Title: RN3276 FLUSAR Vehicle Machinery Rescue Technician

Effective Date: May 01, 2016
Revision Date: July 16, 2019

Section I - Course Information

Course Title: FLUSAR Vehicle Machinery Rescue Technician
Course Number(s): RN3276

Class Days/Time: If being taught at the Florida State Fire College Campus 11655 NW Gainesville Road, Ocala, FL 34482 Bldg. C – Classrooms – Monday - Friday 8 a.m.- 5 p.m.

Section II - Points of Contact

Training Supervisor:
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Section III – Course Description

Vehicle and Machinery Rescue Technician is will provide the knowledge and skills of heavy vehicle and machinery extrication that meet the NFPA 1670 requirements. The student will gain the knowledge on how to work with heavy lift bags, high, medium and low pressure bags, plasma torches, oxy-acetylene torches, and exothermic torches. Students will estimate the weight of a vehicle as well as the features of different materials used in the construction of vehicles and machinery. Students also learn how to save equipment and lives by utilizing "lock out/tag out" systems and effective techniques for dismantling machinery; and how to safely disentangle victims of machinery accidents. Practical application of all VMR skills will be applied by the student to safely extricate victims through evolutions that are complex and require technical knowledge.

Section IV - Course Materials, Grading, and Attendance

Recommended Book: Copy of NFPA 1670 and Florida Vehicle Machinery Rescue Technician Task Book (DFS-K4-2157)

Prerequisite(s): RN3268 FLUSAR Rope Rescue Operations and RN3267 FLUSAR Vehicle Machinery Rescue Operations

Contact Hours: This class has 40 contact hours.

Continuing Educations Units (CEU's): None

Pre-Course Assignment: None

Required Materials: A complete materials list can be obtained by going to the provided hyper link at: http://www.flrules.org/Gateway/reference.asp?No=Ref-07238

NOTE: Students must bring gloves, hardhat and proper attire for rope rescue operation exercises.

Grading: Students must achieve a minimum cumulative score of 70% to pass this course. Course grades are determined from assignments and activities including, but not limited to homework, projects, quizzes, exams, presentations and practical skills. The instructor also has the discretion to award **(<u>but not deduct</u>)** points based on course participation. Below is the breakdown of the final accumulative grading:

- Homework 20 points
- Final Written Exam 40 points
- Final Practical Exam 40 points

Attendance: Students are required to attend all sessions of the course.

- Excused absences - Students are permitted excused absences totaling no more than 10% of class (4 hours maximum); the instructor shall be the sole determining authority in the determination of an excused absence and may assign supplemental work to make up for missed class time.
- Unexcused absences - The instructor shall be the sole determining authority in the determination of an unexcused absence (i.e. "no call, no show"). The instructor has no obligation to offer the student an opportunity to make up assignments, including quizzes and/or exams, but may do so at his/her discretion.

Section V - Instructor Qualifications

As per Chapter 69A-37.065, Florida Administrative Codes, *Programs of Study and Vocational Courses*, instructors must meet the following qualifications to be authorized to teach this course:

F.A.C. 69A-37.065(7)(b)(3) Instructor Qualifications: An instructor providing training under this paragraph (b), must be qualified by the Bureau of Fire Standards and Training within the Division. Qualified instructors are:

3. Instructor Qualifications. An instructor providing training under this section must be qualified and approved by the Bureau. All instructors shall submit an Instructor Approval Request Form DFS-K4-2168, at this link: https://floridastatefirecollege.org/provider/pr_instructor_app.asp, which is incorporated by reference in subsection 69A-37.039(2), F.AC., and can be obtained where indicated in subsection 69A-37.039(1), F.A.C., and be approved by the Bureau prior to the first day of the course. Qualified instructors are:

a. Instructors with requisite faculty credentials for the academic institution that is registered in the Florida Department of Education Statewide Course Numbering System to teach the course; or

b. Instructors with requisite faculty credentials as determined by the United States Fire Administration – National Fire Academy; or

c. Instructors with requisite faculty credentials as determined by the respective regionally accredited or nationally accredited university or college; or

d. Instructors who hold an active Single Course Exemption Certification issued by the Division as outlined in subsection 69A-37.059(4), F.A.C.; or

e. Florida Instructor I, II, or III, as defined in rule 69A-37.059, F.A.C., who has completed the required courses under this paragraph (7)(b), which are recorded in the Bureau's database. These instructors are known as Adjunct Instructors and are approved to teach courses under the supervision of a Lead Instructor; or

f. Florida Instructor I, II, or III, as defined in rule 69A-37.059, F.A.C., who has completed the required courses under this paragraph (7)(b), and has previously taught this course as an Adjunct Instructor which was recorded in the Bureau's database. These instructors are known as Lead Instructors.

Section VI – Job Performance Requirements Applicable Fire and Life Safety Initiatives

Given information from discussion and reading materials, the student will satisfy the Job Performance Requirements (JPR) of the applicable National Fire Protection Association (NFPA) standards, as well as any applicable skill sheets.

NFPA 1670, *Standard on Operations and Training for Technical Search and Rescue Incidents*, 2014 Edition

Chapter 8

8.1* General Requirements. Organizations operating at vehicle search and rescue incidents shall meet the requirements specified in Chapter 4.

8.2 Awareness Level

8.2.1 Organizations operating at the awareness level for vehicle emergencies shall meet the requirements specified in Section 8.2.

8.2.2 All members of the organization shall meet the requirements specified in Chapter 4 of NFPA 472, *Standard for Competence of Responders at Hazardous Materials/Weapons of Mass Destruction Incidents*, commensurate with the organization's needs.

8.2.3 Organizations operating at the awareness level for vehicle emergencies shall implement procedures for the following:

(1) Recognizing the need for a vehicle search and rescue
(2)*Identifying the resources necessary to conduct operations
(3)*Initiating the emergency response system for vehicle search and rescue incidents
(4)*Initiating site control and scene management
(5)*Recognizing general hazards associated with vehicle search and rescue incidents
(6) Initiating traffic control

8.3 Operations Level

8.3.1 Organizations operating at the operations level for vehicle emergencies shall meet the requirements specified in Sections 8.2 and 8.3.

8.3.2 All members of the organization shall meet the requirements of Chapter 5 of NFPA 472, *Standard for Competence of Responders at Hazardous Materials/Weapons of Mass Destruction Incidents*, commensurate with the organization's needs.

8.3.3* The organization shall have members capable of recognizing hazards, using equipment, and implementing techniques necessary to operate safely and effectively at incidents involving persons injured or entrapped in a typical vehicle commonly found in the jurisdiction.

8.3.4 Organizations operating at the operations level for vehicle emergencies shall develop and implement procedures for the following:

(1)*Sizing up existing and potential conditions at vehicle search and rescue incidents
(2) Identifying probable victim locations and survivability
(3)*Making the search and rescue area safe, including identifying and controlling the hazards presented by the vehicle, its position, or its systems
(4)*Identifying, containing, and stopping fuel release
(5) Protecting a victim during extrication or disentanglement
(6) Packaging a victim prior to extrication or disentanglement
(7)*Accessing victims trapped in a typical vehicle commonly found in the jurisdiction
(8)*Performing extrication and disentanglement operations involving packaging, treating, and removing victims trapped in a typical vehicle commonly found in the jurisdiction through the use of hand and power tools
(9)*Mitigating and managing general and specific hazards associated with vehicle search and rescue incidents that involve vehicles typically found in the jurisdiction
(10) Procuring and utilizing the resources necessary to conduct vehicle search and rescue operations
(11) Maintaining control of traffic at the scene of vehicle search and rescue incidents

8.4 Technician Level.

8.4.1 Organizations operating at the technician level for vehicle emergencies shall meet the requirements specified in Chapter 8.

8.4.2 Organizations operating at the technician level for vehicle emergencies shall develop and implement procedures for the following:

(1) Evaluating existing and potential conditions at vehicle search and rescue incidents
(2)*Performing extrication and disentanglement operations involving packing, treating, and removing victims injured or trapped in vehicles that present unique, exotic, or unfamiliar hazards or extrication challenges
(3)*Stabilizing in advance of unusual vehicle search and rescue situations
(4)*Using all specialized search and rescue equipment immediately available and in use by the organization

Chapter 12 Machinery Search and Rescue

12.1* General Requirements. Organizations operating at machinery search and rescue incidents shall meet the requirements specified in Chapter 4.

12.2 Awareness Level.

12.2.1 Organizations operating at the awareness level for machinery emergencies shall meet the requirements specified in Section 12.2.

12.2.2 All members of the organization shall meet the requirements specified in Chapter 4 of NFPA 472, *Standard for Competence of Responders at Hazardous Materials/Weapons of Mass Destruction Incidents*, commensurate with the organization's needs.

12.2.3 Organizations operating at the awareness level for machinery emergencies shall implement procedures for the following:

(1) Recognizing the need for a machinery search and rescue
(2)*Identifying the resources necessary to conduct operations
(3)*Initiating the emergency response system for machinery search and rescue incidents
(4)*Initiating site control and scene management
(5)*Recognizing general hazards associated with machinery search and rescue incidents

12.3 Operations Level.

12.3.1 Organizations operating at the operations level for machinery emergencies shall meet the requirements specified in Sections 12.2 and 12.3.

12.3.2 All members of the organization shall meet the requirements specified in Chapter 5 of NFPA 472, *Standard for Competence of Responders at Hazardous Materials/Weapons of Mass Destruction Incidents*, commensurate with the organization's needs.

12.3.3 The organization shall have members capable of recognizing hazards, using equipment, and implementing techniques necessary to operate safely and effectively at incidents involving persons injured or entrapped in a small machine. (Refer to the definition *small machine* in NFPA 1006, *Standard for Technical Rescuer Professional Qualifications.*)

12.3.4 Organizations operating at the operations level for machinery emergencies shall develop and implement procedures for the following:

(1)*Sizing up existing and potential conditions at machinery search and rescue incidents
(2) Identifying probable victim locations and survivability
(3)*Making the search and rescue area safe, including the stabilization and isolation (e.g., lockout/tagout) of all machinery involved
(4)*Identifying and controlling the hazards presented by the release of fluids as gases associated with the machinery, which include, but are not limited to, fuel, cutting or lubricating oil, and cooling water
(5) Protecting a victim during extrication or disentanglement
(6) Packaging a victim prior to extrication or disentanglement
(7) Accessing victims trapped in machinery
(8)*Performing extrication and disentanglement operations involving packaging, treating, and removing victims trapped in machinery where the entrapment is limited to digits or where the machine can be simply disassembled, or is constructed of lightweight materials that can be cut, spread, or lifted and has only simple hazards that are readily controlled
(9)*Mitigating and managing general and specific hazards associated with machinery search and rescue incidents
(10) Procuring and utilizing the resources necessary to conduct machinery search and rescue operations
(11)*Identifying potential emergency events in buildings where mechanical equipment exist, such as elevators, and developing preplans

12.3.5 Rescue members shall make provisions for fall protection or protection for both rescuers and subjects when working in areas where potential falls can occur.

12.4 Technician Level

12.4.1 Organizations operating at the technician level for machinery emergencies shall meet the requirements specified in this chapter.

12.4.2 Organizations operating at the technician level for machinery emergencies shall develop and implement procedures for the following:

(1) Evaluating existing and potential conditions at machinery search and rescue incidents
(2)*Performing extrication and disentanglement operations from large machines
(3)*Stabilizing machines and their components at machinery search and rescue incidents
(4)*Using all specialized search and rescue equipment immediately available and in use by the organization
(5)*Removing the occupants of a stranded elevator by way of the car doors when the floor of the elevator is more than 91.44 cm (3ft) from any floor severed, the top hatch, or a service door or when occupants or rescuers are otherwise exposed to the hazards of the inside of the shaft or the machinery to propel the elevator

The following is the plan of instruction used during course offerings held at the Florida State Fire College. It also serves as the suggested instructional block format for other approved training providers who use the recommended text book. All class offerings **must** satisfy the JPRs listed in *Section VI – Job Performance Requirements* regardless of textbook used.

Day/Date	Chapters	Activities
Day 1	**Class Introductions and Orientation** Vehicle and Machinery Technician Level Overview VMR Ops level Review Advanced Stabilization	• Introductions • Practical skills • Homework
Day 2	**Review of Homework** Heavy Machinery Lifting/Stabilization Heavy Vehicle Lifting/Stabilization	• Practical skills • Homework
Day 3	**Review of Homework** Heavy Machinery Extrication Heavy Vehicle Extrication Evolutions	• Practical skills • Homework
Day 4	**Review of Homework** Exotic or Unique Extrication Situations and Trouble Shooting Extrication Evolutions Multiple Configuration Evolutions/Scenarios	• Practical skills • Homework
Day 5	**Review of Homework** **Final Written Exam** **Final Practical Exam** **Course Completion**	• Final written exam • Final practical exam

Section VIII – Final Practical and Grading Rubric

Description of Assignment:
The Final Practical Skills Check-off is designed for the student to demonstrate competency of the skills identified through the following JPR's in NFPA 1670 utilizing the state task book for completion.

Format and Grading of Assignment:
Students will be given a practical skills evaluation based on those acquired skills learned under NFPA 1670 JPRs. A Pass/Fail will be applied based on the State task book assignments for the final course grade.

Section IX – Review Date and Author

May 01, 2016	Unknown
July 16, 2019	Kenneth Kurth