

**First Revision No. 213-NFPA 1910-2021 [Section No. 47.1.2.6]****49.1.2.6***

~~An EVT-I, EVT-II, and EVT-III~~ EVTs who perform or support duties and responsibilities relating to emergency vehicle maintenance and repair shall remain current with the general required knowledge and ,required skills, and individual JPRs addressed for each level or position of qualification in order to maintain proficiency and competency with the JPRs covered in this standard .

A.49.1.2.6

The technical committee recognizes the importance of formal and continuing education and training programs to ensure EVT I, EVT II, and EVT III ~~have maintained~~ maintain and ~~updated~~ update the necessary skills and knowledge for the level of qualification. Continuing education and training programs can be developed or administered by local, state, provincial, or federal agencies as well as professional associations and accredited institutions of higher education. ~~The methods~~ Methods of learning ~~would~~ should include ~~areas of~~ technology, refresher training, skills practices, and knowledge application to standards. The subject matter should directly relate to the requirements of this standard.

Acceptable continuing education includes, but is not limited to, the following:

- (1) Pump manufacturer schools and update programs
- (2) Aerial device schools and update programs
- (3) Electrical system schools and update programs
- (4) Brake manufacturer schools and update programs
- (5) Engine manufacturer schools and update programs
- (6) Transmission manufacturer schools and update programs
- (7) Apparatus safety programs
- (8) Chassis manufacturer update programs
- (9) Chassis manufacturer measuring sessions

Maintaining professional competence is important for any practitioner in a field, and is particularly important in the rapidly changing and developing field of the fire service. The AHJ might consider establishing a path by which members can demonstrate continued JPR compliance and competency through continuing education or practice within the field consistent with current duties. It is recommended that any such program consider the following factors:

- (1) Demonstrated and documented knowledge and competence of additions and/or revisions to the latest editions of standards
- (2) Documented training and education (including online) related to standards since the last certification
- (3) Documented experience in the field (e.g., emergency operational experience for EVTs, firefighters, fire officers, instructors)
- (4) Demonstrated and documented successful performance of duties, which might include skills assessment
- (5) Annual performance appraisals
- (6) Documented teaching and instruction related to the field
- (7) Commendations, awards, or recognition for the performance of related duties

Other items for consideration might include the following:

- (1) Membership in professional organizations, including any positions held or special activities involved
- (2) Published articles in trade journals, web-based publications, and other information distribution avenues
- (3) Research and development activities related to the field
- (4) Documented attendance at relevant conferences and training events

The above list is not all inclusive and other factors specific to the field should be considered for inclusion.

49.1.2.7*

To obtain and maintain qualification as an ~~emergency vehicle technician~~ EVT , persons shall furnish documentation showing that they have completed 20 hours of initial or continuing education for EVT I, 25 hours for EVT II, and 30 hours for EVT III on an annual basis.

A.49.1.2.7

The technical committee has determined that EVTs need to obtain a majority of their continuing education with a hands-on approach such that they are able to demonstrably apply the knowledge learned.

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Mar 03 19:48:18 EST 2021

Committee Statement

Committee Statement: The committee determined that the technical nature of emergency vehicle maintenance requires continued education. The committee also identified the need to have additional hours of continuing education for higher levels of EVT. Annex content was added to suggest hands on approach due to the nature of the tasks to be learned.

Response Message: FR-213-NFPA 1910-2021

Public Input No. 238-NFPA 1910-2020 [Section No. 47.1.2.6 [Excluding any Sub-Sections]]

**First Revision No. 15-NFPA 1910-2021 [Section No. 47.1.3.5.1]****49.1.3.5.1**

An EVT I meeting the requirements of ~~chapters~~ Chapters 49 through 51 shall be able to perform inspections and maintenance duties as required by ~~NFPA 1911~~ Chapters 1 through 28 .

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Jan 13 11:24:07 EST 2021

Committee Statement

Committee Statement: Reference to NFPA 1911 updated to reflect the chapters associated with NFPA 1911 content in this standard.

Response Message: FR-15-NFPA 1910-2021

Public Input No. 117-NFPA 1910-2020 [Section No. 47.1.3.5.1]



First Revision No. 14-NFPA 1910-2021 [Section No. 47.1.3.5.2]

49.1.3.5.2

An EVT II meeting the requirements of ~~chapters~~ Chapters 49 through 51 shall be able to perform inspections, maintenance, repairs, diagnoses, and performance testing duties as required by ~~NFPA 1911~~ Chapters 1 through 28.

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Jan 13 11:23:18 EST 2021

Committee Statement

Committee Statement: Reference to NFPA 1911 updated to reflect the chapters associated with NFPA 1911 content in this standard.

Response Message: FR-14-NFPA 1910-2021

[Public Input No. 118-NFPA 1910-2020 \[Section No. 47.1.3.5.2\]](#)



First Revision No. 13-NFPA 1910-2021 [Section No. 47.1.3.5.3]

49.1.3.5.3

An EVT III meeting the requirements of ~~chapters~~ Chapters 49 through 51 shall be able to perform inspections, maintenance, repairs, diagnoses, performance testing, and first-level supervisor duties as required by ~~NFPA 1911~~ Chapters 1 through 28.

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Jan 13 11:21:16 EST 2021

Committee Statement

Committee Statement: Reference to NFPA 1911 updated to reflect the chapters associated with NFPA 1911 content in this standard.

Response Message: FR-13-NFPA 1910-2021

[Public Input No. 119-NFPA 1910-2020 \[Section No. 47.1.3.5.3\]](#)

**First Revision No. 5-NFPA 1910-2021 [Section No. 47.1.3.7]****49.1.3.7***

JPRs involving exposure to products of combustion shall be performed in approved PPE.

A.49.1.3.7

The AHJ should incorporate the exposure and contamination control approaches identified in Chapter 14 of NFPA 1500 .

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Mon Jan 11 11:59:05 EST 2021

Committee Statement

Committee Statement: The committee determined the need to address contamination control and utilize existing requirements in NFPA 1500.

Response Message: FR-5-NFPA 1910-2021

**First Revision No. 6-NFPA 1910-2021 [New Section after 47.1.3.8]****49.1.3.9**

The EVT shall apply the best practices of NFPA 1581 to reduce exposure to blood-borne pathogens.

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Mon Jan 11 12:20:48 EST 2021

Committee Statement

Committee Statement: The committee identified a need to specifically address bloodborne pathogen exposure to EVTs.

Response Message: FR-6-NFPA 1910-2021



First Revision No. 212-NFPA 1910-2021 [Section No. 47.2.1]

49.2.1* General Knowledge Requirements.

The organization of the fire department and the maintenance facility; the role of the EVT in the organization; the mission of the fire service; the fire department's standard operating procedures (SOPs) and rules and regulations as they apply to the EVT; the critical aspects of NFPA 1500, ~~NFPA 1901~~ NFPA 1900 , and ~~NFPA 1911~~ Chapters 1 through 28 , as they apply to the EVT; federal motor carrier safety regulations; applicable federal, state, and local regulations; interpretation and use of manufacturer's specifications, inspection checklists, maintenance schedules, maintenance checklists, and department SOPs; selection of tools; fastener types and their usage; maintenance equipment and its usage; workplace safety practices; selection and use of cleaning products and procedures; housekeeping; and identification and handling of hazardous materials.

A.49.2.1

There are several requirements in NFPA 1002 that make the driver/operator responsible for performing certain daily/weekly inspections and operational checks on the apparatus. The technician needs to be aware of ~~what the responsibilities of the~~ driver/operator's are responsibilities . ~~NFPA 1911~~ This standard includes a chapter that lists the required items that should be visually and operationally checked within 24 hours of a call or at least weekly. A check sheet for the daily/weekly checks is also included in ~~NFPA 1911~~ this standard . The EVT Certification Commission, Inc. has developed an exam to test the knowledge of the driver/operator on performing the daily/weekly checks.

The beginning of preventive maintenance starts with the driver/operator, and in many cases the driver/operator and the technician are the same person. In order to perform these inspections and operational checks, it is critical that this person(s) possesses a minimum degree of general knowledge and skills as they apply to the EVT.

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Mar 03 14:54:40 EST 2021

Committee Statement

Committee Statement: References to NFPA 1901/1911 updated to match proposed documents being consolidated.

Response Message: FR-212-NFPA 1910-2021

[Public Input No. 120-NFPA 1910-2020 \[Section No. 47.2.1\]](#)

[Public Input No. 153-NFPA 1910-2020 \[Section No. A.47.2.1\]](#)



First Revision No. 7-NFPA 1910-2021 [Section No. 48.2.2]

50.2.2

Complete axle weight performance test on apparatus in accordance with ~~NFPA 1911~~ Chapters 1 through 28 , given an emergency response vehicle, an applicable driving license (if required), and a commercial certified scale, so that the apparatus weight is determined to ensure that the weight on the vehicle does not exceed the gross axle weight rating (GAWR) and the gross vehicle weight rating (GVWR) or gross combination weight rating (GCWR) as shown on the rating ~~plate~~ label on the fire apparatus; and all testing is documented in accordance with the requirements of NFPA standards and the ~~authority having jurisdiction~~ AHJ .

(A) Requisite Knowledge.

Legal operation of fire apparatus; familiarity with location of certified scale; and record-keeping requirements of ~~NFPA 1911~~ Chapters 1 through 28 and the ~~authority having jurisdiction~~ AHJ .

(B) Requisite Skills.

Operation of fire apparatus; and complete required documentation.

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Mon Jan 11 20:10:29 EST 2021

Committee Statement

Committee Statement: The committee change plate to label to be consistent with other NFPA standards, including NFPA 1900.

Response Message: FR-7-NFPA 1910-2021

Public Input No. 207-NFPA 1910-2020 [Section No. 48.2.2]

Public Input No. 121-NFPA 1910-2020 [Section No. 48.2.2 [Excluding any Sub-Sections]]



First Revision No. 16-NFPA 1910-2021 [Section No. 48.2.3 [Excluding any Sub-Sections]]

Complete braking performance test on apparatus in accordance with ~~NFPA 1911~~ Chapters 1 through 28, given an emergency response vehicle, an applicable driving license (if required), and a calibrated driving course, so that the apparatus braking system performance is verified to ensure that the braking ability of the apparatus complies with the requirements of ~~NFPA 1911~~ Chapters 1 through 28 and federal and state regulations; and all testing is documented in accordance with the requirements of NFPA standards and the ~~authority having jurisdiction~~ AHJ.

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Jan 13 11:26:15 EST 2021

Committee Statement

Committee Statement: Reference to NFPA 1911 updated to reflect the chapters associated with NFPA 1911 content in this standard.

Response Message: FR-16-NFPA 1910-2021

Public Input No. 123-NFPA 1910-2020 [Section No. 48.2.3 [Excluding any Sub-Sections]]



First Revision No. 17-NFPA 1910-2021 [Section No. 48.2.3(A)]

(A) Requisite Knowledge.

Legal operation of fire apparatus; familiarity with brake testing course; requirements of NFPA 1911 Chapters 1 through 28; and federal and state regulations; and record-keeping requirements of NFPA 1911 Chapters 1 through 28 and the authority having jurisdiction AHJ.

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Jan 13 11:27:14 EST 2021

Committee Statement

Committee Statement: Reference to NFPA 1911 updated to reflect the chapters associated with NFPA 1911 content in this standard.

Response Message: FR-17-NFPA 1910-2021

[Public Input No. 122-NFPA 1910-2020 \[Section No. 48.2.3\(A\)\]](#)



First Revision No. 18-NFPA 1910-2021 [Section No. 48.2.4 [Excluding any Sub-Sections]]

Complete parking brake performance test on apparatus in accordance with NFPA 1911 Chapters 1 through 28, given an emergency response vehicle, an applicable driving license (if required), and an appropriate road grade, so that the apparatus parking brake system performance is verified to ensure that the park braking ability of the apparatus complies with the requirements of NFPA 1911 Chapters 1 through 28 and federal and state regulations; and all testing is documented in accordance with the procedures of NFPA standards and the authority having jurisdiction AHJ.

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Jan 13 11:28:27 EST 2021

Committee Statement

Committee Statement: Reference to NFPA 1911 updated to reflect the chapters associated with NFPA 1911 content in this standard.

Response Message: FR-18-NFPA 1910-2021

[Public Input No. 124-NFPA 1910-2020 \[Section No. 48.2.4 \[Excluding any Sub-Sections\]\]](#)



First Revision No. 19-NFPA 1910-2021 [Section No. 48.2.4(A)]

(A) Requisite Knowledge.

Legal operation of fire apparatus; familiarity with park brake testing course; requirements of ~~NFPA 1911 Chapters 1 through 28~~ and federal and state regulations; and record-keeping requirements of ~~NFPA 1911 Chapters 1 through 28~~ and the ~~authority having~~ jurisdiction AHJ.

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Jan 13 11:30:45 EST 2021

Committee Statement

Committee Statement: Reference to NFPA 1911 updated to reflect the chapters associated with NFPA 1911 content in this standard.

Response Message: FR-19-NFPA 1910-2021

Public Input No. 125-NFPA 1910-2020 [Section No. 48.2.4(A)]



First Revision No. 21-NFPA 1910-2021 [Section No. 48.2.5 [Excluding any Sub-Sections]]

Complete road performance test on apparatus in accordance with ~~NFPA 1911~~ Chapters 1 through 28 , given an emergency response vehicle, an applicable driving license (if required), and an approved driving course, so that apparatus system performance is verified to ensure that the drivability of the apparatus complies with requirements of ~~NFPA 1911~~ Chapters 1 through 28 and federal and state regulations; and all testing is documented in accordance with the requirements of NFPA standards and the ~~authority having jurisdiction~~ AHJ .

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Jan 13 11:38:49 EST 2021

Committee Statement

Committee Statement: Reference to NFPA 1911 updated to reflect the chapters associated with NFPA 1911 content in this standard.

Response Message: FR-21-NFPA 1910-2021

Public Input No. 126-NFPA 1910-2020 [Section No. 48.2.5 [Excluding any Sub-Sections]]



First Revision No. 20-NFPA 1910-2021 [Section No. 48.2.5(A)]

(A) Requisite Knowledge.

Legal operation of fire apparatus; familiarity with apparatus drivability; requirements of NFPA 1911 Chapters 1 through 28 and federal and state regulations; and record-keeping requirements of NFPA 1911 Chapters 1 through 28 and the ~~authority having~~ jurisdiction AHJ.

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Jan 13 11:37:53 EST 2021

Committee Statement

Committee Statement: Reference to NFPA 1911 updated to reflect the chapters associated with NFPA 1911 content in this standard.

Response Message: FR-20-NFPA 1910-2021

Public Input No. 127-NFPA 1910-2020 [Section No. 48.2.5(A)]



First Revision No. 23-NFPA 1910-2021 [Section No. 48.4.3 [Excluding any Sub-Sections]]

Complete performance testing on low-voltage electrical system components including batteries, charging systems, starting systems, onboard chargers, electrical loads, solenoids, and relay devices in accordance with ~~NFPA 1911~~ Chapters 1 through 28 , given an emergency response vehicle, manufacturer's specifications, SOPs, test and calibration equipment, and tools, so that components are performance tested to assure they are operating in accordance with manufacturer's specifications and NFPA standards; performance tests are conducted to verify that repairs are completed; and all testing is documented in accordance with the procedures of the manufacturer and the ~~authority having jurisdiction~~ AHJ .

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Jan 13 11:41:19 EST 2021

Committee Statement

Committee Statement: Reference to NFPA 1911 updated to reflect the chapters associated with NFPA 1911 content in this standard.

Response Message: FR-23-NFPA 1910-2021

Public Input No. 128-NFPA 1910-2020 [Section No. 48.4.3 [Excluding any Sub-Sections]]



First Revision No. 22-NFPA 1910-2021 [Section No. 48.5.3 [Excluding any Sub-Sections]]

Complete performance testing on apparatus fire pumps and related components in accordance with ~~NFPA 1911~~ Chapters 1 through 28 , given an emergency response vehicle with a fire pump, wildland pump, ultra-high-pressure pump or industrial pump, manufacturer's specifications, SOPs, test and calibration equipment, facilities, and tools, so that the pumping systems are capable of meeting the performance requirements without exceeding 110 percent of the original certification test rpm; ; and all testing is documented in accordance with the procedures of NFPA standards and the ~~authority having jurisdiction~~ AHJ .

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Jan 13 11:40:16 EST 2021

Committee Statement

Committee Statement: Reference to NFPA 1911 updated to reflect the chapters associated with NFPA 1911 content in this standard.

Response Message: FR-22-NFPA 1910-2021

Public Input No. 129-NFPA 1910-2020 [Section No. 48.5.3 [Excluding any Sub-Sections]]



First Revision No. 24-NFPA 1910-2021 [Section No. 48.6.8 [Excluding any Sub-Sections]]

Complete annual performance testing on fire department aerial devices, systems, and related components in accordance with ~~NFPA 1911~~ Chapters 1 through 28 and SOPs, given test and calibration equipment, tools, facilities, records, and forms, so that aerial device performance can be evaluated; defects and deficiencies are identified; operation of aerial device systems is verified; and performance test results are documented.

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Jan 13 11:43:22 EST 2021

Committee Statement

Committee Statement: Reference to NFPA 1911 updated to reflect the chapters associated with NFPA 1911 content in this standard.

Response Message: FR-24-NFPA 1910-2021

Public Input No. 130-NFPA 1910-2020 [Section No. 48.6.8 [Excluding any Sub-Sections]]



First Revision No. 25-NFPA 1910-2021 [Section No. 48.7.2 [Excluding any Sub-Sections]]

Complete performance testing on apparatus foam system and related components in accordance with ~~NFPA 1911~~ Chapters 1 through 28 , given an emergency response vehicle with a foam system, manufacturer's specifications, SOPs, test and calibration equipment, and facilities and tools, so that the foam system is capable of meeting the performance testing requirements; and all testing is documented in accordance with the requirements of NFPA standards and the ~~authority having jurisdiction~~ AHJ .

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Jan 13 11:44:06 EST 2021

Committee Statement

Committee Statement: Reference to NFPA 1911 updated to reflect the chapters associated with NFPA 1911 content in this standard.

Response Message: FR-25-NFPA 1910-2021

Public Input No. 131-NFPA 1910-2020 [Section No. 48.7.2 [Excluding any Sub-Sections]]



First Revision No. 26-NFPA 1910-2021 [Section No. 48.7.4 [Excluding any Sub-Sections]]

Complete performance testing on apparatus compressed air foam system (CAFS) and related components in accordance with ~~NFPA 1911~~ Chapters 1 through 28 , given an emergency response vehicle with a CAFS, manufacturer's specifications, SOPs, test and calibration equipment, and facilities and tools, so that the CAFS is capable of meeting the performance testing requirements; and all performance testing is documented in accordance with the requirements of NFPA standards and the ~~authority having jurisdiction~~ AHJ .

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Jan 13 11:53:15 EST 2021

Committee Statement

Committee Statement: Reference to NFPA 1911 updated to reflect the chapters associated with NFPA 1911 content in this standard.

Response Message: FR-26-NFPA 1910-2021

Public Input No. 132-NFPA 1910-2020 [Section No. 48.7.4 [Excluding any Sub-Sections]]



First Revision No. 27-NFPA 1910-2021 [Section No. 48.7.6 [Excluding any Sub-Sections]]

Complete performance testing on apparatus line voltage electrical system and related components in accordance with ~~NFPA 1911~~ Chapters 1 through 28 , given an emergency response vehicle with a line voltage electrical system, manufacturer's specifications, SOPs, test equipment, and facilities and tools, so that the line voltage electrical system is capable of meeting the performance testing and safety requirements; and all performance testing is documented in accordance with the procedures of NFPA standards and the ~~authority having jurisdiction~~ AHJ .

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Jan 13 11:55:57 EST 2021

Committee Statement

Committee Statement: Reference to NFPA 1911 updated to reflect the chapters associated with NFPA 1911 content in this standard.

Response Message: FR-27-NFPA 1910-2021

Public Input No. 133-NFPA 1910-2020 [Section No. 48.7.6 [Excluding any Sub-Sections]]



First Revision No. 28-NFPA 1910-2021 [Section No. 48.7.9 [Excluding any Sub-Sections]]

Complete performance testing on breathing-air compressor system and related components in accordance with ~~NFPA 1911~~ Chapters 1 through 28 and NFPA 1989, given an emergency response vehicle with a breathing-air compressor system, manufacturer's specifications, and SOPs, so that the breathing-air compressor system is tested to ensure that the compressor performs to the compressor manufacturer's original requirements; compressed breathing air is tested to ensure breathing-air quality standards are met; and all results are documented in accordance with the requirements of NFPA standards, the compressor manufacturer, and the ~~authority having jurisdiction~~ AHJ .

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Jan 13 11:56:50 EST 2021

Committee Statement

Committee Statement: Reference to NFPA 1911 updated to reflect the chapters associated with NFPA 1911 content in this standard.

Response Message: FR-28-NFPA 1910-2021

Public Input No. 134-NFPA 1910-2020 [Section No. 48.7.9 [Excluding any Sub-Sections]]



First Revision No. 10-NFPA 1910-2021 [Section No. A.47.10.1]

A.49.10.1

Foam-proportioning systems can include the following:

- (1) In-line eductor foam-proportioning systems
- (2) Self-educting master stream nozzles
- (3) Intake-side foam-proportioning systems
- (4) Around-the-pump proportioning systems
- (5) Balanced pressure foam-proportioning systems
- (6) Direct injection foam-proportioning systems
- (7) Water motor-type foam-proportioning systems

Refer to ~~NFPA 1901~~ NFPA 1900 for guidance on foam-proportioning systems.

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Mon Jan 11 21:15:19 EST 2021

Committee Statement

Committee Statement: The committee updated a NFPA document reference to document consolidation.

Response Message: FR-10-NFPA 1910-2021

Public Input No. 154-NFPA 1910-2020 [Section No. A.47.10.1]



First Revision No. 214-NFPA 1910-2021 [Section No. A.47.10.5]

A.49.10.5

See *NFPA 70*, *NFPA 70B*, *NFPA 70E*, and ~~NFPA 1901~~ [NFPA 1900](#) for information on electrical safety.

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Mon Apr 05 21:15:31 EDT 2021

Committee Statement

Committee Statement: Referenced edition updated to consolidated standard.

Response Message: FR-214-NFPA 1910-2021



First Revision No. 9-NFPA 1910-2021 [Section No. A.48.7.5]

A.50.7.5

The repair facility should check with local and state authorities for licensing requirements for persons working on line voltage systems. See *NFPA 70* and ~~NFPA 1901~~ [NFPA 1900](#) for additional information on electrical systems.

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Mon Jan 11 21:09:09 EST 2021

Committee Statement

Committee Statement: The committee identified an update from NFPA 1901 to NFPA 1900 due to document consolidation.

Response Message: FR-9-NFPA 1910-2021

[Public Input No. 155-NFPA 1910-2020 \[Section No. A.48.7.5\]](#)



First Revision No. 1-NFPA 1910-2021 [Chapter I]

Annex H Explanation of the Professional Qualifications Standards and Concepts of JPRs (NFPA 1071)

This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.

H.1 Explanation of the Professional Qualifications Standards and Concepts of Job Performance Requirements (JPRs).

The primary benefit of establishing national professional qualifications standards is to provide both public and private sectors with a framework of the job requirements for emergency services personnel. Other benefits include enhancement of the profession, individual as well as organizational growth and development, and standardization of practices.

NFPA professional qualifications standards identify the minimum job performance requirements (JPRs) for specific emergency services levels and positions. The standards can be used for training design and evaluation; , certification; , measuring and critiquing on-the-job performance; , defining hiring practices; , job descriptions; , and setting organizational policies, procedures, and goals.

Professional qualifications standards for specific jobs are organized by major areas of responsibility defined as “*duties*.” For example, the firefighter’s duties might include fire department communications, fireground operations, and preparedness and maintenance, whereas the fire and life safety educator’s duties might include education and implementation, planning and development, and evaluation. Duties are major functional areas of responsibility within a specific job.

The professional qualifications standards are written as JPRs. JPRs describe the performance required for a specific job and are grouped according to the duties of the job. The complete list of JPRs for each duty defines what an individual must be able to do in order to perform and achieve that duty.

H.2 The Parts of a JPR.

H.2.1 Critical Components.

The JPR comprises three critical components, which are as follows:

- (1) Task to be performed, partial description using an action verb (*See Figure H.2.1 for examples of action verbs used in the creation of JPRs.*)
- (2) Tools, equipment, or materials that are to be provided to complete the task
- (3) Evaluation parameters and performance outcomes

Figure H.2.1 Examples of Action Verbs.

Action Verb Progression	5	Creation and Evaluation		Analyze	Anticipate	Conclude	Deny	Generate	Predict
	4	Skills Bridging		Appraise	Assess	Construct	Diagnose	Interpret	Prescribe
	3	Superior Skills		Change	Compare	Create	Edit	Judge	Project
	2	Basic Skills Application		Communicate	Design	Evaluate	Examine	Justify	Research
	1	Pre-operational		Conceptualize	Develop	Forecast	Plan	Reconcile	Summarize
		Adapt	Adjust	Alter	Arrange	Breakdown	Calculate	Change	Combine
		Communicate	Compare	Complete	Convert	Coordinate	Integrate	Relate	Synthesize
		Discover	Differentiate	Modify	Negotiate	Organize	Reorganize	Replace	Transform
		Formulate	Formulate	Formulate	Formulate	Formulate	Formulate	Formulate	Formulate
		Initiate	Initiate	Initiate	Initiate	Initiate	Initiate	Initiate	Initiate
		Manage	Manage	Manage	Manage	Manage	Manage	Manage	Manage
		Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
		Produce	Produce	Produce	Produce	Produce	Produce	Produce	Produce
		Protect	Protect	Protect	Protect	Protect	Protect	Protect	Protect
		Regulate	Regulate	Regulate	Regulate	Regulate	Regulate	Regulate	Regulate
		Solve	Solve	Solve	Solve	Solve	Solve	Solve	Solve
		Supervise	Supervise	Supervise	Supervise	Supervise	Supervise	Supervise	Supervise
		Support	Support	Support	Support	Support	Support	Support	Support
		Teach	Teach	Teach	Teach	Teach	Teach	Teach	Teach
		Train	Train	Train	Train	Train	Train	Train	Train
		Verify	Verify	Verify	Verify	Verify	Verify	Verify	Verify

Table H.2.1 gives an example of the critical components of a JPR.

Table H.2.1 Example of a JPR

(1) Task to be performed	(1) Perform overhaul at a fire scene,
(2) Tools, equipment, or materials	(2) given ~~approved~~ PPE, attack line, hand tools, flashlight, and an assignment,
(3) Evaluation parameters and performance outcomes	(3) so that structural integrity is not compromised, all hidden fires are discovered, fire cause evidence is preserved, and the fire is extinguished.

H.2.1.1 The Task to Be Performed.

The first component is a concise statement of what the individual person is required to do. A significant aspect of that phrase is the use of an action verb, which sets the expectation for what is to be accomplished.

H.2.1.2 Tools, Equipment, or Materials That Must Should Be Provided for Successful Completion of the Task.

This component ensures that all the individuals completing the task are given the same tools, equipment, or materials when they are being evaluated. Both the individual and the evaluator will know what will should be provided in order for the individual to complete the task.

H.2.1.3 Evaluation Parameters and/or Performance Outcomes.

This component defines — for both the performer and the evaluator — how well the individual must should perform each task. The JPR guides performance toward successful completion by identifying evaluation parameters and performance outcomes. This portion of the JPR promotes consistency in evaluation by reducing the variables used to gauge performance.

H.2.2 Requisite Knowledge and Skills.

In addition to these three components, ~~the a JPRs contain~~ JPR describes requisite knowledge and skills. ~~Just as As~~ the term *requisite* suggests, these are the necessary knowledge and skills the individual must should have prior to being able to perform the task. Requisite knowledge and skills are the foundation for task performance.

H.2.3 Examples.

With the components and requisites combined, a JPR might ~~read be~~ similar to the following two examples in H.2.3.1 and H.2.3.2.

H.2.3.1 Example: Firefighter I.

Perform overhaul at a fire scene, given ~~approved~~ PPE, attack line, hand tools, flashlight, and an assignment, so that structural integrity is not compromised, all hidden fires are discovered, fire cause evidence is preserved, and the fire is extinguished.

(A) Requisite Knowledge.

Knowledge of types of fire attack lines and water application devices for overhaul, water application methods for extinguishment that limit water damage, types of tools and methods used to expose hidden fire, dangers associated with overhaul, signs of area of origin or signs of arson, and reasons for protection of fire scene.

(B) Requisite Skills.

The ability to deploy and operate an attack line; remove flooring, ceiling, and wall components to expose void spaces without compromising structural integrity; apply water for maximum effectiveness; expose and extinguish hidden fires in walls, ceilings, and subfloor spaces; recognize and preserve signs of area of origin and arson; and evaluate for complete extinguishment.

H.2.3.2 Example: Fire and Life Safety Educator II.

Prepare a written budget proposal for a specific program or activity, given budgetary guidelines, program needs, and delivery expense projections, so that all guidelines are followed and the budget identifies all the program needs.

(A) Requisite Knowledge.

Knowledge of budgetary process; governmental accounting procedures; federal, tribal, state, and local laws; organizational bidding process; and organization purchase requests.

(B) Requisite Skills.

The ability to estimate project costs; complete budget forms; requisition/purchase orders; collect, organize, and format budgetary information; complete program budget proposal; and complete purchase requests.

H.3 Potential Uses for JPRs.

H.3.1 Certification.

JPRs can be used to establish the evaluation criteria for certification at a specific job level. When used for certification, evaluation should be based on the successful completion of the JPRs.

The evaluator ~~would~~ should verify the attainment of requisite knowledge and skills prior to JPRs evaluation. Verification could be through documentation review or testing.

The individual seeking certification ~~would~~ should be evaluated on the completion of the JPRs. The individual ~~would~~ should perform the task and be evaluated based on the evaluation parameters and/or performance outcomes. This performance-based evaluation is based on practical exercises for psychomotor skills and written examinations for cognitive skills.

Psychomotor skills are those physical skills that can be demonstrated or observed. Cognitive skills cannot be observed but rather are evaluated on how an individual completes ~~the a~~ task (process-oriented) or ~~on the a~~ task's outcome (product-oriented).

Performance evaluation requires that individuals be given the tools, equipment, or materials listed in the JPR in order to complete the task.

Table H.3.1 provides examples of how assessment methodologies can be utilized by a certifying body.

Table H.3.1 Assessment Methodology Sample Utilization

<u>Assessment of...</u>	<u>How Assessed?</u>	<u>How Scored?</u>	<u>Methodology is Likely...</u>
<u>Knowledge/facts</u> <u>Action verb</u> <u>examples: identify, define, list, cite, state, choose, name</u>	<u>A written test in which the candidate is required to provide specific answers to specific questions related to the JPRs</u> <u>Examples: multiple choice, sequencing, true/false, fill-in-the-blank</u>	<u>Responses are scored in relation to the answer that has been determined to be correct.</u>	<u>Cognitive</u>
<u>A manipulative skill in real time</u> <u>Action verb</u> <u>examples: climb, build, perform, raise, haul, don</u>	<u>A skills test to evaluate a candidate's ability to perform physical tasks in real time</u> <u>Examples: donning SCBA, raising ladders, tying rescue knots</u>	<u>The directly observed performance with the correct performance outcome of the skill is normally indicated as part of the yes/no or pass/fail scoring checklist.</u>	<u>Psychomotor (skills)</u>
<u>A cognitive skill that cannot be directly observed; the application of knowledge to yield a product</u> <u>Action verb</u> <u>examples: develop, create, write</u>	<u>A work product created by the candidate usually outside of the classroom setting</u> <u>Examples: creating a budget, report, proposal, lesson plan, incident action plan</u>	<u>Scoring rubric for expected responses evaluating how a candidate completes the task outcome after submission.</u> <u>Used to differentiate consistently between different degrees of candidate performance.</u>	<u>Product</u>
<u>A mental activity to perform a cognitive skill in real time that cannot be directly observed</u>	<u>Candidate performs the activity in the presence of the evaluator; the verbalization of mental thought</u> <u>"First, I..., then I..., etc.</u>	<u>Scoring rubric with questions and expected verbal responses.</u>	<u>Process</u>

<u>Assessment of...</u>	<u>How Assessed?</u>	<u>How Scored?</u>	<u>Methodology is Likely...</u>
<u>Action verb</u> <u>examples: inspect,</u> <u>investigate</u>	<u>Examples: performing</u> <u>an inspection,</u> <u>conducting an</u> <u>investigation</u>	<u>Used to differentiate</u> <u>consistently between different</u> <u>degrees of candidate</u> <u>performance.</u>	
<u>Documentation of</u> <u>the candidate's</u> <u>experience, training,</u> <u>and education</u> <u>against all JPRs</u>	<u>A list of acceptable</u> <u>documents or items for</u> <u>each and every JPR</u>	<u>This portfolio is evaluated using Portfolio</u> <u>criteria that have been</u> <u>identified by the agency.</u>	
<u>Action verb</u> <u>examples: attend,</u> <u>participate, testify</u>	<u>Examples: coursework</u> <u>at training or college,</u> <u>participation in a certain</u> <u>number of</u> <u>investigations, testifying</u> <u>at court</u>		

H.3.2 Curriculum Development and Training Design and Evaluation.

The statements contained in this document that refer to job performance were designed and written as JPRs. Although a resemblance to instructional objectives might be present, these statements should not be used in a teaching situation until after they have been modified for instructional use.

JPRs state the behaviors required to perform specific skills on the job, as opposed to a learning situation. These statements should be converted into instructional objectives with behaviors, conditions, and the degree to be measured within the educational environment.

While the differences between JPRs and instructional objectives are subtle in appearance, their purposes differ. JPRs state what is necessary to perform the job in practical and actual experience. Instructional objectives, on the other hand, are used to identify what students must should do at the end of a training session and are stated in behavioral terms that are measurable in the training environment.

By converting JPRs into instructional objectives, instructors would be able to clarify performance expectations and avoid confusion caused by the use of statements designed for purposes other than teaching. Instructors would also be able to add jurisdictional elements of performance into the learning objectives as intended by the developers.

Requisite skills and knowledge could be converted into enabling objectives, which would help to define the course content. The course content would include each item of the requisite knowledge and skills ensuring that the course content supports the terminal objective.

H.3.2.1 Example: Converting a Firefighter I JPR into an Instructional Objective.

The instructional objectives are just two of several instructional objectives that would be written to support the terminal objective based on the JPR.

JPR: Perform overhaul at a fire scene, given ~~approved~~ PPE, attack line, hand tools, flashlight, and an assignment, so that structural integrity is not compromised, all hidden fires are discovered, fire cause evidence is preserved, and the fire is extinguished.

Instructional Objective (Cognitive): The Firefighter I will identify and describe five safety considerations associated with structural integrity compromise during overhaul as part of a written examination.

Instructional Objective (Psychomotor): The Firefighter I will demonstrate the designed use of tools and equipment during overhaul to locate and extinguish hidden fires without compromising structural integrity.

H.3.2.2 Example: Converting a Fire and Life Safety Educator II JPR into an Instructional Objective.

~~The~~ This instructional objectives ~~are~~ is just ~~two~~ one of several instructional objectives that ~~would~~ could be written to support the terminal objective based on the JPR.

JPR: Prepare a written budget proposal for a specific program or activity, given budgetary guidelines, program needs, and delivery expense projections, so that all guidelines are followed and the budget identifies all program needs.

Instructional Objective (Cognitive): The Fire and Life Safety Educator II will list and describe the bidding process for the purchase of a published program using budgetary guidelines, program needs, and the guidelines established by local organizational procedures as part of a written examination.

Instructional Objective (Psychomotor): The Fire and Life Safety Educator II will lead in the purchase of a specific fire and life safety educational program by following the bidding process to completion, using local organizational guidelines, including budgetary procedures, program needs, and delivery expense projections.

H.4 Other Uses for JPRs.

While the professional qualifications standards are used to establish minimum ~~job performance requirements~~ JPRs for qualification, they have been recognized as guides for the development of training and certification programs, as well as a number of other potential uses.

These areas might include the following:

- (1) *Employee Evaluation/Performance Critiquing.* The professional qualifications standards can be used as a guide by both the supervisor and the employee during an evaluation. The JPRs for a specific job define tasks that are essential to perform on the job, as well as the evaluation criteria to measure completion of the tasks.
- (2) *Establishing Hiring Criteria.* The professional qualifications standards can be helpful in a number of ways to further the establishment of hiring criteria. The authority having jurisdiction (AHJ) could simply require certification at a specific job level; — for example, Firefighter I. The JPRs could also be used as the basis for pre-employment screening to establish essential minimal tasks and the related evaluation criteria. An added benefit is that individuals interested in employment can work toward the minimal hiring criteria at local colleges.
- (3) *Employee Development.* The professional qualifications standards can be practical for both the employee and the employer in developing a plan for the employee's growth within the organization. The JPRs and the associated requisite knowledge and skills can be used as a guide to determine the additional training and education required for the employee to master the job or profession.
- (4) *Succession Planning.* Succession planning addresses the efficient placement of individuals into jobs in response to current and anticipated future needs. A career development path can be established for targeted employees to prepare them for growth within the organization. The JPRs and requisite knowledge and skills could then be used to develop an educational path to aid in the employee's advancement within the organization or profession.
- (5) *Establishing Organizational Policies, Procedures, and Goals.* The professional qualifications standards can be functional for incorporating policies, procedures, and goals into the organization or agency.

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Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
ProQual_Annex_B_boilerplate.docx	For staff use. FINAL	

Submitter Information Verification

Committee: PQU-EVM
Submittal Date: Fri Jan 08 13:37:44 EST 2021

Committee Statement

Committee The committee updated the "Explanation of the Professional Qualifications Standards and

Statement: Concepts of JPRs" as recognized by the correlating committee of professional qualifications.

Response FR-1-NFPA 1910-2021

Message:



First Revision No. 30-NFPA 1910-2021 [Section No. J.1]

I.1 Emergency Vehicle Technician.

The matrices shown in Table I.1 are included to provide the user of the standard with an overview of the JPRs and the progression of the various levels found in the document. They are intended to assist the user of the document with the implementation of the requirements and the development of training programs using the JPRs.

Table I.1 Overview of JPRs for Emergency Vehicle Technician

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
Administration			
General Skills	47 49 .2 General. To be considered qualified as an Emergency Vehicle Technician I, the individual shall have the general knowledge defined in 47.2.1 and the general skills defined in 47.2.2 and shall meet the job performance requirements of Sections 47.3 through 47.5 and at least one specialty area as defined in Sections 47.6 through 47.10 Section 49.6, Section 49.7, or Section 49.10 .	48 50 .1 General.	49 51 .1* Emergency Vehicle Technician (EVT) III. To be considered qualified as an Emergency Vehicle Technician III, the individual shall meet the requirements of an Emergency Vehicle Technician II and shall meet the job performance requirements of Sections 49.2 through 49.6.
		48 50 .1.1 To be considered qualified as an Emergency Vehicle Technician II, the individual shall meet the requirements of an Emergency Vehicle Technician I and shall meet the job performance requirements of Sections 48 50 .2 through 48 50 .4 and at least one of the specialty areas as defined in Section 48 50 .5, Section 48 50 .6, or Section 48 50 .7.	
		48 50 .1.2 The Emergency Vehicle Technician II shall not be considered qualified in a specialty area as defined in Section 48 50 .5, Section 48 50 .6, or Section 48 50 .7 unless he or she is first qualified in the equivalent specialty as defined in Section 47 49 .6, Section 47 49 .7, or Section 47 49 .10 as an Emergency Vehicle Technician I.	

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
Chassis	47 49 .3 Chassis. This duty involves the inspection and preventive maintenance practices involved with an emergency response vehicle chassis and inter-related systems such as axles, engines, transmissions, drivelines, brakes, steering and suspension systems, and wheels and tires.	48 50 .2 Chassis. This duty involves the repair, diagnostic testing checking, performance testing, and weight verification on an emergency response vehicle of chassis and interdependent systems such as engines, transmissions, auxiliary drive systems, drivelines, brakes, steering and suspension, fuel, electrical, exhaust, and climate control.	49 51 .2 Human Resource Management. This duty involves utilizing human resources to accomplish assignments in accordance with safety plans and in an efficient manner, as well as evaluating member performance and supervising personnel during work periods, according to the job performance requirements given in 49 51 .2.1 through 49 51 .2.3.4.
	47 49 .3.1 Inspect the chassis systems, given an emergency response vehicle, SOPs, manufacturer's specifications, tools and test equipment, an assignment, and an inspection checklist, so that the structural integrity, the operation, and the condition of the auxiliary drive systems, axles, driveline, steering and suspension system, wheels, and tires are verified to be within manufacturer's specifications; the mounting security is verified; the chassis components are operational and within manufacturer's specifications; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; inspections and services are documented; and any deficiencies found during the inspection and diagnostic check process are documented.	48 50 .2.1 Perform repairs on chassis systems and components, given an emergency response vehicle with an identified defective component(s), manufacturer's specifications, SOPs, an assignment or inspection report detailing a deficiency or deformation, and test and calibration equipment and tools, so that the identified defective component is diagnosed; deformed, broken, loose, worn, or missing parts of a chassis system or its components are repaired, rebuilt, or replaced to manufacturer's specifications; diagnostic checks are conducted and performance is verified; and the repairs are documented in accordance with the procedures of the jurisdiction.	49 51 .2.1 Assign tasks or responsibilities to technicians, given a work order, an emergency vehicle, work space, and required tools, equipment, and parts, so that the instructions are complete, clear, and concise; safety considerations are addressed; and the work is completed and within the scheduled time.

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .3.2 Perform maintenance on the chassis system, given an emergency response vehicle, manufacturer's specifications, a maintenance schedule or an assignment, a maintenance checklist, SOPs, test and calibration equipment, and tools, so that deformed, broken, loose, worn, or missing parts are repaired or replaced; components are lubricated; fluid levels are maintained; calibrations and adjustment are performed; the system's operational condition is preserved or restored; activities are documented; and additional repair needs are reported.	48 50 .2.2 Complete axle weight performance test on apparatus in accordance with NFPA 1911 Chapters 1 through 26 , given an emergency response vehicle, an applicable driving license (if required), and a commercial certified scale, so that the apparatus weight is determined to ensure that the weight on the vehicle does not exceed the gross axle weight rating (GAWR) and the gross vehicle weight rating (GVWR) or gross combination weight rating (GCWR) as shown on the rating label plate on the fire apparatus; and all testing is documented in accordance with the requirements of NFPA standards and the authority having jurisdiction AHJ .	49 51 .2.2 Conduct individual training for technicians, given an assignment, a workspace, and all necessary tools, so that the technician understands the procedure and is able to demonstrate proficiency at the given task.
	47 49 .3.3 Inspect chassis systems and components unique to emergency response vehicles, given an emergency response vehicle, SOPs, manufacturer's specifications, tools, test and calibration equipment, an assignment, and an inspection checklist, so that the structural integrity of the frame is verified; the operation and condition of independent suspension systems, all-wheel steering systems, secondary braking systems, and auxiliary cooling systems are verified to be within manufacturer's specifications; multiplexing, interface electronics, and load management systems are operationally checked; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and tests operational checks are documented.	48 50 .2.3 Complete braking performance test on apparatus in accordance with NFPA 1911 Chapters 1 through 26 , given an emergency response vehicle, an applicable driving license (if required), and a calibrated driving course, so that the apparatus braking system performance is verified to ensure that the braking ability of the apparatus complies with the requirements of NFPA 1911 Chapters 1 through 26 and federal and state regulations; and all testing is documented in accordance with the requirements of NFPA standards and the authority having jurisdiction AHJ .	49 51 .2.3* Evaluation.

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
			49 51 .2.3.1 Provide input on the performance level of the technician, given a time record, pertinent work orders, and evaluation forms, so that the abilities and weaknesses of a technician can be determined; required counseling and training can be scheduled to maintain or improve a technician's proficiency; or an issue can be referred to the next level of supervision.
			49 51 .2.3.2 Recommend, specify, and enforce discipline, given employee history and department SOPs, so that the employee is given the guidance necessary to improve or resolve issues.

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
			49 51 .2.3.3 Recommend and enforce safety policies and procedures, given agency safety policies and procedures; federal, state, local, and industry standards for workplace safety; and safety hazards, so that workplace safety is monitored and recommendations for deficiencies are documented.
			49 51 .2.3.4 Monitor compliance of applicable environmental regulations, given agency policies and procedures; federal, state, and local environmental regulations; and material safety data sheets (MSDS), so that the workplace is in compliance with all required regulations; and all deficiencies are identified and corrected.

JPR	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .3.4 Perform maintenance on chassis systems and components unique to emergency response vehicles, given an emergency response vehicle, manufacturer's specifications, a maintenance schedule or an assignment, a maintenance checklist, SOPs, test and calibration equipment, and tools and diagnostic equipment, so that deformed, broken, loose, worn, or missing parts are repaired or replaced; components are lubricated; fluid levels are maintained; calibrations and adjustment are performed; the system's operational condition is preserved or restored; activities are documented; and additional repair needs are reported.	48 50 .2.4 Complete parking brake performance test on apparatus in accordance with ~~NFPA 1911~~ <u>Chapters 1 through 26</u> , given an emergency response vehicle, an applicable driving license (if required), and an appropriate road grade, so that the apparatus parking brake system performance is verified to ensure that the park braking ability of the apparatus complies with the requirements of ~~NFPA 1911~~ <u>Chapters 1 through 26</u> and federal and state regulations; and all testing is documented in accordance with the procedures of NFPA standards and the ~~authority having jurisdiction~~ <u>AHJ</u> .	
		48 50 .2.5 Complete road performance test on apparatus in accordance with ~~NFPA 1911~~ <u>Chapters 1 through 26</u> , given an emergency response vehicle, an applicable driving license (if required), and an approved driving course, so that apparatus system performance is verified to ensure that the drivability of the apparatus complies with requirements of ~~NFPA 1911~~ <u>Chapters 1 through 26</u> and federal and state regulations; and all testing is documented in accordance with the requirements of NFPA standards and the ~~authority having jurisdiction~~ <u>AHJ</u> .	
Cab and Body Components	47 49 .4 Cab and Body Components. This duty involves the inspection and maintenance of cabs (fixed and tilt) and the vehicle body, including compartments, warning systems, mounting racks, brackets, latches, and steps and ladders.	48 50 .3 Cab and Body Components. This duty involves the repair of cabs (fixed and tilt) and the vehicle body, including compartments, mounting brackets, steps, and ladders.	49 51 .3 Quality Control. This duty involves the inspection of completed vehicle maintenance and repairs both in-house and outsourced.

JPR	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .4.1 Inspect the cab, given an emergency response vehicle, applicable SOPs, manufacturer's specifications, tools and test equipment, an assignment, and an inspection checklist, so that the operation of the cab and components is verified; the condition of finishes, signs, labels, and paint is determined; the operation and condition of the doors, latches, trays, glass, and associated hardware are verified to be within manufacturer's specifications; climate control systems are tested for proper operation; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and checks are documented.	48 50 .3.1 Perform repairs on equipment-mounting systems and racks, given an emergency response vehicle, an assignment or inspection report detailing a deficiency or deformation, manufacturer's specifications, SOPs, and test and calibration equipment and tools, so that defective components are diagnosed; deformed, broken, loose, worn, or missing parts of an equipment-mounting system or rack are repaired, rebuilt, or replaced to manufacturer's specifications; diagnostic checks are conducted and performance is verified; and repairs are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	49 51 .3.1 Inspection.
			49 51 .3.1.1 Inspect a completed vehicle, given a vehicle, a deficiency list, completed tasks, and required license, so that all deficiencies are repaired; documentation is completed; and the vehicle is diagnostically checked to manufacturer's specifications.

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
			49 51 .3.1.2 Monitor outsourced repairs, given a completed vehicle, a deficiency list, and a list of completed tasks, so that all repairs are verified; and diagnostic checks are completed and documented.
	47 49 .4.2 Perform maintenance on the cab, given an emergency response vehicle, manufacturer's specifications, a maintenance schedule or an assignment, a maintenance checklist, SOPs, and tools and test equipment, so that the operational condition is preserved or restored; deformed, broken, loose, worn, or missing parts are repaired or replaced; components are lubricated; skid-resistant walking surfaces are intact; finishes and surfaces are clean and preserved; activities are documented; and additional repair needs are reported.	48 50 .3.2 Perform repairs on cab tilt systems, given an emergency response vehicle with a cab tilt system, manufacturer's specifications, an assignment or inspection report detailing a deficiency or deformation, SOPs, and test and calibration equipment and tools, so that defective components are diagnosed; deformed, broken, loose, worn, or missing parts of a cab tilt system are repaired, replaced, or rebuilt to manufacturer's specifications; diagnostic checks are conducted and performance is verified; hazards are avoided; and repairs are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	

JPR	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .4.3 Inspect equipment mounting systems and mounting racks, brackets, and latches, given an emergency response vehicle and its assigned equipment, SOPs, manufacturer's specifications, tools and test equipment, an assignment, and an inspection checklist, so that the operation and condition of the mounting system and mounting racks are verified to be within manufacturer's specifications; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and operational checks are documented.	48 50 .3.3 Perform repairs on body, compartments, and storage areas, given an emergency response vehicle, manufacturer's specifications, an assignment or inspection report detailing a deficiency or deformation, SOPs, test and calibration equipment, and tools, so that defective components are diagnosed; deformed, broken, loose, worn, or missing parts of a body, compartment, or storage area are repaired, replaced, or rebuilt to manufacturer's specifications; components are fabricated, adjusted, aligned, and lubricated; hazardous conditions are resolved; diagnostic checks are conducted and performance is verified; and repairs are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	
	47 49 .4.4 Perform maintenance on equipment mounting systems and mounting racks, brackets, and latches, given an emergency response vehicle, manufacturer's specifications, a maintenance schedule or an assignment, a maintenance checklist, SOPs, and tools and test equipment, so that warning system components function; all hoses are tight; leaks are stopped; latches are aligned and adjusted to operational condition; fluids are checked and filled; lubricants are applied; any electrical connections are clean and tight; worn pads are replaced; deformed, broken, loose, worn, or missing parts are repaired or replaced; operational condition is preserved or restored; activities are documented; and additional repair needs are reported.	48 50 .3.4 Perform repairs on a cab, given an emergency response vehicle, manufacturer's specifications, an assignment or inspection report detailing a deficiency or deformation, SOPs, test and calibration equipment, and tools, so that defective components are diagnosed; deformed, broken, loose, worn, or missing parts of a cab are repaired, replaced, or rebuilt to manufacturer's specifications; diagnostic checks are conducted and performance is verified; and repairs are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .4.5 Inspect the operation of the cab tilt system and components, given an emergency response vehicle with a cab tilt system, SOPs, manufacturer's specifications, tools and test equipment, an assignment, and an inspection checklist, so that the tilt mechanism is readied safe; the structural integrity is assessed; the operation and condition of all cab tilt components and warning systems are verified to be within manufacturer's specifications; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspections and checks are documented.		
	47 49 .4.6 Inspect body, compartments, and storage areas, given an emergency response vehicle, SOPs, manufacturer's specifications, tools and test equipment, an assignment, and an inspection checklist, so that the operation and condition of the body, compartments, doors, latches, trays, and associated hardware are verified to be within manufacturer's specifications; the condition of finishes, signs, labels, and paint is determined and documented; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and checks are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.		

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .4.7 Perform maintenance on body, compartments, and storage areas, given an emergency response vehicle, manufacturer's specifications, a maintenance schedule or an assignment, a maintenance checklist, SOPs, and tools and test equipment, so that operational condition is preserved or restored; deformed, broken, loose, worn, or missing parts are repaired or replaced; components are lubricated; skid-resistant walking surfaces are intact; finishes and surfaces are clean and preserved; activities are documented; and additional repair needs are reported.		
Electronic and Electrical Systems (Low Voltage)	47 49 .5 Electronic and Electrical Systems (Low Voltage). This duty involves the operational checks of the vehicle's charging systems, starting systems, lighting system, electronic pump controls, and other low-voltage electronic and electrical systems and devices.	48 50 .4 Electronic and Electrical Systems (Low Voltage). This duty involves the repair, diagnostic checks, and performance testing of the charging systems, starting systems, lighting systems, electronic pump controls, and other low-voltage electronic and electrical devices.	49 51 .4 Equipment and Parts Management. This duty involves the administration, creation, and tracking of purchase orders, determination of correct parts, the maintenance of required levels of parts and tools inventory, and the validation of records.

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .5.1 Inspect the low-voltage electrical system, given an emergency response vehicle; SOPs; manufacturer's specifications; tools and test equipment, including a belt tension gauge and a multimeter; an assignment; and an inspection checklist, so that the mounting security is verified; operation and condition of the low-voltage electrical system is verified to be within manufacturer's specifications; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and checks are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	48 50 .4.1 Perform repairs on low-voltage electrical system components, given an emergency response vehicle, manufacturer's specifications, an assignment or inspection report detailing a deficiency or deformation, SOPs, test and calibration equipment, and tools, so that defective components are diagnosed; deformed, broken, loose, worn, or missing parts of low-voltage electrical system components are repaired, replaced, or rebuilt to manufacturer's specifications; charging systems, starting systems, lighting systems, electrical accessories, and other electrical systems are returned to operation; correct test equipment is used; hazards are avoided; correct parts are used; diagnostic checks are conducted and performance is verified; and repairs are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	49 51 .4.1 Monitor inventory levels within the relevant level of responsibility, given current inventory, agency equipment lists, and manufacturer's specifications, a maintenance schedule and a previous repair history, and manufacturer's parts manuals, so that the inventory is maintained at the required levels.

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .5.2 Perform maintenance on the low-voltage electrical system, given an emergency response vehicle, manufacturer's specifications, a maintenance schedule or an assignment, a maintenance checklist, SOPs, test and calibration equipment, and tools, so that deformed, broken, loose, worn, or missing parts are repaired or replaced; the operational condition is preserved or restored; calibration and adjustments are performed; activities are documented; and additional repair needs are reported.	48 50 .4.2 Perform repairs on electronic controls and instrumentation, given an emergency response vehicle, manufacturer's specifications, an assignment or inspection report detailing a deficiency or deformation, SOPs, test and calibration equipment, and tools, so that defective components are diagnosed; deformed, broken, loose, worn, or missing parts of an electronic control or instrumentation are repaired, replaced, or rebuilt to manufacturer's specifications; engine, transmission, and brake electronic control units or electronic control modules, pump throttles and pressure control devices, and instrumentation are returned to operation; programming is correct; load control devices, sequencer, interfaces, and interlocks are operational; correct test equipment is used; correct parts are used; correct tests and programming procedures are followed; diagnostic checks are conducted and performance is verified; and repairs are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	49 51 .4.2 Order appropriate parts, given a part number or specification and application of part required, purchase order form and procedure, and vendor list, so that the correct part is ordered from the vendor; purchase orders are tracked; and purchase is recorded.

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
		~~48 50~~ .4.3 Complete performance testing on low-voltage electrical system components including batteries, charging systems, starting systems, on-board chargers, electrical loads, solenoids, and relay devices in accordance with NFPA 1911 Chapters 1 through 26 , given an emergency response vehicle, manufacturer's specifications, SOPs, test and calibration equipment, and tools, so that components are performance tested to assure they are operating in accordance with manufacturer's specifications and NFPA standards; performance tests are conducted to verify that repairs are completed; and all testing is documented in accordance with the procedures of the manufacturer and the authority having jurisdiction AHJ .	
Fire Pump, Auxiliary Pump, and Tank Systems	~~47 49~~ .6 Fire Pump, Auxiliary Pump, and Tank Systems. This duty involves inspection, maintenance, and operational checking of the fire pump, wildland pump, ultra-high-pressure pump or industrial pump system, and on-board water/foam tank.	~~48 50~~ .5 Pump and Tank Systems. This duty involves the maintenance, repair, diagnostic checking, and performance testing of pump systems and water/foam tanks.	~~49 51~~ .5 Documentation. This duty involves the documentation of estimates, warranties, work orders, repair requests, and diagnostic checks, and performance test results.

JPR	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .6.1 Inspect fire pumps or auxiliary pump and related components, given an emergency response vehicle with a fire pump or an auxiliary pump, SOPs, manufacturer's specifications, tools and test equipment, an assignment, and an inspection checklist, so that the security of the mounting of all system components (e.g., primer pump, plumbing and valves, pressure control devices, gauges) is verified; operation and condition of the system components, warning system, and interlocks are verified to be within manufacturer's specifications; adjustments are made where required; recommended fluid levels are verified; leaks and fluid contamination are identified and reported; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and checks are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	48 50 .5.1 Perform repairs on fire pumps or auxiliary pumps and related components, given an emergency response vehicle with a fire pump, wildland pump, ultra-high-pressure or industrial pump, manufacturer's specifications, an assignment or inspection report detailing a deficiency or deformation, SOPs, test and calibration equipment, and tools, so that defective components are diagnosed; deformed, broken, loose, worn, or missing parts on a fire pump, auxiliary pumps, or related components are repaired, replaced, or rebuilt to manufacturer's specifications; diagnostic checks and service tests are conducted and performance is verified; and repairs are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	49 51 .5.1 Prepare an estimate of deficiencies or upgrades to be completed on an emergency vehicle, given an emergency vehicle, repair history, estimate forms, parts lists, required repair or upgrade hours, and a calculator, so that the costs are calculated, documented, and communicated.

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .6.2 Inspect water/foam agent tanks, given an emergency response vehicle with a water or foam tank, SOPs, manufacturer's specifications, tools and test equipment, an assignment, and an inspection checklist, so that the mounting and condition of the water/foam agent tank is verified; all coated and noncoated surfaces are free of corrosion; sacrificial anodes are evaluated for life-cycle condition and replaced if necessary; the tank is flushed; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspections and checks are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	48 50 .5.2 Perform repairs on water/foam tanks, given an emergency response vehicle with a water or foam tank, manufacturer's specifications, an assignment or inspection report detailing a deficiency or deformation, SOPs, and tools, so that leaks are repaired; interior and exterior surfaces are free of corrosion; coatings are renewed; deformed, broken, loose, worn, or missing parts are repaired, replaced, or rebuilt to manufacturer's specifications; service flow test of the tank(s) is conducted; and the repairs are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	49 51 .5.2 Adhere to a schedule for maintenance or repair of an emergency vehicle, given an emergency vehicle, a schedule, forms, a repair or maintenance request, current staffing and workload, work estimate, and work space availability, so that required repairs or maintenance can be assigned and completed in accordance with the projected times.

JPR	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .6.3 Perform maintenance on a fire pump or auxiliary pump and related components, given an emergency response vehicle with a fire pump or an auxiliary pump, manufacturer's specifications, a maintenance schedule or an assignment, a maintenance checklist, SOPs, test and calibration equipment, and tools, so that deformed, broken, loose, worn, or missing parts are repaired or replaced; all packing and seals are adjusted to specification; hoses, valves, and fittings are in good condition and are leak-free; fluids are at recommended levels; recommended lubricants are applied; indicator lights are operational and electrical connections are clean and tight; instrumentation is operational; controls are adjusted, lubricated, and operational; the system's operational condition is preserved or restored; activities are documented; and additional repair needs are reported.	48 50 .5.3 Complete performance testing on apparatus fire pumps and related components in accordance with ~~NFPA 1911~~ <u>Chapters 1 through 26</u>, given an emergency response vehicle with a fire pump, wildland pump, ultra-high-pressure pump or industrial pump, manufacturer's specifications, SOPs, test and calibration equipment, facilities, and tools, so that the pumping systems are capable of meeting the performance requirements; without exceeding 110 percent of the original certification test rpm; and all testing is documented in accordance with the procedures of NFPA standards and the ~~authority having jurisdiction~~ <u>AHJ</u>.	49 51 .5.3 Document warranty repairs, given a repaired vehicle, applicable warranties, a deficiency list, technical service bulletins, and a list of completed tasks, so that all repairs are completed, <u>and</u> diagnostically checked and performance tested if required; and the warranty claim is processed.

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
			49 51 .5.4 Create work orders, given an emergency response vehicle, an assignment, and agency work order forms, so that all work to be performed is documented; all required information is recorded; all necessary information is communicated to the technician(s); and the emergency response vehicle is prepared for repair or maintenance.
			49 51 .5.5 Validate maintenance records, given completed documentation of maintenance records and agency record-keeping policies, so that accurate records are maintained.
Aerial Systems	47 49 .7 Aerial Systems. This duty involves inspection, maintenance, and operational checks of aerial ladder, elevating platform, and water tower systems.	48 50 .6 Aerial Systems. This duty involves inspection, maintenance, repair, ~~operational testing~~ <u>diagnostic checking</u> , and performance testing of an aerial system.	49 51 .6 Apparatus Specifications. This duty involves development of apparatus specifications.

JPR	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .7.1 Inspect the ladder sections of an aerial ladder, given an emergency response vehicle with an aerial ladder, SOPs, manufacturer's specifications, tools and test equipment, an assignment, and an inspection checklist, so that the operation and condition of the ladder sections and extension systems are verified to be within manufacturer's specification; the mounting security is verified; the alignment of the sections is checked for twists and bows; rails and rungs are checked for corrosion and dents; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and checks are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	48 50 .6.1 Perform repair on aerial sections, booms, and platforms, given an emergency response vehicle with an aerial device, an assignment or inspection report detailing a deficiency or deformation, manufacturer's specifications, SOPs, test and calibration equipment, and tools, so that defective components are diagnosed; deformed, broken, loose, worn, or missing parts of an aerial section, boom, or platform are repaired, replaced, or rebuilt to manufacturer's specifications; the aerial device is diagnostically checked for proper operation and performance is verified; and the repairs are documented in accordance with the procedures of the authority having jurisdiction.	49 51 .6.1 Develop a specification through review and research of existing fire apparatus, given recommendations of departmental committees, department policies and procedures, and applicable NFPA standards, so that technical criteria are presented as a completed specification.

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	~~47~~ 49 .7.2 Inspect the sections of an elevating platform or water tower, given an emergency response vehicle with an elevating platform or water tower, SOPs, manufacturer's specifications, tools and test equipment, an assignment, and an inspection checklist, so that the operation and condition of the boom sections are verified to be within manufacturer's specifications; the mounting security of all components is verified; the alignment of the booms is checked for twists and bows; booms are checked for corrosion, dents, wear, and discontinuities; extension, elevation, and leveling systems are checked for damage; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and checks are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	~~48~~ 50 .6.2 Perform repairs on the aerial device stabilization system, given an emergency response vehicle with an aerial device stabilization system, an assignment or inspection report detailing a deficiency or deformation, manufacturer's specifications, SOPs, test and calibration equipment, and tools, so that defective components are diagnosed; deformed, broken, loose, worn, or missing parts of an aerial device stabilization system are repaired, replaced, or rebuilt to manufacturer's specifications; the stabilization system is diagnostically checked for proper operation and performance is verified; and the repairs are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .7.3 Perform maintenance on aerial sections, booms, platforms and waterways, given an emergency response vehicle with an aerial device and waterway, manufacturer's specifications, a maintenance schedule or an assignment, a maintenance checklist, SOPs, test and calibration equipment, and tools, so that the aerial sections, booms, platforms, and waterways are maintained in accordance with specifications, and are cleaned, lubricated, and adjusted; deformed, broken, loose, worn, or missing parts are repaired or replaced; the operational condition is preserved or restored; the aerial device is tested for proper operation; activities are documented; and additional repair needs are reported.	48 50 .6.3 Perform maintenance on an aerial device lifting, rotating, and extension system, given an emergency response vehicle with an aerial device, a maintenance schedule or an assignment, manufacturer's specifications, a maintenance checklist, SOPs, test and calibration equipment, and tools, so that the lifting, rotating, and extension systems are maintained in accordance with manufacturer's specifications; electrical connections are clean and tight; hoses, valves, and fittings are leak-free and in good condition; instrumentation is operational; controls are operational; lubricants are applied; fluids are at recommended levels; the operational condition is preserved or restored; deformed, broken, loose, worn, or missing parts are repaired or replaced; the aerial system is diagnostically checked for proper operation and the performance is verified; additional repair needs are reported; and the maintenance is documented.	

JPR	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .7.4 Inspect the hydraulic system components of an aerial device, given an emergency response vehicle with an aerial device, SOPs, manufacturer's specifications, tools and test equipment, an assignment, and an inspection checklist, so that the operation and condition of the hydraulic system components, warning systems, and gauges are verified to be within manufacturer's specifications; the security of the mounting of components is verified; recommended fluid levels are verified; visible leakage or contamination is identified; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and checks are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	48 50 .6.4 Perform repairs on an aerial device lifting, rotating, and extension system, given an emergency response vehicle with an aerial device, an assignment or inspection report detailing a deficiency or deformation, manufacturer's specifications, SOPs, test and calibration equipment, and tools, so that defective components are diagnosed; deformed, broken, loose, worn, or missing parts of an aerial device lifting, rotating, and extension system are repaired, replaced, or rebuilt to manufacturer's specifications; the aerial device is diagnostically checked for proper operation and the performance is verified; and the repairs are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	
	47 49 .7.5 Inspect all mechanical components of the stabilization system, given an emergency response vehicle with an aerial device stabilization system, SOPs, manufacturer's specifications, tools and test equipment, an assignment, and an inspection checklist, so that the security of the mounting is verified; operation and condition of the mechanical components of the stabilization system are verified to be within manufacturer's specifications; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and checks are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	48 50 .6.5 Perform repairs on an aerial hydraulic system, given an emergency response vehicle with an aerial device, an assignment or inspection report detailing a deficiency or deformation, manufacturer's specifications, SOPs, and tools, test, and calibration equipment, so that defective components are diagnosed; deformed, broken, loose, worn, or missing parts of an aerial hydraulic system are repaired, rebuilt, or replaced according to manufacturer's specifications; fluids are restored to recommended levels; the aerial device is diagnostically checked for proper operation and the performance is verified; and the repairs are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	

JPR	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .7.6 Perform maintenance on the aerial device stabilization system, given an emergency response vehicle with an aerial device stabilization system, a maintenance schedule or an assignment, manufacturer's specifications, a maintenance checklist, SOPs, test and calibration equipment, and tools, so that deformed, broken, loose, worn, or missing parts are repaired or replaced; the stabilization system is maintained in accordance with manufacturer's specifications; the operational condition is preserved or restored; the stabilization system is tested for proper operation; activities are documented; and additional repair needs are reported.	48 50 .6.6 Perform repairs on aerial device electrical and electronic systems, given an emergency response vehicle with an aerial device, an assignment or inspection report detailing a deficiency or deformation, manufacturer's specifications, SOPs, test and calibration equipment, and tools, so that defective components are diagnosed; deformed, broken, loose, worn, or missing parts of an aerial device electrical or electronic system are repaired, rebuilt, or replaced to manufacturer's specifications; the aerial device is diagnostically checked for proper operation and the performance is verified; and the repairs are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	
	47 49 .7.7 Inspect all components of aerial device lifting, rotating, and extension systems, given an emergency response vehicle with an aerial device, SOPs, manufacturer's specifications, tools and test equipment, an assignment, and an inspection checklist, so that the operation and condition of the aerial device lifting, rotating, and extension systems, including the rotation motor and cables, and warning systems are verified to be within manufacturer's specifications; the security of mounting of the components is verified; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and checks are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	48 50 .6.7 Perform repairs on an aerial device waterway system, given an emergency response vehicle with an aerial device and a prepiped waterway system, an assignment or inspection report detailing a deficiency or deformation, manufacturer's specifications, SOPs, test and calibration equipment, and tools, so that defective components are diagnosed; deformed, broken, loose, worn, or missing parts of an aerial device waterway system are repaired, rebuilt, or replaced and tested according to manufacturer's specifications; the aerial device and the waterway is diagnostically checked for proper operation and the performance is verified; and the repairs are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .7.8 Inspect the components of the aerial device electrical system, given an emergency response vehicle with an aerial device, SOPs, manufacturer's specifications, tools and test equipment, an assignment, and an inspection checklist, so that the security of mounting is verified; operation and condition of the electrical system, interlocks, and warning systems are verified to be within manufacturer's specifications; the operation and the legibility of the gauges are verified; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and checks are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	48 50 .6.8 Complete annual performance testing on fire department aerial devices, systems, and related components in accordance with ~~NFPA 1911~~ <u>Chapters 1 through 26</u> and SOPs, given test and calibration equipment, tools, facilities, records, and forms, so that aerial device performance can be evaluated; defects and deficiencies are identified; operation of aerial device systems is verified; and performance test results are documented.	
	47 49 .7.9 Inspect all components of an aerial device waterway system, given an emergency response vehicle with an aerial device and waterway system, SOPs, manufacturer's specifications, tools and test equipment, an assignment, and an inspection checklist, so that the security of mounting is verified; the operation and condition of the aerial device waterway system are verified to be within manufacturer's specifications; the operation and the legibility of the gauges are verified; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and checks are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.		

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
Trailers	47 49 .8 Trailers.		
	47 49 .8.1 Inspect trailers and components unique to emergency response trailers, given an emergency response trailer, appropriate SOPs, manufacturer's specifications, appropriate tools, test and calibration equipment, an assignment, and an inspection checklist, so that the structural integrity of the frame is verified; the operation and condition of independent suspension systems, the condition of the wheels and tires, braking systems, safety equipment, and lighting systems, is verified to be within manufacturer's specifications; interface electronics and load management systems are operationally tested; all checklist items are inspected; defects and deficiencies including broken, loose, worn, or missing parts are identified and reported; and inspections are documented.		
	47 49 .8.2 Perform maintenance on chassis systems and components unique to emergency response vehicles, given an emergency response trailer, manufacturer's specifications, a maintenance schedule or an assignment, a maintenance checklist, appropriate SOPs, test and calibration equipment, and appropriate tools and diagnostic equipment, so that deformed, broken, loose, worn, or missing parts are repaired or replaced; components are lubricated; fluid levels are maintained; calibrations and adjustment are performed; the system's operational condition is preserved or restored; activities are documented; and additional repair needs are reported.		

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
Ambulance Patient Module	47 49 .9 Ambulance Patient Module.		
	47 49 .9.1 Inspect patient module and components unique to ambulances, given an ambulance, appropriate SOPs, manufacturer's specifications, appropriate tools, test and calibration equipment, an assignment, and an inspection checklist, so that the structural integrity of the patient module frame is verified; the operation and condition of patient module structure, patient module entry doors, compartment doors, patient module interior systems, components, safety equipment, oxygen system, line voltage system, electrical and lighting systems, is verified to be within manufacturer's specifications; interface electronics and load management systems are operationally tested; all checklist items are inspected; defects and deficiencies including broken, loose, worn, or missing parts are identified and reported; and inspections are documented.		

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .9.2 Perform maintenance on a patient module and components unique to ambulances, given an ambulance, manufacturer's specifications, a maintenance schedule or an assignment, a maintenance checklist, appropriate SOPs, test and calibration equipment, and appropriate tools and diagnostic equipment, so that deformed, broken, loose, worn, or missing parts are repaired or replaced; components are lubricated; calibrations and adjustments are performed; the system's operational condition is preserved or restored; activities are documented; and additional repair needs are reported.		
Specialized Systems	47 49 .10 Specialized Systems. This duty involves inspection, operational checking, and maintenance of foam systems, line voltage electrical systems, breathing-air systems, and auxiliary air systems.	48 50 .7 Specialized Systems. This duty involves the repair, diagnostic checks, and performance testing of foam systems, line voltage electrical systems, breathing-air <u>systems</u> , and auxiliary air systems.	

JPR	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .10.1 Inspect the foam-proportioning system, given an emergency response vehicle with a foam-proportioning system, SOPs, manufacturer's specifications, tools, test and calibration equipment, an assignment, and an inspection checklist, so that the mounting security and structural integrity are verified; operation and condition of the system are verified to be within manufacturer's specifications; recommended fluid levels are verified; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and checks are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	48 50 .7.1 Repair foam-proportioning system components, given an emergency response vehicle with a foam-proportioning system, an assignment or inspection report detailing a deficiency or deformation, manufacturer's specifications, SOPs, test and calibration equipment, and tools, so that defective components are diagnosed; deformed, broken, loose, worn, or missing parts of a foam-proportioning system, including component mounts, drive systems, pumps, plumbing, and valves, are repaired, replaced, or rebuilt to manufacturer's specifications; the foam system is diagnostically checked for proper operation and performance is verified; and repairs are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	
	47 49 .10.2 Perform maintenance on a foam-proportioning system, given an emergency response vehicle with a foam-proportioning system, a maintenance schedule or an assignment, a maintenance checklist, manufacturer's specifications, SOPs, test and calibration equipment, and tools so that deformed, broken, loose, worn, or missing parts are repaired or replaced; the system operates within manufacturer's guidelines; fluid levels are maintained; activities are documented; and additional repair needs are reported.	48 50 .7.2 Complete performance testing on apparatus foam system and related components in accordance with <u>NFPA 1944 Chapters 1 through 26</u> , given an emergency response vehicle with a foam system, manufacturer's specifications, SOPs, test and calibration equipment, <u>and</u> facilities and tools, so that the foam system is capable of meeting the performance testing requirements; and all testing is documented in accordance with the requirements of NFPA standards and the <u>authority having jurisdiction AHJ</u> .	

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .10.3 Inspect the compressed air foam system (CAFS) and associated components, given an emergency response vehicle with a CAFS, SOPs, manufacturer's specifications, tools and test equipment, an assignment, and an inspection checklist, so that the security of mounting of the system is verified; the operation and condition of the system and its associated components, including air tank, hoses, valves and fittings, warning and interlock systems, linkage, and drive shafts, are verified to be within manufacturer's specifications; recommended fluid levels are verified; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and checks are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	48 50 .7.3 Repair compressed air foam system (CAFS), given an emergency response vehicle with a CAFS, an assignment or inspection report detailing a deficiency or deformation, manufacturer's specifications, department SOPs, test and calibration equipment, and tools, so that defective components are diagnosed; deformed, broken, loose, worn, or missing parts of a CAFS, including component mounts, drive systems, pumps, plumbing, and valves, are repaired, replaced, or rebuilt to manufacturer's specifications; fluid levels are restored; the CAFS is diagnostically checked for proper operation and its performance is verified; and repairs are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	~~47~~ ~~49~~ 10.4 Perform maintenance on a CAFS and its components, given an emergency response vehicle with a compressed air foam system, manufacturer's specifications, a maintenance schedule or an assignment, a maintenance checklist, SOPs, and tools and test equipment, so that the operational condition of the CAFS is preserved or restored; CAFS compressor and system components function to the recommended specifications; all hoses are tight; adjustments are made to stop all fluid leaks; lubricants are applied; all electrical connections are clean and tight; system operation is verified; deformed, broken, loose, worn, or missing parts, including component mounts, drive system, pump, plumbing, and valves, are repaired or replaced; activities are documented; and additional repair needs are reported.	~~48~~ ~~50~~ 7.4 Complete performance testing on apparatus compressed air foam system (CAFS) and related components in accordance with ~~NFPA 1911~~ <u>Chapters 1 through 26</u> , given an emergency response vehicle with a CAFS, manufacturer's specifications, SOPs, test and calibration equipment, <u>and</u> facilities and tools, so that the CAFS is capable of meeting the performance testing requirements; and all performance testing is documented in accordance with the requirements of NFPA standards and the ~~authority having jurisdiction~~ <u>AHJ</u> .	

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .10.5 Inspect all components and accessories of the electrical line voltage generation system, controls, and instrumentation, given an emergency response vehicle with a line voltage electrical system, SOPs, manufacturer's specifications, tools and test equipment, an assignment, and an inspection checklist, so that the security of mounting is verified; the operation and condition of the system and drive units, cord reels, lighting, accessories and equipment, safety and protection devices, and instrumentation are verified to be within manufacturer's specifications; the condition and correct placement of information and warning signs and labels are verified; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and checks are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	48 50 .7.5* Repair all components of an electrical line voltage generation system, its controls, and its instrumentation, given an emergency response vehicle with an electrical line voltage system, manufacturer's specifications, an assignment or an inspection report detailing a deficiency or deformation, SOPs, test and calibration equipment, and tools, so that defective components are diagnosed; deformed, broken, loose, worn, or missing parts of an electrical line voltage generation system are repaired, replaced, or rebuilt to manufacturer's specifications; fluids and lubricants are restored; the system is diagnostically checked for proper operation and performance is verified; and the repair and diagnostic check results are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	~~47 49~~ 10.6 Perform maintenance on electrical line voltage generation system, controls, and instrumentation, given an emergency response vehicle with a line voltage electrical system, manufacturer's specifications, a maintenance schedule or an assignment, a maintenance checklist, SOPs, test and calibration equipment, and tools, so that the operational condition of generators, system components, instrumentation, controls, safety and load protection devices, and the drive unit is preserved or restored; lubrication and fluid levels are checked; deformed, broken, loose, worn, or missing parts are repaired or replaced; activities are documented; and additional repair needs are reported.	~~48 50~~ 7.6 Complete performance testing on apparatus line voltage electrical system and related components in accordance with ~~NFPA 1911~~ <u>Chapters 1 through 26</u>, given an emergency response vehicle with a line voltage electrical system, manufacturer's specifications, SOPs, test equipment, <u>and</u> facilities; and tools, so that the line voltage electrical system is capable of meeting the performance testing and safety requirements; and all performance testing is documented in accordance with the procedures of NFPA standards and the ~~authority~~ <u>having jurisdiction AHJ</u>.	

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .10.7 Inspect all components of a breathing-air and purification system, given an emergency response vehicle with a breathing-air and purification system, SOPs, manufacturer's specifications, tools and test equipment, quality sample kits, an assignment, and an inspection checklist, so that the security of mounting is verified; operation and condition of the breathing-air and purification system, including the drive unit and compressors, electrical protection devices, safety devices, interlocks, and instrumentation, are verified to be within manufacturer's specifications; the condition of the separator filters is verified; recommended fluid levels of drive units and compressors are verified; the condition and adjustment of drive belts are verified to be within manufacturer's specifications; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and checks are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	48 50 .7.7 Repair all hardwired line voltage appliances and controls, given an emergency response vehicle with hardwired line voltage appliances and controls, manufacturer's specifications, an assignment or inspection report detailing a deficiency or deformation, SOPs, test and calibration equipment, and tools, so that defective components and accessories are diagnosed; deformed, broken, loose, worn, or missing parts of a hardwired line voltage appliance or control are repaired, replaced, or rebuilt to manufacturer's specifications; systems are diagnostically checked for proper operation and performance verified; and repairs and test results are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .10.8 Perform maintenance on a breathing-air and purification system, given an emergency response vehicle with a breathing-air and purification system, manufacturer's specifications, a maintenance schedule or an assignment, a maintenance checklist, SOPs, test and calibration equipment, and tools, so that drive units and compressors are maintained; breathing air is within purification standards; deformed, broken, loose, worn, or missing parts are repaired or replaced; the operational condition is preserved or restored; the system is operationally checked; activities are documented; and additional repair needs are reported.	48 50 .7.8 Repair a breathing-air and air purification system, given an emergency response vehicle with a breathing-air and air purification system, an assignment or inspection report detailing a deficiency or deformation, manufacturer's specifications, SOPs, test and calibration equipment, and tools, so that all defective components are diagnosed; deformed, broken, loose, worn, or missing parts of a breathing-air and air purification system, including mounts, drive systems, pumps, piping, valves, fittings, tanks, and other components, are repaired, replaced, or rebuilt to manufacturer's specifications; the system is diagnostically checked for proper operation and performance is verified; and the repairs and test results are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	

<u>JPR</u>	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	~~47~~ ~~49~~ 10.9 Inspect an auxiliary air compressor, given an emergency response vehicle with an auxiliary air compressor, SOPs, manufacturer's specifications, tools and test equipment, an assignment, and an inspection checklist, so that the operation and condition of the auxiliary air compressor, warning systems, instrumentation, and interlock systems are verified to be within manufacturer's specifications; the security of mounting of the system and its associated components is verified; linkage and drive shafts are inspected for wear and alignment; the condition of air tank, dryer, reels, hoses, piping, valves, and fittings is assessed; recommended fluid levels are verified and fluids are inspected for any visible contamination; all checklist items are inspected; defects and deficiencies, including broken, loose, worn, or missing parts, are identified and reported; and inspection and checks are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	~~48~~ ~~50~~ 7.9 Complete performance testing on breathing-air compressor system and related components in accordance with ~~NFPA 1911~~ <u>Chapters 1 through 26</u> and NFPA 1989, given an emergency response vehicle with a breathing-air compressor system, manufacturer's specifications, and SOPs, so that the breathing-air compressor system is tested to ensure that the compressor performs to the compressor manufacturer's original requirements; compressed breathing air is tested to ensure breathing-air quality standards are met; and all results are documented in accordance with the requirements of NFPA standards, the compressor manufacturer, and the authority having jurisdiction <u>AHJ</u>.	

JPR	<u>Emergency Vehicle Technician I</u>	<u>Emergency Vehicle Technician II</u>	<u>Emergency Vehicle Technician III</u>
	47 49 .10.10 Perform maintenance on auxiliary air compressors, drive units, and related components, given an emergency response vehicle with an auxiliary air compressor, manufacturer's specifications, a maintenance schedule or an assignment, a maintenance checklist, SOPs, and tools and test equipment, so that the compressor, drive unit, and related components are operational and functioning within the manufacturer's specifications; filters are replaced; any leaks in hoses, piping, valves, and fittings are repaired; lubricants are applied; all electrical connections are clean and tight; deformed, broken, loose, worn, or missing parts are repaired or replaced; system operation is verified; activities are documented; and additional repair needs are reported.	48 50 .7.10 Repair an auxiliary air system and its components, given an emergency response vehicle with an auxiliary air system, an assignment, or an inspection report detailing a deficiency or deformation, manufacturer's specifications, SOPs, test and calibration equipment, and tools, so that defective components are diagnosed; deformed, broken, loose, worn, or missing parts of an auxiliary air system, including mounts, drive systems, pumps, piping, valves, fittings, ~~and~~ tanks, and other components, are repaired, replaced, or rebuilt to manufacturer's specifications; the auxiliary air system is diagnostically checked for proper operation and its performance is verified; and the repair and test results are documented in accordance with the procedures of the manufacturer and the authority having jurisdiction.	

Submitter Information Verification

Committee: PQU-EVM

Submittal Date: Wed Jan 13 12:01:55 EST 2021

Committee Statement

Committee Statement: The committee changed the reference to NFPA 1911, and updated to reflect the chapters associated with NFPA 1911 content in this standard.

Response Message: FR-30-NFPA 1910-2021

[Public Input No. 160-NFPA 1910-2020 \[Section No. J.1\]](#)

[Public Input No. 205-NFPA 1910-2020 \[Section No. J.1\]](#)