construct either a 45° or 60° angle, one solid and one split sole Raker shore laced together into a system. Follow appropriate safety guidelines.

   COMPETENCE:

   - Use appropriate PPE (including eye protection and steel-toe boots)
   - Appoint team leader/safety officer to ensure safety protocols are followed
   - Establish and stage Rapid Intervention Team
   - Establish LCES
   - Establish hazard warning systems and ensure participating personnel understand it
   - Request additional resources and identify type of resources needed (utilities, hazmat, technical rescue, structural engineer, etc.) and communicate to command
   - Identify potential hazards
   - Identify all unstable structural components that can impact the work and egress routes
   - Establish alternative egress routes
   - Monitor atmosphere continually
   - Discuss confinement, containment, and avoidance measures
   - Perform structural load calculation
   - Verbalize the need for spot shoring
   - Determine insertion point
   - Measure and cut the wall plates and sole plates to the proper length
   - Measure and cut the top and bottom cleats using appropriate size lumber
   - Install top and bottom cleats to header and sole plates at the appropriate location, using appropriate size and number of nails
   - Measure and cut the Raker to the appropriate length and cut the appropriate angle on both ends
   - Attach the sole plate to the bottom of the wall plate with gusset plates and nails on both sides using correct nail pattern
   - Install the Raker by sliding up against the bottom of the top cleat and secure with gusset plates on both sides using the appropriate nail pattern
   - Build appropriate anchor system
   - Move Raker into place and pin into wall (verbalize)
   - Install appropriate wedges and pressurize system
   - Lace Raker system together
   - Shoring systems are monitored continuously for integrity
   - Maintain stability and scene safety

- Communicate progress with command as needed for AHJ
- Complete skill in allotted time

TIME: 2 hours

9. Demonstrate the construction of a 2-Post Vertical Shore system and evaluate structural stability hazards and structural load calculations. Follow Field Operating Guide (FOG) skill steps.

REFERENCE: NFPA 1006, 2021 edition, 6.3.6, 6.3.13

CONDITION: Given a 4-member team, FOG manual, PPE, a specific pattern of collapse, specialized equipment, engineering resources (as needed), and a structural collapse tool kit, provided by the AHJ. Follow AHJ protocols.

SCENARIO: Shore a portion of a ceiling or floor by constructing a 2-Post Vertical Shore system at a specified site and evaluate structural stability hazards and structural load calculations.

COMPETENCE:

- Use appropriate PPE (including eye protection and steel toe boots)
- Appoint team leader/ safety officer to ensure safety protocols are followed
- Address all safety concerns and evaluate the structure for stability and hazards
- Establish and stage rapid intervention team
- Establish LCES
- Establish hazard warning systems and ensure participating personnel understand it
- Request additional resources and identify type of resources needed (utilities, hazmat, technical rescue, structural engineer, etc.) and communicate to command
- Identify potential hazards
- Identify all unstable structural components that can impact the work and egress routes
- Establish alternative egress routes
- Monitor atmosphere continually
- Discuss confinement, containment, and avoidance measures
- Perform structural load calculation
- Verbalize the need for spot shoring
- Select and construct the sole plate using proper size nails and pattern
- Measure and cut the vertical post to the appropriate length
- Attach the posts to the header with gusset plates and erect shore using proper size nails and pattern
- Install a set of wedges to the bottom of each post and tighten snugly
- Secure nails behind the wedges to prevent kick-out
- Attach gusset plates to at least one side of the posts and header using proper size nails and pattern
- Attach gusset plates where appropriate using proper size nails and pattern
- Attach diagonal braces and appropriate midpoint bracing, using appropriate size lumber, to both sides of the vertical shore
- Confirm that the diagonal braces capture the header, posts, and sole plate on

both sides
- Verbalize the process of lacing 2 post vertical shores to create a laced post shoring system
- Mitigate specific hazards associated with shoring tasks
- Shoring systems are monitored continuously for integrity
- Maintain stability and scene safety
- Communicate progress with command as needed per AHJ
- Complete skill in allotted time

TIME: 45 minutes

10. Demonstrate the construction of a type-2 sloped floor shore system. Verbalize initial spot shoring. Follow Field Operating Guide (FOG) skill steps.

REFERENCE: NFPA 1006, 2021 edition, 6.3.6, 6.3.13

CONDITION: Given a 4-member team, materials (lumber), PPE, a specific pattern of collapse, specialized equipment, engineering resources (as needed), FOG manual, and a structural collapse tool kit provided by the AHJ. Follow AHJ protocols.

SCENARIO: Given a sloped floor scenario, build an appropriate shore to capture the load. Follow appropriate safety guidelines and wear appropriate PPE.

COMPETENCE:

- Wear appropriate PPE (including eye protection and steel toe boots)
- Appoint team leader/ safety officer to ensure safety protocols are followed
- Establish and stage Rapid Intervention Team
- Address all safety concerns
- Establish LCES
- Establish hazard warning systems and ensure participating personnel understand it
- Request additional resources and identify type of resources needed (utilities, hazmat, technical rescue, structural engineer, etc.) and communicate to command
- Identify potential hazards
- Identify all unstable structural components that can impact the work and egress routes
- Monitor atmosphere continually
- Discuss confinement, containment, and avoidance measures
- Perform structural load calculation
- Verbalize the need for spot shoring
- Determine the length and width of the shore and post locations
- Assure headers overlap 12 inches
- Assure sole plate is at least 2 feet longer at the base of the back posts
- Measure and install the two posts and secure to the header with appropriate gussets and nail patterns
- Nail down the bottom cleats using appropriate nail patterns
- Verbalize need for anchoring, as appropriate
- Place wedges in position and pressurize system
- Measure appropriate dimension lumber for the diagonal braces for inside and outside sections

- Install diagonal braces and secure to the header post and sole plate
- Lace the two sections together with appropriate nail pattern
- Shoring systems are monitored continuously for integrity
- Maintain stability and scene safety
- Communicate progress with command as needed per AHJ
- Complete skill in allotted time

TIME: 90 minutes

11. Construct a slopped cribbing system (i.e., floor, roof, etc.), following US&R Field Operating Guide (FOG) skill steps. Crib a sloped floor.

REFERENCE: NFPA 1006, 2021 edition, 6.3.6, 6.3.12, 6.3.13

CONDITION: Given a FOG manual, PPE, a specific pattern of collapse, specialized equipment, engineering resources (as needed), structural collapse tool kit, cribbing, wedges/shims, materials (lumber) provided by AHJ, construct a 3-tier Cribbing System following FOG skill steps, and following AHJ protocols.

COMPETENCE:

- Wear appropriate PPE
- Appoint a team leader/ safety officer to ensure safety protocols are followed
- Establish and stage Rapid Intervention Team
- Establish hazard warning systems and ensure participating personnel understand it
- Identify hazards and establish safety zones
- Identify all unstable structural components that can impact the work and egress routes
- Establish alternative egress routes
- Request additional resources and identify type of resources needed (utilities, hazmat, technical rescue, structural engineer, etc.) and communicate to command
- Perform load calculation
- Determine overall height of area to be shored and remove least amount of debris required to place shore
- Determine the desired width dimensions of the crib
- Determine the size of the members to be used, and the configuration of the crib layers.
    - Use 6x6 members if crib needs to be more than 4 feet high
    - Note that the 3-member x 3-member configuration is more than 2 times as strong as 2-member x 2-member
- Decide if the first layer needs to be a solid layer, depending on the type of bearing material (soil or other surface softer than a concrete slab).
    - If the supporting surface is concrete, make sure that it has the required stiffness and capacity, and there is not a basement story below
- Carefully slide the members in for each layer, and keep the crib aligned and as square as possible
- Appropriately place wedges/shims to create a slope no greater than 15°
- When the crib reaches required height, add wedges/shims to make sure that all intersections of crib members are in solid contact with the supported structure

- Attach the crib to the supporting surface (or confine its movement), if practical
- Follow safety procedures (i.e., pinch points, hands are not under the load, etc.)
- Evaluate the structural integrity of the system and determine stability and continuously monitor for integrity
- Monitor atmosphere continually
- Maintain stability and scene safety
- Communicate progress with command as needed per AHJ
- Complete skill in allotted time

TIME: 20 minutes

12. Demonstrate the ability to search, locate, disentangle, rescue and remove a victim, using appropriate transport techniques, while preventing further injuries. Conduct proper medical assessment and apply interventions as needed.

REFERENCE: NFPA 1006, 2021 edition, 6.3.2, 6.3.5, 6.3.7, 6.3.8

CONDITION: Given a heavy construction structural collapse rescue incident, basic first aid kit, structural collapse tool kit, resources for breaching, breaking, lifting prying, and shoring, size up information, type of construction and occupancy, time od day, and collapse pattern, AHJ-approved testing location, appropriate transport equipment (i.e., backboard, stokes, sked, etc.) victim packaging resources, and/or other specialized equipment (AHJ), FOG manual, PPE, manikin, 3-4 member team. Follow AHJ protocols.

SCENARIO: Given a structural collapse incident requiring extrication or disentanglement of a victim. Determine, follow, and implement applicable department SOGs/SOPs or AHJ standard practices. Demonstrate the ability to search, locate, disentangle, rescue, treat/package and transport a victim while preventing further injuries, using appropriate transport techniques. (use today's date and time).

COMPETENCE:

- Wear appropriate PPE
- Determine incident needs and implement incident management system
- Identify hazards and establish safety zones
- Complete risk/ benefit assessment for rescue and time constraints
- Perform search of a heavy construction type collapsed structure using proper search techniques
- Maintain rescuer safety
- Identify victim location using search devices
- Use marking systems to identify victim location
- Use proper rescue techniques to create access to victim and ensure AHJ protocols are followed
- Use universal precautions to protect against bloodborne pathogens
- Release victim from entrapment
- Wear appropriate PPE, treat any apparent life threats (soft tissue injuries, fracture stabilization, airway, etc.) and apply interventions as needed
- Package victim properly and remove from collapse zone
- Consider/ evaluate/ treat victim for compartment syndrome if needed

- Call for advance life support if needed
- Identify safety concerns during litter operations
- Ensure victim is safely moved without further injury
- Maintain stability and scene safety
- Complete skill in allotted time

TIME: 1 hour

13. Demonstrate the proper rigging techniques to safely move heavy objects using heavy equipment. Appropriately use radio and hand signals to coordinate operation.

REFERENCE: NFPA 1006, 2021 edition, 6.3.15

CONDITION: Given a heavy object, PPE, use synthetic or wire slings to safely rig and communicate lifting/moving operation, PPE, means of communication, equipment and operator, follow AHJ protocols.

SCENARIO: Coordinate the use of heavy equipment using appropriate rigging methods, recognizing and avoiding hazards, and following operational protocols. (Verbalize the use of heavy equipment.)

COMPETENCE:

- Wear appropriate PPE
- Determine if heavy equipment meets operational objectives
- Calculate loads and equipment limitations
- Accurately identify center of mass
- Properly rig sling to perform safe lift operation
- Demonstrate appropriate hand signals (hoist, lower, stop, raise boom and lower boom, emergency stop, extend and retract)
- Demonstrate appropriate radio communication
- Recognize and mitigate hazards
- Identify safety concerns for rescuer and operator
- Ensure safety protocols are followed for rescuer(s) and operator(s)
- Complete skill in allotted time

TIME: 15 minutes

STRUCTURAL COLLAPSE RESCUE - TECHNICIAN EVOLUTION

For the evolution in this section, the AHJ must be able to provide a safe testing environment for the candidates and accept all liability for candidate safety. The AHJ must have the capacity to provide an engineered structural collapse facility/prop/simulator and/or pile, approved by the AHJ's risk manager. A letter from the risk manager or licensed engineer must be submitted with the Examination Request stating the structure/pile has been approved.

The prop/simulator and/or pile must provide the resource needs for the conditions and skill requirements (for example; wall/floor to breach, location to construct and set shores, area to search and locate victim, ability to entrap a manikin with masonry or light from debris).
See Appendix A.

To create a more realistic testing environment, the individual skills have been assembled into this examination evolution. Candidates must train and complete an in-house skills and evolution examination. The evolution will be graded on a 100% pass/fail basis.

SKILL EXAM EVOLUTION:	**Demonstrate Structural Collapse Technician level skills: a breach, shoring, lifting/moving, and disentanglement and rescue of a victim.** Working as a member of a 5-10 member team, fulfill assigned team roles, including but not limited to: Rescue Officer, rescue specialists, entry team, assembly team, and support personnel, and other. Follow AHJ protocols.
REFERENCE:	NFPA 1006, 2021 edition, 6.3.1-6.3.13
CONDITION:	Given a heavy construction structural collapse rescue incident, means of communication, equipment and operator if needed, specialized equipment, engineering resources (as needed), basic first aid kit, victim packaging resources, structural collapse tool kit, resources for breaching, breaking, lifting, prying, and shoring, type of construction and occupancy, and collapse pattern (AHJ-approved location), information and applicable reference materials, supplies (lumber), ICS forms, FOG, PPE, manikin (victim), 5-10 member team, structural collapse tool kit (AHJ), and lifting and stabilization tools and equipment (AHJ), search, locate, rescue, and remove victim. Follow AHJ protocols. **Requirements:** Wall/floor to breach, location to construct and set shores, area to search and locate victim, ability to entrap a manikin, heavy construction type material. **Required skills to be performed during evolution:** 1 Raker shore system, 1 dirty breach, 1 vertical shore, 1 lift operation to disentangle victim, patient packaging and rescue
SCENARIO:	Given a heavy construction structural collapse incident requiring a breach, shoring, lifting/moving and disentanglement and rescue of a victim. Utilize available resources. Demonstrate technician level skills using today's date

and time.
(Build a Raker system, breach through a concrete slab, build an interior vertical shore, lift a heavy object to disentangle and remove a victim)

TESTER NOTES: The lead instructor will assign team roles (on the exam day). The candidates must not know their "assigned" team roles prior to the evolution exam. Assigned team roles include/but not limited to; rescue officer, rescue specialists, entry team, assembly team, and support personnel, and other AHJ protocols.

*The evolution exam is a team evolution but is graded individually; the whole team is not penalized if one or more members do not fulfill their required tasks. Each team member must have the knowledge and skills of each role to pass. If one or more team members have failed the 1st attempt by not fulfilling their required tasks as assigned or they have demonstrated they do not have the knowledge and skills in that role, individually they must complete two 2nd attempt skills included in this test packet.

COMPETENCE:

- Wear appropriate PPE (including eye protection and steel toe boots)
- Appoint team leader/ safety officer to ensure safety protocols are followed
- Establish and stage Rapid Intervention Team
- Establish hazard warning systems and ensure participating personnel understand it
- Perform an incident size-up and determine occupancy classification information and establish incident command using incident management system
- Assess and categorize type of collapse
- Evaluate structural stability and identify hazards
- Identify all unstable structural components that can impact the work and egress routes
- Establish alternative egress routes
- Monitor atmosphere continually
- Discuss confinement, containment, and avoidance measures
- Complete risk/ benefit assessment for selected methods of rescue and time constraints
- Request additional resources and identify type of resources needed (utilities, hazmat, technical rescue, structural engineer, etc.)
- Perform structural load calculations
- Create an Incident Action Plan (AHJ)
- Determine need for extinguishment
- Determine heavy equipment needs and ensure it meets operations objectives (if needed)
    - Identify center of mass
    - Properly rig sling to perform safe lift operation
- Secure the scene and deny access (control zones)
- Maintain rescuer safety
- Determine search parameters and search measures, and identify collapse zones
- Determine location of victim using search device (mark and report location)
- Identify, mark and report any existing or potential hazards (i.e., gas, hazmat, electrical, additional collapse hazards, etc.)
- Sketch appropriate search, structure, and Victim Location Markings

- Safely breach/ cut through concrete slab for access and egress large enough to remove a victim (manikin) using appropriate methods
- Construct a Raker shore system
- Construct a vertical shoring system
- Safely stabilize, lift, and move heavy construction material/debris to disentangle victim
- Monitor shoring systems continuously for integrity
- Monitor changing conditions specific to the incident both internally and externally
- Treat any apparent life threats (soft tissue injuries, fracture stabilization, airway, etc.) to the victim using universal precautions to protect from bloodborne pathogens
- Consider/ evaluate/ treat victim for compartment syndrome if needed
- Consider calling for advance life support if needed
- Package and safely remove victim from collapse zone
- Ensure victim rescue and extraction techniques are consistent with collapse and construction type
- Report and relay information to command
- Ensure AHJ protocols are followed
- Terminate the incident
- Decontaminate and inspect PPE and equipment
- Complete incident report per AHJ
- Complete skill in the allotted time

TIME: 6 hours

UTAH FIRE SERVICE CERTIFICATION SYSTEM
STRUCTURAL COLLAPSE RESCUE TECHNICIAN

NFPA 1006, 2021 Edition
6.3

STRUCTURAL COLLAPSE RESCUE TECHNICIAN
TRAINING RECORD / IN-HOUSE COMPREHENSIVE FORM

Candidate Name:	**Department:**
Candidate Signature:	**Date of Completion:**
Chief/Training Officer:	**Chief/Training Officer Signature:**

This form may be completed on a computer but must be printed out for the Certification Tester to verify on test day. The date of completion must be filled in. The signatures of the Chief/Training Officer and the candidate must be original signatures. The signatures attest that all skills have been trained on and a complete in-house comprehensive exam was administered and passed. Falsification of signatures or any component of this document may result in the revocation, suspension, or denial of certification.

SECTION	TRAINING RECORD		IN-HOUSE COMPREHENSIVE EXAMS			SKILL
	DATE	INSTRUCTOR	DATE	INSTRUCTOR	PASS	
						Structural Collapse Rescue prerequisites have been met prior to Structural Collapse Technician.
6.3.1, 6.3.3, 6.3.4						1. Conduct a scene size-up/site survey and Incident Action Plan (IAP) for a heavy construction structural collapse rescue incident (including search parameters, risk-benefit analysis, etc.)
6.3.2, 6.3.3, 6.3.4						2. Identify the different types of information that should be recognized during a structure assessment. Demonstrate placement of the information in the correct locations on a hazard location marking.
6.3.3, 6.3.4						3. Create and implement an Incident Action Plan (IAP) for a heavy construction structural collapse rescue incident.
6.3.11						4. Demonstrate procedures for servicing a rotary saw, replacing the blade, and making it ready for service.
6.3.9, 6.3.10, 6.3.11						5. Demonstrate the following concrete breaching techniques: a. Clean vertical breach b. Clean horizontal breach c. Dirty horizontal breach d. Dirty vertical breach e. Vertical stitch cut
6.3.9, 6.3.10						6. Demonstrate a vertical lift and horizontal movement of a concrete slab, with stabilization procedures. Select the appropriate equipment (based on availability).
6.3.14						7. Demonstrate a cutting/breaching through structural steel using appropriate torch tools and techniques.
6.3.6, 6.3.13						8. Demonstrate the construction of a Raker system using one 45° or 60° solid sole and one 45° or 60° split sole Raker system, which must be appropriately laced together.

6.3.6, 6.3.13						9. Demonstrate the construction of a 2-Post Vertical Shore system and evaluate structural stability hazards and structural load calculations. Demonstrate the process to construct a laced post shoring system. Follow Field Operating Guide (FOG) skill steps.
6.3.6, 6.3.13						10. Demonstrate the construction of a type-2 sloped floor shore system. Verbalize initial spot shoring. Follow Field Operating Guide (FOG) skill steps.
6.3.6, 6.3.12, 6.3.13						11. Construct a slopped cribbing system (i.e., floor, roof, etc.), following US&R Field Operating Guide (FOG) skill steps. Crib a sloped floor.
6.3.2, 6.3.5, 6.3.7, 6.3.8						12. Demonstrate the ability to search, locate, disentangle, rescue and transport a victim, using appropriate transport techniques, while preventing further injuries. Conduct proper medical assessment and apply interventions as needed.
6.3.15						13. Demonstrate the proper rigging techniques to safely move heavy objects using heavy equipment. Appropriately use radio and hand signals to coordinate operation.
EVOLUTION						**Demonstrate technician-level skills for a heavy construction structural collapse rescue**

APPENDIX A
STRUCTURAL COLLAPSE RESCUE EXAMPLES AND FORMS

STRUCTURAL COLLAPSE – PHOTO EXAMPLES

For the skills and evolution in this section, the AHJ must be able to provide a safe testing environment for the candidates and accept all liability for candidate safety. The AHJ must have the capacity to provide an engineered structural collapse facility/prop/simulator and/or pile, approved by the AHJ's risk manager. A letter from the risk manager or licensed engineer must be submitted with the Examination Request stating the structure/pile has been approved.

The prop/simulator and/or pile must provide the resource needs for the conditions and skill requirements (for example; wall/floor to breach, location to construct and set shores, area to search and locate victim, ability to entrap a manikin with masonry or light from debris).

To create a more realistic testing environment, the individual skills have been assembled into this examination evolution. Candidates must train and complete an in-house skills and evolution examination. The evolution will be graded on a 100% pass/fail basis.

EXAMPLE OF AN INCIDENT ACTION PLAN (IAP)
FOR STRUCTURAL COLLAPSE
Not all-inclusive

Documents approved by the Authority Having Jurisdiction (AHJ) have priority.
The following forms are examples of what may be used as needed.

INCIDENT BRIEFING (ICS 201)

Incident Name: _____ **Operational Period:** _____

Incident Number: _____ Date: _____ To: _____

Map/Sketch: Time: _____ To: _____

Include a sketch describing the total area of operations, the incident site/area, impacted and threatened areas, overflight results, trajectories, impacted shorelines, or other graphics depicting situational status and resource assignment.

Situation Summary (for briefings and transfer of command):

Current and Planned Objectives:

Current and Planned Actions, Strategies, and Tactics

Time:	Actions:

☐ **Attached Additional Information** (as needed)

☐ **Attach Current Organization Chart (IC, LO, SO, PIO, Ops Chief, etc.)**

☐ **Attach Resource Summary which includes the following**:

☐ Resource(s) ☐ Identifier ☐ Date Ordered ☐ ETA ☐ Notes Arrived ☐ Yes ☐ No

Prepared by: _____ **Title:** _____

Date: _____

ICS 201 **Page:** _____

INCIDENT OBJECTIVES (ICS 202)

Incident Name: _____ **Operational Period:** _____

Incident Number: _____ Date: _____ To: _____

Time: _____ To: _____

Objective(s):

Operational Period Command Emphasis: _____

_____

_____

General Situational Awareness: _____

_____

Site Safety Plan Required? ☐ Yes ☐ No

Approved Site Safety Plan(s) location: _____

Incident Action Plan Items Included:

☐ ICS 201 ☐ ICS 202 ☐ ICS 203 ☐ ICS 204 ☐ ICS 205 ☐ ICS 205A ☐ ICS 206

☐ ICS 207 ☐ ICS 208 ☐ ICS 215A ☐ Map/Chart ☐ Weather Forecast, Currents, etc.

Other: ☐ Class Schedules ☐ Off-Site Maps with Logs diagrams ☐ Schedule of Events

☐ Division Assignment Org ☐ ☐

Incident Commander: **Name:** _____

Date: _____ **Signature:** _____

Prepared by: _____ **Title:** _____

Date: _____

ICS 202 **Page:** _____

ORGANIZATION ASSIGNMENT LIST (ICS 203)

Incident Name: _____ **Operational Period:**

Date: _____ To: _____

Incident Number: _____ Time: _____ To: _____

Incident Commander(s) and Staff:		**Planning Section:**	
IC/UCs:		Chief:	
		Deputy:	
		Resources Unit:	
Deputy:		Situation Unit:	
Safety Officer:		Documentation:	
Public Info Officer:		Demobilization:	
Liaison Officer:		Technical:	
Logistics Section:		**Operations Section:**	
Chief:		Chief:	
Deputy:		Deputy:	
Other:		Staging Area:	
Support Branch:		**Branch Director:**	
Director:		Deputy:	
Supply:		Division/Group:	
Facilities:		Division/Group:	
Ground:		Division/Group:	
Other:		Other:	
Service Branch:		**Branch Director:**	
Director:		Deputy:	
Communications:		Division/Group:	
Medical:		Division/Group:	
Food:		Division/Group:	
Air Operations:		Other:	
Director:		Other:	
Finance/Administration Section:			
Chief:		Procurement:	
Deputy:		Comp/Claims:	
Time Unit:		Cost:	
Other:		Other:	

Other: _____

Prepared by: _____ **Title:** _____

Date: _____

ICS 203 **Page:** _____

ASSIGNMENT LIST (ICS 204)

Incident Name: _____ **Operational Period:**

Date: _____ To: _____

Incident Number: _____ Time: _____ To: _____

Branch: _____ **Group:** _____

Division: _____ **Staging Area:** _____

Resources Assigned:

Resource Identifier	Leader	# of Persons	Contact Info	Reporting Location, Equipment, Notes:

Attached additional assignments: ☐ Yes ☐ No

Work Assignments:

Special Instructions: ☐ Yes ☐ No **Details:**

Communications (radio and/or phone contact numbers needed for this assignment):
See also ICS 205 & 205A
Name/Function **Primary Contact: Cell, Radio, etc.**

Prepared by: _____ **Title:** _____

Date: _____

ICS 204 **Page:** _____

INCIDENT RADIO COMMUNICATIONS PLAN (ICS 205)

Incident Name: _____ **Operational Period:**

Date: _____ To: _____

Incident Number: _____ Time: _____ To: _____

Basic Radio Channel Use:

Function	Channel	Division/Group	N/W Frequency (RX/TX)	NAC/Tone (RX/TX)	Mode (A, D, M)	Zone
Command						

Attached additional assignments: ☐ Yes ☐ No

Special Instructions:

COMMUNICATIONS LIST (ICS 205A)

Basic Local Communications Information

Section/Division Group	Position Assigned	Name	Contact Method (Radio, Cell, etc.)

Attached additional assignments: ☐ Yes ☐ No

Prepared by: _____ **Title:** _____

Date: _____

ICS 205/205A **Page:** _____

MEDICAL PLAN (ICS 206)

Incident Name: _____ **Operational Period:**

Date: _____ To: _____

Incident Number: _____ Time: _____ To: _____

Medical Aid Stations:

Name (Last, First)		Location	Contact Number(s)	Paramedics on Site?
				☐ Yes ☐ No
				☐ Yes ☐ No
				☐ Yes ☐ No
				☐ Yes ☐ No

Transportation (indicate air or ground):

Ambulance Service	Location	Contact Number(s)	Level of Service
			☐ ALS ☐ BLS
			☐ ALS ☐ BLS
			☐ ALS ☐ BLS

Hospitals:

Hospital Name:	Address:	Contact Number/ Frequency	Travel Time		Trauma Center	Burn Center	Helipad
			Air	Ground			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

Special Medical Emergency Procedures:

Attached additional info: ☐ Yes ☐ No

☐ Check box if aviation assets are utilized for rescue. If assets are used, coordinate with Air Operations.

Prepared by: _____ **Title:** _____

Date: _____

ICS 206 **Page:** _____

SAFETY MESSAGE/PLAN (ICS 208)

Incident Name: _____ **Operational Period:**

_____ Date: _____ To: _____

Incident Number: _____ Time: _____ To: _____

Safety Message:

Safety Plan:

Additional Safety Information:

Attached additional info: ☐ Yes ☐ No

Incident Action Plan Safety Analysis (ICS 215A)

Incident Area	Hazards/Risks	Mitigations

Attached additional info: ☐ Yes ☐ No

Prepared: Date: _____ Time: _____

Prepared by: _____ **Title:** _____

ICS 208/215A **Page:** _____

Operational Planning Worksheet (ICS 215)

Incident Name: **Operational Period:** Date: Time:

Branch	Division, Group, or Other	Work Assignment & Special Instructions	Resources											Overhead positions	Special Equipment & Supplies	Reporting Location	Requested Arrival Time
			Req.														
			Have														
			Need														
			Req.														
			Have														
			Need														
			Req.														
			Have														
			Need														
		Total Resources Required													**Prepared by:**		
		Total Resources Have on Hand													Name:		
															Position/Title:		
		Total Resources Need to Order													Signature:		
ICS 215															Date/Time:		

Attached additional info: ☐ Yes ☐ No

APPENDIX B
PROCTOR INSTRUCTIONS OF IN-HOUSE COMPREHENSIVE EXAMINATIONS

Proctor Instructions for In-House Comprehensive Examination

As the training officers for your department, you are authorized by the Certification Council to conduct an in-house skills examination (100%) for this level of certification. You must be certified to the level that you are testing. For example, if you're FF II you can test both FF I and II, Awareness and Operations. The in-house skills examination must be completed and signed off prior to the actual certification spot check exam (administered by a UFRA certification tester).

- **Prior to conducting the test, review each candidate's training record.**
  It is important that before doing this in-house training skills test, the candidate has completed training in all areas for the level being tested.

- **Select and brief a safety officer.**
  Select a safety officer to assist you during the test. This person is there to protect the candidates from injury during the testing process, is not taking the test, and is not assisting with the testing process. The safety officer must be qualified at the level being tested.

To better evaluate the skills being tested and determine the candidate's readiness for the <u>State Spot Check exam</u>, follow these in-house exam instructions:

1. This is a TEST and there should be NO COACHING or TRAINING during the testing process. If a candidate fails to perform a skill, that skill will count as a first attempt failure and they will be given a second attempt. If they fail a second attempt, they need to be retrained on that skill and tested again. Only **qualified** candidates that have passed with **100%** should be allowed to take the State Spot Check exam.

2. Before beginning the testing process, conduct a meeting with all candidates and review the testing process. Explain that this is a test and that the same process being used for the in-house exam will be used during the state exam.

3. Designate two separate areas for students testing: One area for those who are in the testing process and one area for those who have not yet begun the testing process. If separate areas are not available, make sure someone is in the room to ensure that students do not discuss the testing material. Make sure these areas have no training manuals or other reference materials for students to look at while awaiting testing.

4. To evaluate a candidate's performance, use the following as a guide:
   a. The skill is completed in the allotted time.
   b. Competence is shown by completing all performance criteria.
   c. Safety is a priority while completing the skill.

5. At each test station, the tester will read the skill to be demonstrated, the condition to be met, and the time limit to complete each skill. This information is contained in the skill section of each standards packet. Do this with each student as they come to each testing station. Ask for any questions. As each skill is tested and completed, sign it off in the section provided on the candidate's training record.

By conducting the in-house skills examination in this manner, you will prepare your candidates to successfully pass the State Spot Check exam. This will also ensure that training records are current and that only those who are truly prepared take the Certification Examination.

APPENDIX - C

CERTIFICATION FORMS

Certification Forms are located on our website at UVU.edu/UFRA under Certification
https://www.uvu.edu/ufra/certification/certification_forms.html

Which includes the following forms:
Intent to Participate
Examination Request
Certification/Recertification Request

CERTIFICATION FEES – Effective January 1, 2025

1st Attempt	2nd Attempt	3rd Attempt	Certification Item
Certification Levels Tested (per individual)			
$ 10	$ 50	$ 75	Firefighter I
$ 10	$ 50	$ 75	Firefighter II
N/A	N/A	$ 75	Live Fire (tied with Firefighter I and II)
$ 10	$ 50	$ 75	Hazardous Materials Awareness
$ 10	$ 50	$ 75	Hazardous Materials Operations
****The skills fee will be waived on the first and second attempt if taken the same day as the written exam.** Fire departments in fifith/sixth-class counties will continue to receive a free first attempt for Firefighter I, Firefighter II, Hazardous Materials Awareness, and Hazardous Materials Operations.			
$ 75	$ 75	$ 75	**All other levels**
$ 90	$ 90	$ 90	Accredited Firefighter Academies (AFAs), "non-fire department" agencies
Recertification Requests			
$ 10			All levels - For each individual (excluding Technician levels)
$ 10			All "Technician" levels (Training Record required), for each individual
Reciprocity			
$ 200			Per application (for all levels) must have Pro Board or IFSAC seals included
Other			
$ 10			Additional patches
$ 20			Printed original certificate with seal
$ 20			ID card
$ 350			Out-of-state testing/certfication: Officer I-IV (per level)