

Utah Fire Service Certification System

TECHNICAL RESCUE MACHINERY RESCUE



CERTIFICATION STANDARD

Approved May 17, 2023
Fees – October 2024

Utah Fire Service Certification Council

Chairperson

Scott Spencer, Chief
Payson Fire & Rescue

Vice-Chairperson

Rod Tomkinson, Assistant Chief
Logan Fire Department

Council Members

Ted Black, Utah State Fire Marshal
Utah State Fire Marshal's Office

David Youngberg, Battalion Chief
North Davis Fire District

Merlin Spendlove, Battalion Chief
Hurricane Fire & Rescue

Chris Trevino, Deputy Chief
West Jordan Fire Department

Jeremy Raymond, Chief/Director
Uintah Fire Suppression SSD

Wade Snyder, Deputy Fire Management Officer
Division of Forestry, Fire & State Lands

Ron Harris, Chief
Tropic Fire Department

Krista Horting, Deputy Chief
Spanish Fork Fire and EMS

TJ Brewer, Chief
Moab Valley Fire Department

John Evans, Chief
West Valley City Fire Department

Chris Whetton, Captain
Weber Fire District

Utah Fire & Rescue Academy Staff

Brad Wardle, Director

Jolene Chamberlain, Assistant Director

Joan Aaron, Certification Program Manager

Certification Specialists:

Jennifer Lindley – Northern Region

Trudy Meister – Central Region

Sharon Stokes – Salt Lake County/Southern Region

For questions or comments concerning this or other Utah certification standards, please contact:

Utah Fire Service Certification Council

Utah Fire & Rescue Academy

Utah Valley University

3131 Mike Jense Parkway

Provo, Utah 84601

Phone 801-863-7709

Fax 801-374-0681

www.uvu.edu/ufra

Machinery 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 Machinery 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.

Machinery Rescue Committee

Scott J. Spencer, Chief
Payson Fire & Rescue
*Certification Council Representative

Rod (Hoss) B. Tomkinson, Assistant Chief
Logan Fire Department
*Certification Council Representative

Jason E. Branson, Captain
Provo Fire & Rescue

Larry Jo Hamblin, Deputy Chief
Syracuse Fire Department

Christopher L. Whetton, Captain
Weber Fire District
*Certification Council Representative

Table of Contents

Introduction	1
Technical Rescue Certification Requirements	2
Entrance Requirements	2
Physical Fitness Requirements	2
Department Training Officers.....	3
Department Training	3
Written Objectives	4
Skill Objectives.....	4
Department Training Records.....	4
Department In-House Skills Examination	5
Certification Examinations	5
Written Examinations	5
Skills Spot Check Examinations	6
Technical Rescue Certification	7
Prerequisites for Machinery Rescue Certification	7
Recertification.....	7
Technical Rescue Certification Checklist	8
Section I. Machinery Rescue - Awareness	9
Machinery Rescue - Awareness Skill Objectives	10
Machinery Rescue - Awareness Evolution	12
Machinery Rescue - Awareness Training Record.....	13
Section II. Machinery Rescue - Operations	14
Machinery Rescue - Operations Skill Objectives	15
Machinery Rescue - Operations Evolution	20
Machinery Rescue - Operations Training Record.....	22
Section III. Machinery Rescue - Technician	23
Machinery Rescue - Technician Skill Objectives	24
Machinery Rescue - Technician Evolution.....	29
Machinery Rescue - Technician Training Record	31
Appendix A.	
Sample Photos for Machinery Rescue	33
Appendix B. In-House Proctor Instructions	
Proctor Instructions for In-House Comprehensive Examinations	35
Appendix C. Certification Forms	36

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 13, “Machinery 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 – Machinery 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 13 of NFPA 1006 (2021). In order to certify at the Technical Rescue levels, candidates must fulfill the following requirements:

1. Complete the 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 13, “Machinery 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 Departments* (2022), 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 Machinery 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 in Chapter 13, and the skills as 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 Machinery Rescue will be conducted following the Policies and Procedures of the UFSCC.

Training for Machinery 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 Machinery Rescue course which meets the requirements of NFPA 1006 (2021), Chapter 13. A Training Record, as provided in this standard, must be completed for each person.
2. Department-Based Training. Departments can create their own Machinery Rescue course which meets the requirements as outlined in the “Machinery Rescue” section of Chapter 13 in NFPA 1006 (2021). A Training Record, as provided 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) and IFSTA’s *Principles of Vehicle Extrication* (3rd Edition).

Written Objectives

Written objectives for Machinery Rescue are covered in:

- Chapter 13, “Machinery Rescue,” in NFPA 1006 (2021)
- IFSTA, Principles of Vehicle Extrication, 3rd Edition

This textbook is available from various fire service bookstores or 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 Machinery Rescuer, the Council recommends that the candidate participate in a comprehensive class and receive instruction on both skills and written requirements.

Skill Objectives

Each candidate **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 date of trainings, training instructors, the date of exams, exam instructors, and whether the candidate passed each exam (see the Training Records 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 examination 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 skills test will be allowed to participate in the Certification Council's skills 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 13 Certification Level	# of Questions
Machinery Rescue - Awareness	20
Machinery Rescue - Operations	30
Machinery Rescue - Technician	20

A minimum score of 70% is required to pass the certification exam. Firefighters 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 are allowed to pass the exam. If a candidate fails the written examination three times, they 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 and evolution for the level being evaluated.
2. A department training officer has signed off each skill and evolution.
3. Each candidate has passed a department in-house skills and evolution 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). This is a 100% pass/fail test. If a candidate fails any portion of the skill, then they have failed the evolution and must retest the entire evolution. 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.**

- Machinery Rescue Awareness: one Evolution Examination
- Machinery Rescue Operations: one **Team** Evolution Examination
- Machinery Rescue Technician: one **Team** Evolution Examination

The skills will be from NFPA 1006 (2021), Chapter 13. 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 Machinery 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
Machinery Rescue - Awareness (13.1)	
Machinery Rescue - Operations (13.2)	13.1
Machinery Rescue - Technician (13.3)	13.1, 13.2

Recertification

Certifications are valid for a three-year period. Each certified Technical Rescuer may renew certification by having the Chief/Administrator of the participating agency submit a Certification/Recertification Request (provided in Appendix C of this standard).

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

Because of the high level of skills required of a Confined Space Rescue Technician, the Certification Council requires that candidates complete an in-house comprehensive examination evolution—that allows them to demonstrate all the technician-level skills contained in this standard—as part of their recertification process. An original copy of a candidate’s Technician Training Record for the previous three-year period must accompany each technician recertification request, verifying the candidate is qualified in all technician level skills.

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, 1-801-863-7709 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
MACHINERY RESCUE - AWARENESS

MACHINERY RESCUE – AWARENESS SKILL OBJECTIVES

To complete the skills contained in this chapter, 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 a safe training/testing location for the incident.

1. Identify appropriate PPE for a machinery incident.

REFERENCE: NFPA 1006, 2021 edition, 13.1.1, 13.1.2

CONDITION: Given a machinery incident and information.

SCENARIO: Given a machinery incident requiring disentanglement of a victim, determine appropriate PPE.

COMPETENCE:

- Identify situation hazards (potential fire hazards)
- Identify appropriate PPE (AHJ): turnouts, eye protection, hearing protection, helmet, gloves, etc.
- Complete skill in allotted time

TIME: 1 minute

2. Demonstrate the ability to read, gather information, identify needs, request additional resources, and gather information from witnesses.

REFERENCE: NFPA 1006, 2021 edition, 13.1.1, 13.1.2, 13.1.3

CONDITION: Given a machinery incident and information (photo/video). Follow AHJ guidelines.

SCENARIO: Given a machinery incident requiring disentanglement of a victim.

COMPETENCE:

- Identify appropriate PPE
- Gather information, manage and interview witnesses
- Identify number of victims
- Identify need for additional resources
- Identify type of machinery
- Request additional resources as needed
- Complete skill in allotted time

TIME: 2 minutes

3. Demonstrate the ability to apply all operational protocols (AHJ). Determine, follow, and implement applicable department SOGs/SOPs or standard practices for the appropriate level (Awareness, Operations, or Technician).

REFERENCE: NFPA 1006, 2021 edition, 13.1.2, 13.1.3, 13.1.4

CONDITION: Given department SOGs/SOPs, machinery incident information (photo/video)

verbalize. Follow AHJ guidelines.

COMPETENCE:

- Identify and explain any relevant department (AHJ) machinery incident SOP/SOGs (verbally)
- Give three examples (verbally) of various types of machinery hazards within the AHJ (for example, combines, manufacturing equipment, etc.)
- Determine level of response (Awareness, Operations, or Technician), support, and resources needed
- Report findings and/or needs to the rescue officer
- Complete skill in allotted time

TIME:

3 minutes

4. Identify hazards and establish control zones. Report to the rescue officer when tasks are complete.

REFERENCE:

NFPA 1006, 2021 edition, 13.1.2, 13.1.3, 13.1.4

CONDITION:

Given a machinery incident, information (photo/video, etc.), verbalize. Follow AHJ guidelines.

COMPETENCE:

- Identify situation hazards (potential fire hazards)
- Identify hazmat hazards and ask for appropriate resources
- Identify electrical hazards
- Identify other potential hazards
- Identify and establish control zones (hot, warm, or cold)
- Isolate and deny entry
- Report to the rescue officer when hazards are identified, and control zones are established
- Complete skill in allotted time

TIME:

3 minutes

5. Support operations and technician level functions within an incident management system. Follow and implement an Incident Action Plan (IAP).

REFERENCE:

NFPA 1006, 2021 edition, 13.1.4

CONDITION:

Identify and/or describe *at least five* awareness-level support operations, assignments, tasks, roles, etc., to support a machinery operations and technician level rescue incident. Follow AHJ guidelines. Verbalize.

SCENARIO:

Given a machinery incident requiring disentanglement of a victim.

COMPETENCE:

- Identify or describe *at least five* (5) of the following tasks/roles:
 - Witness interview
 - Identify subject matter expert (SME) of the machine
 - Isolation and containment
 - Information collection and dissemination
 - Equipment/tool cache assembly
 - Assist with communications

- Decontamination and equipment inspection
- Documentation
- Other (support operations, assignments, tasks, roles, etc.)
- Complete skill in allotted time

TIME: 5 minutes

<h2 style="margin: 0;">MACHINERY RESCUE – AWARENESS EVOLUTION</h2>
--

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

SKILL EXAM
EVOLUTION:

Demonstrate awareness-level skills.

REFERENCE:

NFPA 1006, 2021 edition, 13.1.1-13.1.4

CONDITION:

Given a scenario of a machinery incident and information (photo). Verbalize

SCENARIO:

Given a machinery incident requiring disentanglement of a victim. Verbalize resources. Describe (verbally) awareness-level skills.

TIME:

20 minutes

COMPETENCE:

- Identify appropriate PPE
- Identify situation hazards
- Identify isolation methods (control zones).
- Identify scene security
- Gather information (interview witnesses, read, etc.)
- Identify subject matter expert (SME) of the machine
- Identify fire suppression needs
- Identify safety hazards and maintain personal safety techniques
- Identify and request additional resources as needed
- Identify *at least five* appropriate tools:
 - Wrenches, bandsaw, grinders, shims, Sawzall, torch, drills, straps, airbags, etc.
- Report to the rescue officer when tasks are complete and function within the incident management system as assigned
- Complete skill in allotted time

UTAH FIRE SERVICE CERTIFICATION SYSTEM

MACHINERY RESCUE - AWARENESS

NFPA 1006, 2021 edition
13.1.1-13.1.4

MACHINERY RESCUE - AWARENESS

TRAINING RECORD / IN-HOUSE COMPREHENSIVE FORM

Candidate Name:				Department:		
Candidate Signature:				Date of Completion:		
Chief/Training Officer:				Chief/Training Officer Signature:		
<p>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 and 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.</p>						
SECTION	TRAINING RECORD		IN-HOUSE COMPREHENSIVE EXAMS			SKILL OBJECTIVES & EVOLUTION
	DATE	INSTRUCTOR	DATE	INSTRUCTOR	PASS	
13.1.1, 13.1.2						1. Identify appropriate PPE for a machinery incident.
13.1.1, 13.1.2, 13.1.3						2. Demonstrate the ability to read, gather information, identify needs, request additional resources, and gather information from witnesses.
13.1.2, 13.1.3, 13.1.4						3. Demonstrate the ability to apply all operational protocols (AHJ). Determine, follow, and implement applicable department SOGs/SOPs or standard practices for the appropriate level (Awareness, Operations, or Technician).
13.1.2, 13.1.3, 13.1.4						4. Identify hazards and establish control zones. Report to the rescue officer when tasks are complete.
13.1.4						5. Support operations and technician level functions within an incident management system. Follow and implement an Incident Action Plan (IAP).
Examination Evolution						Demonstrate machinery rescue awareness-level skills.

SECTION II
MACHINERY RESCUE - OPERATIONS

MACHINERY RESCUE – OPERATIONS SKILL OBJECTIVES

To complete the skills contained in this chapter, 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 Machinery examples.

1. Identify appropriate PPE for a small machinery incident.

REFERENCE: NFPA 1006, 2021 edition, 13.2.2, 13.2.5

CONDITION: Given a small machinery incident information. Verbalize

SCENARIO: Given a machinery incident requiring disentanglement of a victim. Determine appropriate PPE.

COMPETENCE:

- Identify situation hazards (potential fire hazards)
- Identify appropriate PPE (AHJ)
 - Turnout, eye protection, hearing protection, helmet, gloves, etc.
- Complete skill in allotted time

TIME: 1 minute

2. Demonstrate the ability to operate, inspect, and maintain tools safely and appropriately.

REFERENCE: NFPA 1006, 2021 edition, 13.2.2, 13.2.5, 13.2.7-13.2.12

CONDITION: Given specialized tools, a safety officer, and PPE. Follow AHJ-approved guidelines.

COMPETENCE:

- Wear appropriate PPE
- Demonstrate the ability to operate, inspect, and maintain at least five of the following tools:
 - Inspection camera
 - Sawzall - reciprocating saw
 - Dremel tool
 - Oscillating tool
 - Angle grinder
 - Drill
 - Bandsaw
 - Torch
 - Other: tools provided by the AHJ
- Demonstrate the ability to operate, inspect, and maintain at least five of the following lifting/stabilization tools:
 - Struts
 - Cribbing
 - Shims
 - Straps
 - Chains
 - Extrication tools (i.e., cutter, spreader, ram)
 - Come along
 - Airbags
 - Other: tools provided by the AHJ
- Complete skill in allotted time.

TIME: 3 minutes (per tool)

3. Demonstrate the ability to remove a hard metal ring. Ring Removal

REFERENCE: NFPA 1006, 2021 edition, 13.2.5, 13.2.7

CONDITION: Given a tool cache, a safety officer, a victim (manikin), and PPE. Follow AHJ-approved guidelines.

COMPETENCE:

- Wear appropriate PPE
- Remove the ring without harming the victim
- Use tools safely and appropriately
- Complete skill in allotted time

TIME: 10 minutes

4. Identify three types of small machinery in your jurisdiction and their anatomy and construction features (verbalize)

REFERENCE: NFPA 1006, 2021 edition, 13.2.1

CONDITION: Given a team of two members, don appropriate level PPE for machinery rescue operations.

COMPETENCE:

- Identify three types of small machinery
- Identify anatomy and construction features of small machinery candidate described above
- Complete skill in allotted time

TIME: 1 minute

5. Perform a small machinery incident size-up. Create an Incident Action Plan (IAP). Verbalize safety procedures and emergency evacuation signals. Follow operational protocols and consult with subject matter expert (SME).

REFERENCE: NFPA 1006, 2021 edition, 13.2.1, 13.2.2, 13.2.5, 13.2.7, 13.2.13

CONDITION: Given a machinery incident (photo/video), information, a tactical worksheet (AHJ), and personnel accountability protocol. Follow AHJ guidelines. Verbalize.

SCENARIO: Given a machinery incident with a victim that requires disentanglement, develop a plan that will utilize available resources to safely disentangle the victim.

COMPETENCE:

- Identify machinery and associated hazards
- Identify isolation methods (hot, warm, cold zones)
- Identify scene security
- Identify potential ignition hazards and verbalize the use of extinguishing devices and fire control strategies
- Identify stabilization needs.
- Identify additional resources and SME
- Create an Incident Action Plan (IAP), using the AHJ tactical worksheet, and apply operational protocols

- Identify safety procedures and evacuation signals
- Complete skill in allotted time

TIME: 5 minutes

6. Identify and manage potentially harmful energy sources and system isolation methods (lockout/tagout).

REFERENCE: NFPA 1006, 2021 edition, 13.2.5, 13.2.12

CONDITION: Given a small machinery incident and lockout/tagout (LOTO) equipment. Follow AHJ guidelines. Verbalize.

SCENARIO: Given a small machinery incident with a victim's extremity, that requires disentanglement. Identify and manage potential harmful energy sources and system isolation methods or standard practices AHJ.

- COMPETENCE:
- Identify appropriate PPE
 - Identify and mitigate hazards including ignition potential and power sources (LOTO)
 - Operate tools and devices for securing and disabling hazards
 - Isolate potentially harmful energy sources so that all hazards are identified, systems are managed, and beneficial system use is considered
 - Document and communicate above actions to the rescue officer, according to the AHJ
 - Complete skill in allotted time

TIME: 3 minutes

7. Stabilize potentially harmful elements of the machinery, including control devices and emergency control devices. Select, operate, and monitor stabilization devices. Control the hazards presented by the release of fluids or mechanical release devices.

REFERENCE: NFPA 1006, 2021 edition, 13.2.4, 13.2.5, 13.2.10, 13.2.11, 13.2.12

CONDITION: Given a small machinery incident, machinery information, a extrication/stabilization tool cache, and PPE. Follow AHJ guidelines.

SCENARIO: Given a small machinery incident with a victim's extremity that requires disentanglement. Identify and manage potential harmful hydraulic/mechanical stored energy sources and system isolation methods or standard practices, AHJ.

- COMPETENCE:
- Identify and wear appropriate PPE
 - Identify the potential movement of hazards
 - Operate tools, equipment, and devices for securing and disabling hazards. (i.e., struts, cribbing, straps, etc.)
 - Control the hazards presented from the release of fluids or mechanical devices
 - Document and communicate above actions to the rescue officer, according to the AHJ

- Ensure undue injury is prevented, and stabilization is maintained
- Complete skill in allotted time

TIME: 15 minutes

8. Disentangle and remove a packaged victim so that undue victim injury is avoided, victim protection is provided, and stabilization is maintained. Determine access and egress points for victim disentanglement.

REFERENCE: NFPA 1006, 2021 edition, 13.2.6-13.2.11, 13.2.14

CONDITION: Given an assignment, a specialized tool cache, PPE, a patient packaging device, and a 4-6 member team. Follow AHJ guidelines.

SCENARIO: Given a small machinery incident with a victim's extremity that requires disentanglement, disentangle, package, and remove the victim for transport.

COMPETENCE:

- Identify and wear appropriate PPE
- Identify victim in machinery
- Determine victim location
- Determine the area is safe before cutting, disassembling, or spreading
- Operate disentanglement tools
- Identify and eliminate points of entrapment and disentangle the victim
- Use protective measures to protect victim and rescuers
- Identify access and egress points, for rescuers and victim removal
- Maintain incident stability and scene safety
- Provide appropriate medical care
- Provide appropriate patient packaging and transfer to a safe area
- Safely remove victim as a team
- Complete skill in allotted time

TIME: 1 hour

9. Terminate incident. Describe methods to decontaminate PPE and equipment, and describe proper record keeping.

REFERENCE: NFPA 1006, 2021 edition, 13.2.15

CONDITION: After a small machinery incident, given a specialized tool cache, PPE, and a patient packaging device. Follow AHJ guidelines. Verbalize

SCENARIO: After a small machinery incident with a victim's extremity, that required disentanglement and removal of the victim. Describe the process to terminate the incident.

COMPETENCE:

- Notify the party responsible for operation, maintenance, or removal of the affected machinery of any modification or

damage created during the disentanglement process

- Transfer scene control to the responsible party
- Communicate potential or existing hazards to the responsible party.
- Remove stabilization devices and control zone equipment
- Decontaminate PPE and equipment
- Describe proper documentation per the AHJ
- Terminate command
- Verbalize an After Action Review (AAR)
- Complete skill in allotted time

TIME:

5 minutes

MACHINERY RESCUE – OPERATIONS EVOLUTION

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

To complete the skills, 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 machinery rescue sample photos.

REFERENCE: NFPA 1006, 2021 edition, 13.2.1-13.2.6, 13.2.11-13.2.13

SKILL EXAM
EVOLUTION:

Demonstrate operations-level skills. Working as a member of a 4-6 member team, fulfill assigned team roles, including but not limited to: rescue officer, equipment control, lockout/tagout (LOTO), support personnel, and other AHJ protocols. A safety officer must be qualified and provided by the AHJ.

**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/skills of each role.*

CONDITION: Given a small machinery incident, information, PPE, a tool cache, an extinguisher, and a 4-6 member team. Follow AHJ guidelines.

SCENARIO: Given a small machinery incident requiring disentanglement of a victim. Utilize available resources. Demonstrate operations-level skills.

COMPETENCE:

- Wear appropriate PPE
- Perform an incident size-up. Create an Incident Action Plan (IAP)
Verbalize safety procedures and emergency evacuation signals
- Consult with subject matter expert (SME) when applicable
- Determine access and egress points and probable victim location
- Identify isolation methods (hot, warm, cold zones)
- Identify and request additional resources as needed
- Identify fire and explosive hazards and manage ignition potentials.
Demonstrate use of extinguishing devices and fire control strategies
- Identify the potential movement of hazards
- Operate tools, equipment, and devices for securing and disabling hazards (i.e., struts, cribbing, straps, etc.)
- Control the hazards presented from the release of fluids or mechanical devices (if applicable)
- Select, operate, and monitor stabilization devices
- Manage potentially harmful energy sources (LOTO)
- Determine the area is safe before cutting, disassembling, or spreading
- Safely operate disentanglement tools
- Identify and eliminate points of entrapment and disentangle the victim

- Use protective measures to protect victim and rescuers
- Identify access and egress points, for rescuers and victim removal
- Maintain incident stability and scene safety
- Provide appropriate patient packaging and transfer to a safe area
- Safely remove victim while coordinating team
- Report to supervisor/rescue officer when tasks are complete and function within the incident management system as assigned
- Notify the party responsible for operation, maintenance, or removal of the affected machinery of any modification or damage created during the disentanglement process
- Transfer scene control to the responsible party
- Communicate potential or existing hazards to the responsible party
- Remove stabilization devices and control zone equipment
- Decontaminate PPE and equipment
- Describe proper documentation per the AHJ
- Terminate command
- Complete evolution in allotted time

TIME:

60 minutes

UTAH FIRE SERVICE CERTIFICATION SYSTEM

MACHINERY RESCUE - OPERATIONS

NFPA 1006, 2021 edition

13.2

MACHINERY RESCUE - OPERATIONS TRAINING RECORD / IN-HOUSE COMPREHENSIVE FORM

Candidate Name:					Department:	
Candidate Signature:					Date of Completion:	
Chief/Training Officer:					Chief/Training Officer Signature:	
<p>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 and 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.</p>						
SECTION	TRAINING RECORD		IN-HOUSE COMPREHENSIVE EXAMS			SKILL
	DATE	INSTRUCTOR	DATE	INSTRUCTOR	PASS	
						<i>Machinery Rescue prerequisites have been met prior to Machinery Rescue Operations.</i>
13.2.2, 13.2.5						1. Identify appropriate PPE for a small machinery incident.
13.2.2, 13.2.5, 13.2.7-13.2.12						2. Demonstrate the ability to operate, inspect, and maintain tools safely and appropriately.
13.2.5, 13.2.7						3. Demonstrate the ability to remove a hard metal ring. Ring Removal.
13.2.1						4. Identify three types of small machinery in your jurisdiction and their anatomy and construction features (verbalize).
13.2.1, 13.2.2, 13.2.5, 13.2.7, 13.2.13						5. Perform a small machinery incident size-up. Create an Incident Action Plan (IAP). Verbalize safety procedures and emergency evacuation signals. Follow operational protocols and consult with a subject matter expert (SME).
13.2.5, 13.2.12						6. Identify and manage potentially harmful energy sources and system isolation methods (lockout/tagout).
13.2.4, 13.2.5, 13.2.10, 13.2.11, 13.2.12						7. Stabilize potentially harmful elements of the machinery, including control devices and emergency control devices. Select, operate, and monitor stabilization devices. Control the hazards presented by the release of fluids or mechanical release devices.
13.2.6-13.2.11, 13.2.14						8. Disentangle and remove a packaged victim so that undue victim injury is avoided, victim protection is provided, and stabilization is maintained. Determine access and egress points for victim disentanglement.
13.2.15						9. Terminate incident. Describe methods to decontaminate PPE and equipment, and describe proper record keeping.
Evolution						Demonstrate Machinery Rescue Operation level skills.

SECTION III
MACHINERY RESCUE - TECHNICIAN

MACHINERY RESCUE – TECHNICIAN SKILL OBJECTIVES

To complete the skills contained in this chapter, 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 Machinery examples.

1. Identify appropriate PPE for a large machinery incident

REFERENCE: NFPA 1006, 2021 edition, 13.3.1-13.3.5

CONDITION: Given a large machinery incident information, applicable reference materials, and PPE. Verbalize.

SCENARIO: Given a large machinery incident requiring disentanglement of a victim. Determine appropriate PPE.

COMPETENCE:

- Identify situation hazards (potential fire hazards)
- Identify appropriate PPE (AHJ)
 - Turnout, eye protection, hearing protection, helmet, gloves, etc.
- Complete skill in allotted time

TIME: 1 minutes

2. Demonstrate the ability to remove a victim from an impaled object.

REFERENCE: NFPA 1006, 2021 edition, 13.3.1, 13.3.3, 13.3.4, 13.3.5

CONDITION: Given a tool cache, a safety officer, a victim (manikin), PPE, and a 4-6 member team. Follow AHJ-approved guidelines.

SCENARIO: Given a victim impaled by an object (through a portion of their body), perform the appropriate procedures for disentanglement.

COMPETENCE:

- Wear appropriate PPE
- Identify the object impaling the victim
- Stabilize the victim
- Identify the appropriate tools to disentangle the victim
- Identify the appropriate location to cut the object
- Undue harm or injury is prevented
- Use tools safely and appropriately
- Provide appropriate patient packaging and transfer to a safe area
- Complete skill in allotted time

TIME: 30 minutes

3. Identify three types of large machinery in your jurisdiction and their anatomy and construction features.

REFERENCE: NFPA 1006, 2021 edition, 13.3.1

COMPETENCE:

- Identify three types of large machinery (i.e., presses, conveyer belts, farm equipment, quarry equipment, etc.)
- Identify anatomy and construction features of the large machinery candidate described above (i.e., PTOs, augers, housings, drive shafts, belts and pulleys, etc.)
- Complete skill in allotted time

TIME: 1 minute

4. Perform a large machinery incident size-up. Create an Incident Action Plan (IAP). Verbalize safety procedures and emergency evacuation signals. Follow technician protocols and consult with a subject matter expert (SME).

REFERENCE: NFPA 1006, 2021 edition, 13.3.1, 13.3.4, 13.3.5

CONDITION: Given a large machinery incident, information, a tactical worksheet, and personnel accountability protocol. Follow AHJ guidelines. Verbalize

SCENARIO: Given a large machinery incident with a victim (manikin) that requires disentanglement, develop a plan that will utilize available resources (tools and equipment) to safely disentangle the victim.

COMPETENCE:

- Identify appropriate PPE
- Identify machinery and associated hazards
- Identify isolation methods (hot, warm, cold zones)
- Identify scene security
- Identify potential ignition hazards and verbalize the use of extinguishing devices and fire control strategies
- Identify stabilization needs
- Identify additional resources and SME
- Create an Incident Action Plan (IAP), using the AHJ tactical worksheet, and apply technician protocols
- Identify safety procedures and evacuation signals
- Complete skill in allotted time

TIME: 10 minutes

5. Identify and manage potentially harmful energy sources and system isolation methods (lockout/tagout).

REFERENCE: NFPA 1006, 2021 edition, 13.3.1, 13.3.4

CONDITION: Given a large machinery incident, information, lockout/tagout (LOTO) equipment, documents, and PPE. Follow AHJ

guidelines.

SCENARIO: Given a large machinery incident with a victim (manikin) that requires disentanglement. Identify and manage potentially harmful energy sources and system isolation methods or standard practices AHJ.

COMPETENCE:

- Identify and wear appropriate PPE
- Identify and mitigate hazards including ignition potential and power sources
- Consult with subject matter expert (SME) when applicable
- Operate tools and devices for securing and disabling hazards
- Isolate potentially harmful energy sources so that all hazards are identified, systems are managed, and beneficial system use is considered
- Document and communicate above actions to rescue officer, according to AHJ
- Complete skill in allotted time

TIME: 10 minutes

6. Stabilize potentially harmful elements of the large machinery, including control devices and emergency control devices. Select, operate, and monitor stabilization devices. Control the hazards presented by the release of fluids or mechanical release devices.

REFERENCE: NFPA 1006, 2021 edition, 13.3.2, 13.3.5

CONDITION: Given a large machinery incident, information, and extrication/stabilization tool cache, PPE. Follow AHJ guidelines.

SCENARIO: Given a large machinery incident with a victim that requires disentanglement. Identify and manage potentially harmful hydraulic/mechanical stored energy sources and system isolation methods or standard practices AHJ.

COMPETENCE:

- Identify and wear appropriate PPE
- Identify the potential movement of hazards
- Consult with subject matter expert (SME) when applicable.
- Operate tools, equipment, and devices for securing and disabling hazards. (i.e., struts, cribbing, straps, etc.)
- Control the hazards presented from the release of fluids or mechanical devices
- Document and communicate above actions to rescue officer, according to AHJ
- Ensure undue injury is prevented, and stabilization is maintained
- Complete skill in allotted time

TIME: 10 minutes

7. Disentangle and remove a packaged victim so that undue victim injury is avoided, victim protection is provided, and stabilization is maintained. Determine access and egress points, for victim disentanglement.

REFERENCE: NFPA 1006, 2021 edition, 13.3.3, 13.3.4, 13.3.5

CONDITION: Given an assignment, specialized tool cache, PPE, patient packaging device(s), and acting as a member of a 4-6 member team. Follow AHJ guidelines.

SCENARIO: Given a large machinery incident with a victim that requires disentanglement. Disentangle and package the victim, and remove for transport.

COMPETENCE:

- Identify and wear appropriate PPE
- Identify victim in machinery
- Determine access and egress points and probable victim location
- Determine the area is safe before cutting, disassembling, or spreading
- Operate disentanglement tools
- Identify eliminate points of entrapment and disentangle the victim
- Use protective measures to protect victim and rescuers
- Identify access and egress points, for rescuers and victim removal
- Maintain incident stability and scene safety
- Provide appropriate patient packaging and transfer to a safe area
- Safely remove victim as a team
- Complete skill in allotted time

TIME: 1 hour

8. Terminate incident. Describe methods to decontaminate PPE, equipment, and describe proper record keeping. Verbalize

REFERENCE: NFPA 1006, 2021 edition, 13.3.1, 13.3.5

CONDITION: After a large machinery incident, specialized tool cache, PPE, patient packaging device. Follow AHJ guidelines.

SCENARIO: After a large machinery incident with a victim that required disentanglement and removal of the victim. Describe the process to terminate the incident.

COMPETENCE:

- Notify the party responsible for technician, maintenance, or removal of the affected machinery of any modification or damage created during the disentanglement process.
- Transfer scene control to the responsible party
- Communicate potential or existing hazards to the

responsible party

- Remove stabilization devices and control zone equipment
- Decontaminate PPE and equipment
- Describe proper documentation per the AHJ
- Terminate command
- Verbalize After Action Review (AAR)
- Complete skill in allotted time

TIME:

5 minutes

Machinery Rescue - Technician Evolution

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

To complete the skills contained in this chapter, 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 Machinery examples.

REFERENCE: NFPA 1006, 2021 edition, 13.3

SKILL EXAM
EVOLUTION:

Demonstrate Technician level skills. Working as a member of a 4-6 member team, fulfill assigned team roles, including but not limited to: rescue officer, equipment control, lockout/tagout (LOTO), support personnel, and other AHJ protocols. A safety officer must be qualified and provided by the AHJ.

**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/skills of each role.*

CONDITION: Given a large machinery incident, information, PPE, tool cache, LOTO kit, extinguisher, proper documentation, victim (manikin), and 4-6 member team. Follow AHJ guidelines.

SCENARIO: Given a large machinery incident requiring disentanglement of a victim. Utilize available resources. Demonstrate technician level skills.

TIME: 60 minutes

COMPETENCE:

- Wear appropriate PPE
- Perform an incident size-up. Create Incident Action Plan (IAP) Verbalize safety procedures and emergency evacuation signals
- Consult with subject matter expert (SME) when applicable
- Determine access and egress points and probable victim location
- Identify isolation methods (hot, warm, cold zones)
- Identify and request additional resources as needed
- Identify fire and explosive hazards and manage ignition potentials. Demonstrate use of extinguishing devices and fire control strategies
- Identify the potential movement of hazards
- Operate tools, equipment, and devices for securing and disabling hazards (i.e., struts, cribbing, straps, etc.)

- Control the hazards presented from the release of fluids or mechanical devices (if applicable)
- Select, operate, and monitor stabilization devices
- Manage potentially harmful energy sources (LOTO)
- Determine the area is safe before cutting, disassembling, or spreading
- Safely operate disentanglement tools
- Identify and eliminate points of entrapment and disentangle the victim
- Use protective measures to protect victim and rescuers
- Maintain incident stability and scene safety
- Provide appropriate patient packaging and transfer to a safe area
- Safely remove victim as a team
- Report to the rescue officer when tasks are complete and function within the incident management system as assigned
- Notify the party responsible for technician, maintenance, or removal of the affected machinery of any modification or damage created during the disentanglement process
- Transfer scene control to the responsible party
- Communicate potential or existing hazards to the responsible party
- Remove stabilization devices and control zone equipment
- Decontaminate PPE and equipment
- Describe proper documentation per the AHJ
- Terminate command
- Complete evolution in allotted time

UTAH FIRE SERVICE CERTIFICATION SYSTEM

MACHINERY RESCUE - TECHNICIAN

NFPA 1006, 2021 edition

13.3

MACHINERY 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. Date of completion and signatures of Chief/Training Officer and Candidate must be original signatures. 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 OBJECTIVES & EVOLUTION
	DATE	INSTRUCTOR	DATE	INSTRUCTOR	PASS	
						<i>Machinery Rescue prerequisites have been met prior to Machinery Rescue Technician.</i>
13.3.1-13.3.5						1. Identify appropriate PPE for a large machinery incident.
13.3.1, 13.3.3, 13.3.4, 13.3.5						2. Demonstrate the ability to remove a victim from an impaled object.
13.3.1						3. Identify three types of large machinery in your jurisdiction and their anatomy, and construction features.
13.3.1, 13.3.4, 13.3.5						4. Perform a large machinery incident size-up. Create Incident Action Plan (IAP) Verbalize safety procedures and emergency evacuation signals. Follow technician protocols and consult with a subject matter expert (SME).
13.3.1, 13.3.4						5. Identify and manage potentially harmful energy sources and system isolation methods (lockout/tagout).
13.3.2, 13.3.5						6. Stabilize potentially harmful elements of the large machinery, including control devices and emergency control devices. Select, operate, and monitor stabilization devices. Control the hazards presented by the release of fluids or mechanical release devices.
13.3.3, 13.3.4, 13.3.5						7. Disentangle and remove a packaged victim(s) so that undue victim injury is avoided, victim protection is provided, and stabilization is maintained. Determine access and egress points, for victim disentanglement.
13.3.1, 13.3.5						8. Terminate incident. Describe methods to decontaminate PPE, equipment, and describe proper record keeping.
Evolution						Demonstrate Technician level skills for Machinery Rescue.

APPENDIX A

Sample Photos for Machinery Rescue

Awareness photo example



Operations photo examples



APPENDIX B
IN-HOUSE PROCTOR INSTRUCTIONS

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 State Spot Check exam, 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

Certification Levels Tested (per individual)				
	1st Attempt	2nd Attempt	3rd Attempt	Certification Item
\$	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 fifth/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/certification: Officer I-IV (per level)		