

**State of Oregon
Department of Public Safety Standards and Training**

Test Book for:

**Driver
Pumper Operator
Aerial Operator
Tiller Operator
Wildland Fire Apparatus Operator
Aircraft Rescue & Firefighting Apparatus Operator
Mobile Water Supply Apparatus Operator**

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Department of Public Safety Standards and Training
4190 Aumsville Hwy. SE
Salem, OR 97317
(503) 378-2100

Additional copies of this document may be downloaded from the DPSST web site:
<http://www.oregon.gov/DPSST>

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Change, major change, to human endeavors more often than not, require tremendous team effort. Reinventing and refreshing Oregon's fire service training and certification program is no exception. Only after countless hours of selfless work to further the fire service as a profession, both volunteer and career, do documents like this one come together and gain widespread acceptance. The Oregon fire service owes a debt of gratitude to the following groups and individuals:

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Bob Wall	Portland Fire, Rescue and Emergency Services
Jim Whelan	Oregon Fire Instructors Association

BPSST/DPSST Contributing/Project Staff

Dianne Middle, Director
Eriks Gabliks, Assistant Director (Fire/Regional/9-1-1)
Bruce Chinnock, Fire Certification/Accreditation
Judy Knutson, Fire Certification/Accreditation
George Jamieson, Fire Training Coordinator

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Firefighter Standards & Certification Task Force Members

Division Chief Jay Alley	Stayton Fire District
Training Officer Jeff Bancroft	Portland Fire, Rescue and Emergency Services
Training Chief Ken Burdett	Portland Fire, Rescue and Emergency Services
Chief Jack Carrigar	Nestucca Rural Fire Protection District
Captain Emmett Cornford	LaGrande Fire Department
Captain Jeff Dietz	Clackamas County Fire District No. 1
Neil Dietz	Oregon State Firefighters Council (IAFF)
Training Chief Ed Hartin	Gresham Fire & Emergency Services
Chief Dale Kamrath	Lane County Fire District No. 1
Battalion Chief Dennis Katz	Tualatin Valley Fire & Rescue
Ed Lindsey	Portland Community College – Fire Science
Battalion Chief Bob Madden	Bend Fire Department
Training Officer Dean Martin	Rogue River Fire District
Battalion Chief Mike McGuire	Portland Fire, Rescue and Emergency Services
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Training Chief Dick Ragsdale	Corvallis Fire Department
Pete Ribble	Central Oregon Community College – Fire Science
Training Chief Rod Smith	Lane County Fire District No. 1
Chief John Stein	Dallas Fire Department
Captain Randy Wells	Pendleton Fire Department
Chief Jim Whelan	Stanfield Fire Department
George Jamieson	DPSST Fire Service Training Coordinator
Judy Knutson	DPSST Fire Standards and Certification

DPSST Requirements for Fire Apparatus Driver/Operator

INTRODUCTION

Continuous improvement of fire service training and certification is everyone's goal. To that end, DPSST herein provides Oregon fire departments with this Evaluation Book for Fire Apparatus Driver/Operator.

The purpose of this Evaluation Book is two-fold: 1) to provide standard reference whereby fire service trainers and evaluators have a single source for Job Performance Requirements (JPRs) and related data, and 2) an alternate method of determining eligibility for certification.

As a reference source, this Evaluation Book contains comprehensive JPRs for the certification levels of Fire Apparatus Driver, Pumper Operator, Aerial Operator, Tiller Operator, Wildland Fire Apparatus Operator, Aircraft Rescue & Firefighting Apparatus Operator, and Mobile Water Supply Apparatus Operator. Next, this book includes data that may be used to: a) assist in determining an individual's ability to perform at a particular level, and/or b) used as adjuncts in a department's training process. Last, this book contains all the information, requirements and forms for evaluating candidates. The forms are provided for photo copying so that a department can make as **many as it** needs. These and all other DPSST forms are also available on the web at: <http://www.orednet.org/dpsst/downloads/downloads.htm>

The JPRs covered in this Evaluation Book meet or exceed all NFPA published standards for these certification levels at the time of its publication. Mention of NFPA and its standards do not, and are not intended as adoption of—or reference to—NFPA standards.

JOB PERFORMANCE REQUIREMENTS

The concept of Job Performance Requirements (JPRs) is not new, it has been around for many years. However, using them as a framework for DPSST fire certification is new. The requirements are still voluntary but benefit the profession by encouraging individual growth and development and a minimum standard of practice.

JPRs describe the performance required for a specific job. In this Evaluation Book they 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 successfully perform that duty. Together, the duties and JPRs define the job parameters.

Each JPR is an assembly of three critical components:

- a) *The task to be performed.* The first component is a concise statement of what the person is supposed to do.
- b) *Tools, equipment, or materials that must be provided to successfully complete the task.* This component ensures that all individuals completing the task are given the same minimal tools, equipment, or materials when being evaluated. By listing these items, the performer and evaluator know what must be provided in order to complete the task.
- c) *Evaluation parameters and/or performance outcomes.* This component defines how well one must perform each task — for both the performer and the evaluator. The JPRs guide performance towards successful completion by identifying evaluation parameters and/or performance outcomes. This portion of the JPRs promotes consistency in evaluation by reducing the variables used to gauge performance.

Example of a JPR

- | | |
|--|--|
| (a) Task | (a) Establish a water shuttle dump site |
| (b) Tools, equipment, or materials | (b) Given two or more portable water tanks, low-level strainers, water transfer equipment, fire hose, and a fire apparatus equipped with a water pump |
| (c) Evaluation parameters and performance outcomes | (c) So that the tank being drafted from is kept full at all times, the tank being dumped into is emptied first, and water is transferred efficiently from one tank to the next |

In addition to these three components, the JPRs contain requisite knowledge and skills. Just as the term requisite suggests, these are the necessary knowledge and skills one must have prior to being able to perform the task. Requisite knowledge and skills are the foundation for task performance.

Once the components and requisites are put together, the JPRs might read as follows:

Example: Establish a water shuttle dump site, given two or more portable water tanks, low-level strainers, water transfer equipment, fire hose, and a fire apparatus equipped with a fire pump, so that the tank being drafted from is kept full at all times, the tank being dumped into is emptied first, and water is transferred efficiently from one tank to the next.

- a. Requisite Knowledge: Local procedures for establishing a water shuttle dump site and principles of water transfer between multiple portable water tanks.

- b. **Requisite Skills:** The ability to deploy portable water tanks, connect and operate water transfer equipment, and connect a strainer and suction hose to the fire pump.

A word of caution: even though these JPRs appear similar to teaching objectives, they must be modified prior to instructional use. JPRs state the behaviors required to perform specific skill(s) on the job as opposed to a learning situation. These statements should be converted into instructional objectives with behaviors, conditions, and standards that can be measured within the teaching/learning environment. A JPR that requires a driver/operator to “establish a water shuttle dump site” should be converted into a measurable instructional objective for use when teaching the skill.

While the differences between job performance requirements and instructional objectives are subtle in appearance, the purpose of each statement differs greatly. JPRs state what is necessary to perform the job in the “real world.” Instructional objectives, however, are used to identify what students must do at the end of a training session and are stated in behavioral terms that are measurable in the training environment.

EVALUATION

To become certified at the Driver or Apparatus Operator levels, an applicant must successfully complete the appropriate JPR related evaluation for that level or, complete the DPSST Task Book relative to that position. As a component of both this Evaluation Book and its relative, the Task Book, candidates must prove that she/he have all the Requisite Knowledge and Requisite Skills *before evaluating or participating with a Task Book*.

Once certification eligibility has been determined, and a decision has been made to utilize this Evaluation Book method for evaluating, the department training officer will arrange a date and time for the evaluation which will be conducted by the District Liaison Officer (DLO). The DLO may be on hand to act as a monitor for the evaluation or may have the lead evaluator act as monitor. The individual will perform the JPRs identified.

The DLO is a representative of DPSST and is present only to verify the validity of the evaluation and not to rate the performance of the individuals. The individual’s performance will be evaluated by three qualified personnel, usually from his/her own department. The evaluators will rate the individual’s performance and then submit their rating sheets to the DLO or lead evaluator who will then complete a DPSST approved application form for the position. All materials except the Application for Certification (A-1C) will be retained by the individual’s department. It is the responsibility of the training officer at the individual’s department to submit an Application for Certification for each Certification candidate. If the training was completed in-house under a department agreement with DPSST, there is no need to send documentation; the training officer’s signature on the application attests that the training was completed at the

department. If the training was completed at a college, the training officer should submit an official transcript. If the training was completed by taking a certified class (with DPSST course number), the roster should have been sent to DPSST by the instructor of the class. If the student has a certificate of completion or a notice of course completion, the training officer should include a copy to DPSST with the application in order to document training.

When all prescribed requirements have been met, an Application for Certification signed by both the applicant and the Training Officer or Chief must be submitted to DPSST.

PROCEDURES

1. DPSST shall be notified no less than two weeks prior to the scheduled Test Book Evaluation. Form PTE-10 should be used for this purpose.
2. The evaluation monitor will be the District Liaison Officer representing DPSST.
3. Three evaluators should be selected. The in-house evaluators are listed on the department agreement with DPSST or the DLO can assist the training officer to choose evaluators from outside the department.
4. On the date selected, the monitor should meet with the evaluators prior to the evaluation and explain the procedures to be used and give them a copy of each JPR.
5. Each evaluator will complete an Evaluation Form for each individual participating in the evaluation. Consensus must be reached among the three evaluators that the individual met each of the individual JPRs being evaluated.
6. The monitor's function is to assure that the JPRs are performed adequately and that the evaluators are not excessively lenient or critical.

APPLICATION

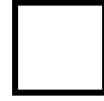
These JPRs serve as general guidelines. As such they are not intended to replace specific sequences of apparatus or equipment operation that may be outlined by manufacturer's specifications. At all times, standard operating procedures of the department in which the evaluation is being conducted will govern.

TASK BOOKS

As an alternative to this evaluation process, individuals may prove their qualification as driver or apparatus operator at the various levels by completing the relevant Task Book as supplied by DPSST. Use of a Task Book necessitates the use of a Field Training Officer (FTO) whose sole purpose is to supervise the training of the individual firefighter. The FTO certifies that the Driver/Operator in training has correctly completed all the JPRs found in that particular Task Book.

SCORING OF EVALUATION FORMS

Draw a diagonal line through the box on the right. The evaluator should place their initials in one half and indicate the current date on the other half.



It is very important that evaluators verify the indicated relative knowledge and relative skills. A candidate does not qualify for participation in an evaluation without having those relative requirements. To indicate that the candidate does possess them, the evaluator should indicate so in the boxes provided by checking them. See example below:

Requisite knowledge verified Requisite skills verified

NOTE TO EVALUATORS: Many of the Evaluation Forms have two sides, be sure to complete both sides.

JOB PERFORMANCE REQUIREMENTS

DRIVER

2-2.1 Perform routine tests, inspections, and servicing functions on the systems and components specified in the following list, given a fire department vehicle and its manufacturer's specifications, so that the operational status of the vehicle is verified.

- Battery(ies)
- Braking system
- Coolant system
- Electrical system
- Fuel
- Hydraulic fluids
- Oil
- Tires
- Steering system
- Belts
- Tools, appliances, and equipment

Requisite Knowledge: Manufacturer specifications and requirements, policies, and procedures of the jurisdiction.

Requisite Skills: The ability to use hand tools, recognize system problems, and correct any deficiency noted according to policies and procedures.

2-2.2 Document the routine tests, inspections, and servicing functions, given maintenance and inspection forms, so that all items are checked for proper operation and deficiencies are reported.

Requisite Knowledge: Departmental requirements for documenting maintenance performed, understanding the importance of accurate record keeping.

Requisite Skills: The ability to use tools and equipment and complete all related departmental forms.

2-3.1 Operate a fire department vehicle, given a vehicle and a predetermined route on a public way that incorporates the maneuvers and features specified in the following list that the driver/operator is expected to encounter during normal operations, so that the vehicle is safely operated in compliance with all applicable state and local laws, departmental rules and regulations, and the requirements of NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, Section 4-2. Note: If your department does not have any of the following in its response area it is not mandatory that the job be done, however

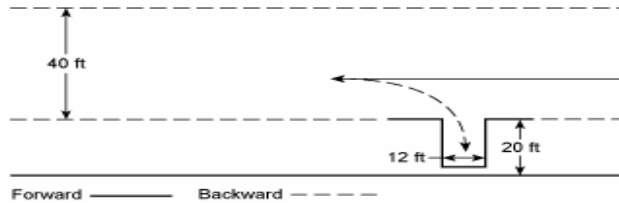
DPSST recommends that the department at least simulate the exercise (for example, chalk drawing of railroad tracks on pavement).

- Four left and four right turns
- A straight section of urban business street or a two-lane rural road at least 1 mile in length
- One through-intersection and two intersections where a stop has to be made
- One railroad crossing (if applicable to your fire department/district)
- One curve, either left or right
- A section of limited-access highway that includes a conventional ramp entrance and exit and a section of road long enough to allow two lane changes (if applicable to your fire department/district)
- A downgrade steep enough and long enough to require down-shifting and braking
- An upgrade steep enough and long enough to require gear changing to maintain speed
- One underpass or a low clearance or bridge (if applicable to your fire department/district)

Requisite Knowledge: The effects on vehicle control of liquid surge, braking reaction time, load factors, general steering reactions, speed, and centrifugal force; applicable laws and regulations; principles of skid avoidance, night driving, shifting, and gear patterns; negotiating intersections, railroad crossings, and bridges; weight and height limitations for both roads and bridges; identification and operation of automotive gauges; and proper operation limits.

Requisite Skills: The ability to operate passenger restraint devices, maintain safe following distances, maintain control of the vehicle while accelerating, decelerating, and turning, maintain reasonable speed for road, weather, and traffic conditions, operate safely during non-emergency conditions, operate under adverse environmental or driving surface conditions, and use automotive gauges and controls.

- 2-3.2 Back a vehicle from a roadway into restricted spaces on both the right and left sides of the vehicle, given a fire department vehicle, a spotter, and restricted spaces 12 ft in width, requiring 90-degree right-hand and left-hand turns from the roadway, so that the vehicle is parked within the restricted areas without having to stop and pull forward and without striking obstructions. NOTE: For ARFF apparatus, this course may need to be modified.

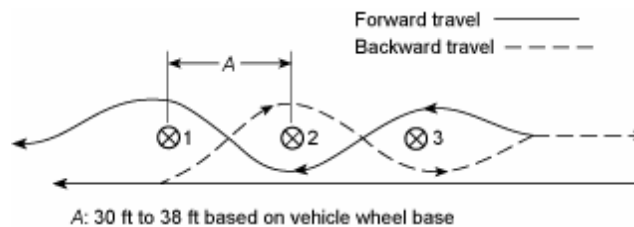


Alley Dock Exercise (for instructions, see Appendix)

Requisite Knowledge: Vehicle dimensions, turning characteristics, spotter signaling, and principles of safe vehicle operation.

Requisite Skills: The ability to use mirrors, judge vehicle clearance, and operate the vehicle safely.

- 2-3.3 Maneuver a vehicle around obstructions on a roadway while moving forward and in reverse, given a fire department vehicle, a spotter for backing, and a roadway with obstructions, so that the vehicle is maneuvered through the obstructions without stopping to change the direction of travel and without striking the obstructions. NOTE: For ARFF apparatus, this course may need to be modified.

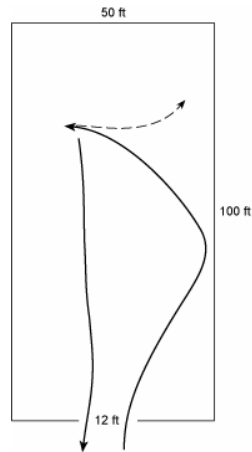


Serpentine Exercise (for instructions, see Appendix)

Requisite Knowledge: Vehicle dimensions, turning characteristics, the effects of liquid surge, spotter signaling, and principles of safe vehicle operation.

Requisite Skills: The ability to use mirrors, judge vehicle clearance, and operate the vehicle safely.

- 2-3.4 Turn a fire department vehicle 180 degrees within a confined space, given a fire department vehicle, a spotter for backing, and an area in which the vehicle cannot perform a U-turn without stopping and backing up, so that the vehicle is turned 180 degrees without striking obstructions within the given space. NOTE: For ARFF apparatus, this course may need to be modified.

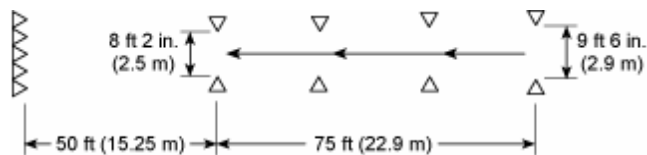


Confined Space Turnaround Exercise (for instructions, see Appendix)

Requisite Knowledge: Vehicle dimensions, turning characteristics, the effects of liquid surge, spotter signaling, and principles of safe vehicle operation.

Requisite Skills: The ability to use mirrors, judge vehicle clearance, and operate the vehicle safely.

- 2-3.5 Maneuver a fire department vehicle in areas with restricted horizontal and vertical clearances, given a fire department vehicle and a course that requires the operator to move through areas of restricted horizontal and vertical clearances, so that the operator accurately judges the ability of the vehicle to pass through the openings and so that no obstructions are struck. NOTE: For ARFF apparatus, this course may need to be modified.



Diminishing Clearance Exercise (for instructions, see Appendix)

Requisite Knowledge: Vehicle dimensions, turning characteristics, the effects of liquid surge, spotter signaling, and principles of safe vehicle operation.

Requisite Skills: The ability to use mirrors, judge vehicle clearance, and operate the vehicle safely.

- 2-3.6 Operate a vehicle using defensive driving techniques under emergency conditions, given a fire department vehicle and emergency conditions, so that control of the vehicle is maintained.

Requisite Knowledge: The effects on vehicle control of liquid surge, braking reaction time, load factors, general steering reactions, speed, and centrifugal force; applicable laws and regulations; principles of skid avoidance, night driving, shifting, and gear patterns; negotiating intersections, railroad crossings, and bridges; weight and height limitations for both roads and bridges; identification and operation of automotive gauges; and proper operation limits.

Requisite Skills: The ability to operate passenger restraint devices, maintain safe following distances, maintain control of the vehicle while accelerating, decelerating, and turning, maintain reasonable speed for road, weather, and traffic conditions, operate safely during non-emergency conditions, operate under adverse environmental or driving surface conditions, and use automotive gauges and controls.

- 2-3.7 Operate all fixed systems and equipment on the vehicle not specifically addressed elsewhere in this standard, given systems and equipment, manufacturer's specifications and instructions, and departmental policies and procedures for the systems and equipment, so that each system or piece of equipment is operated in accordance with the applicable instructions and policies.

Requisite Knowledge: Manufacturer specifications and operating procedures, policies, and procedures of the jurisdiction.

Requisite Skills: The ability to deploy, energize, and monitor the system or equipment and to recognize and correct system problems.

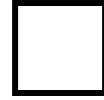
DEPARTMENT OF PUBLIC SAFETY STANDARDS & TRAINING

DRIVER EVALUATION FORM

This form is to be used to score a candidate according to the corresponding Job Performance Requirements found in the DPSST Evaluation Guide. Once a candidate qualifies for certification, the training officer should complete the appropriate section of DPSST Form A-1C, Application for Certification, and forward a copy to DPSST. This evaluation form should be kept as a part of the candidate’s permanent training record.

- 2-2.1 Perform routine tests, inspections, and servicing functions on the systems and components specified.
- 2-2.2 Document the routine tests, inspections, and servicing functions.
- 2-3.1 Operate a fire department vehicle.
- 2-3.2 Back a vehicle from a roadway into restricted spaces on both the right and left sides of the vehicle. (Offset alley.)
- 2-3.3 Maneuver a vehicle around obstructions on a roadway while moving forward and in reverse. (Serpentine.)
- 2-3.4 Turn a fire department vehicle 180 degrees within a confined space. (Confined space.)
- 2-3.5 Maneuver a fire department vehicle in areas with restricted horizontal and vertical clearances. (Diminishing clearance.)
- 2-3.6 Operate a vehicle using defensive driving techniques under emergency conditions.

2-3.7 Operate all fixed systems and equipment on the vehicle not specifically addressed elsewhere in this standard.



Requisite knowledge verified Requisite skills verified

JOB PERFORMANCE REQUIREMENTS

PUMPER OPERATOR

3-1.1 Perform the specified routine tests, inspections, and servicing functions specified in 2-2.1 and the following, given a fire department pumper and its manufacturer's specifications, so that the operational status of the pumper is verified.

- Water tank and other extinguishing agent levels (if applicable)
- Pumping systems
- Foam systems

Requisite Knowledge: Manufacturer specifications and requirements, policies, and procedures of the jurisdiction.

Requisite Skills: The ability to use hand tools, recognize system problems, and correct any deficiency noted according to policies and procedures.

3-1.2 Perform the practical driving exercises specified in 2-3.2 through 2-3.5, given a fire department pumper and a spotter for backing, so that each exercise is performed safely without striking the vehicle or obstructions.

Requisite Knowledge: Vehicle dimensions, turning characteristics, the effects of liquid surge, spotter signals, and principles of safe vehicle operation.

Requisite Skills: The ability to use mirrors, judge vehicle clearance, and operate the vehicle safely.

3-1.3 Operate a fire department pumper over a predetermined route on a public way that incorporates the maneuvers and features specified in the list in 2-3.1, so that the vehicle is safely operated in compliance with all applicable state and local laws, departmental rules and regulations, and the requirements of NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, Section 4-2.

Requisite Knowledge: The effects on vehicle control of liquid surge, braking reaction time, load factors, general steering reactions, speed, and centrifugal force; applicable laws and regulations; principles of skid avoidance, night driving, shifting, and gear patterns; negotiating intersections, railroad crossings, and bridges; weight and height limitations for both roads and bridges; identification and operation of automotive gauges; and proper operation limits.

Requisite Skills: The ability to operate passenger restraint devices, maintain safe following distances, maintain control of the vehicle while accelerating, decelerating, and turning, maintain reasonable speed for road, weather, and traffic

conditions, operate safely during nonemergency conditions, operate under adverse environmental or driving surface conditions, and use automotive gauges and controls.

3-2.3 Produce effective hand or master streams, given the sources specified in the following list, so that the pump is safely engaged, all pressure control and vehicle safety devices are set, the rated flow of the nozzle is achieved and maintained, and the apparatus is continuously monitored for potential problems.

- Internal tank
- Pressurized source
- Static source
- Transfer from internal tank to external source

Requisite Knowledge: Hydraulic calculations for friction loss and flow using both written formulas and estimation methods, safe operation of the pump, problems related to small-diameter or dead-end mains, low-pressure and private water supply systems, hydrant cooling systems, and reliability of static sources.

Requisite Skills: The ability to position a fire department pumper to operate at a fire hydrant and at a static water source, power transfer from vehicle engine to pump, draft, operate pumper pressure control systems, operate the volume/pressure transfer valve (multistage pumps only), operate auxiliary cooling systems, make the transition between internal and external water sources, and assemble hose lines, nozzles, valves, and appliances.

3-2.2 Pump a supply line of 2½ in. or larger, given a relay pumping evolution the length and size of the line and the desired flow and intake pressure, so that the proper pressure and flow are provided to the next pumper in the relay.

Requisite Knowledge: Hydraulic calculations for friction loss and flow using both written formulas and estimation methods, safe operation of the pump, problems related to small-diameter or dead-end mains, low-pressure and private water supply systems, hydrant cooling systems, and reliability of static sources.

Requisite Skills: The ability to position a fire department pumper to operate at a fire hydrant and at a static water source, power transfer from vehicle engine to pump, draft, operate pumper pressure control systems, operate the volume/pressure transfer valve (multistage pumps only), operate auxiliary cooling systems, make the transition between internal and external water sources, and assemble hose lines, nozzles, valves, and appliances.

3-2.3 Produce a foam fire stream, given foam-producing equipment, so that properly proportioned foam is provided.

Requisite Knowledge: Proportioning rates and concentrations, equipment assembly procedures, foam systems limitations, and manufacturer specifications.

Requisite Skills: The ability to operate foam proportioning equipment and connect foam stream equipment.

- 3-2.4 Supply water to fire sprinkler and standpipe systems, given specific system information and a fire department pumper, so that water is supplied to the system at the proper volume and pressure.

Requisite Knowledge: Calculation of pump discharge pressure; hose layouts; location of fire department connection; alternative supply procedures if fire department connection is not usable; operating principles of sprinkler systems as defined in NFPA 13, Standard for the Installation of Sprinkler Systems, NFPA 13D, Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes, and NFPA 13R, Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height; fire department operations in sprinklered properties as defined in NFPA 13E, Guide for Fire Department Operations in Properties Protected by Sprinkler and Standpipe Systems; and operating principles of standpipe systems as defined in NFPA 14, Standard for the Installation of Standpipe and Hose Systems.

DEPARTMENT OF PUBLIC SAFETY STANDARDS & TRAINING

PUMPER OPERATOR EVALUATION FORM

This form is to be used to score a candidate according to the corresponding Job Performance Requirements found in the DPSST Evaluation Guide. Once a candidate qualifies for certification, the training officer should complete the appropriate section of DPSST Form A-1C, Application for Certification, and forward a copy to DPSST. This evaluation form should be kept as a part of the candidate's permanent training record.

- 3-1.1 Perform routine tests, inspections, and servicing functions on the systems and components specified.
- Requisite knowledge verified Requisite skills verified
- 3-1.2 Perform the practical driving exercises specified in 2-3.2 through 2-3.5
- 2-3.2 Back a vehicle from a roadway into restricted spaces on both the right and left sides of the vehicle. (Offset alley.)
- Requisite knowledge verified Requisite skills verified
- 2-3.3 Maneuver a vehicle around obstructions on a roadway while moving forward and in reverse. (Serpentine.)
- Requisite knowledge verified Requisite skills verified
- 2-3.4 Turn a fire department vehicle 180 degrees within a confined space. (Confined space.)
- Requisite knowledge verified Requisite skills verified
- 2-3.5 Maneuver a fire department vehicle in areas with restricted horizontal and vertical clearances. (Diminishing clearance.)
- Requisite knowledge verified Requisite skills verified
- 3-1.3 Operate a fire department pumper over a predetermined route on a public way that incorporates the maneuvers and features specified in the list in 2-3.1.
- Requisite knowledge verified Requisite skills verified
- 3-2.1 Produce effective hand or master streams.
- Requisite knowledge verified Requisite skills verified

3-2.2 Pump a supply line of 2 1/2 in. (65 mm) or larger.
Requisite knowledge verified Requisite skills verified

3-2.3 Produce a foam fire stream.
Requisite knowledge verified Requisite skills verified

3-2.4 Supply water to fire sprinkler and standpipe systems.
Requisite knowledge verified

JOB PERFORMANCE REQUIREMENTS

AERIAL OPERATOR

4-1.1 Perform the routine tests, inspections, and servicing functions specified in the following list in addition to those specified in the list in 2-2.1, given a fire department aerial apparatus, so that the operational readiness of the aerial apparatus is verified.

- Cable systems (if applicable)
- Aerial device hydraulic systems
- Slides and rollers
- Stabilizing systems
- Aerial device safety systems
- Breathing air systems
- Communication systems

Requisite Knowledge: Manufacturer specifications and requirements, policies, and procedures of the jurisdiction.

Requisite Skills: The ability to use hand tools, recognize system problems, and correct any deficiency noted according to policies and procedures.

4-1.2 Perform the practical driving exercises specified in 2-3.2 through 2-3.5, given a fire department aerial apparatus and a spotter for backing, so that each exercise is performed safely without striking the vehicle or obstructions.

Requisite Knowledge: Manufacturer specifications and requirements, policies, and procedures of the jurisdiction.

Requisite Skills: The ability to use hand tools, recognize system problems, and correct any deficiency noted according to policies and procedures.

4-1.3 Operate a fire department aerial apparatus over a predetermined route on a public way, given the maneuvers specified in 2-3.1, so that the vehicle is safely operated in compliance with all applicable state and local laws, departmental rules and regulations, and the requirements of NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, Section 4-2.

Requisite Knowledge: The effects on vehicle control of braking reaction time, load factors, general steering reactions, speed, and centrifugal force; applicable laws and regulations; principles of skid avoidance, night driving, shifting, and gear patterns; negotiating intersections, railroad crossings, and bridges; weight

and height limitations for both roads and bridges; identification and operation of automotive gauges; and proper operation limits.

Requisite Skills: The ability to operate passenger restraint devices, maintain safe following distances, maintain control of the vehicle while accelerating, decelerating, and turning, maintain reasonable speed for road, weather, and traffic conditions, operate safely during nonemergency conditions, operate under adverse environmental or driving surface conditions, and use automotive gauges and controls.

- 4-2.1 Maneuver and position an aerial apparatus, given an aerial apparatus, an incident location, a situation description, and an assignment, so that the apparatus is properly positioned for safe aerial device deployment.

Requisite Knowledge: Capabilities and limitations of aerial devices related to reach, tip load, angle of inclination, and angle from chassis axis; effects of topography, ground, and weather conditions on safe deployment; and use of the aerial device.

Requisite Skills: The ability to determine the appropriate position for the apparatus, maneuver apparatus into proper position, and avoid obstacles to operations.

- 4-2.2 Stabilize an aerial apparatus, given a properly positioned vehicle and the manufacturer's recommendations, so that power can be transferred to the aerial device hydraulic system and the device can be safely deployed.

Requisite Knowledge: Aerial apparatus hydraulic systems, manufacturer's specifications for stabilization, stabilization requirements, and effects of topography and ground conditions on safe stabilization.

Requisite Skills: The ability to transfer power from the vehicle's engine to the hydraulic system and operate vehicle stabilization devices.

- 4-2.3 Maneuver and position the aerial device from each control station, given an incident location, a situation description, and an assignment, so that the aerial device is properly positioned to safely accomplish the assignment.

Requisite Knowledge: Aerial device hydraulic systems, hydraulic pressure relief systems, gauges and controls, cable systems, communications systems, electrical systems, emergency operating systems, locking systems, manual rotation and lowering systems, stabilizing systems, aerial device safety systems, system overrides and the hazards of using overrides, safe operational limitations of the given aerial device, safety procedures specific to the device, and operations near electrical hazards and overhead obstructions.

Requisite Skills: The ability to raise, rotate, extend, and position to a specified location and the ability to lock, unlock, retract, lower, and bed the aerial device.

- 4-2.4 Lower an aerial device using the emergency operating system, given an aerial device, so that the aerial device is safely lowered to its bedded position.

Requisite Knowledge: Aerial device hydraulic systems, hydraulic pressure relief systems, gauges and controls, cable systems, communications systems, electrical systems, emergency operating systems, locking systems, manual rotation and lowering systems, stabilizing systems, aerial device safety systems, system overrides and the hazards of using overrides, safe operational limitations of the given aerial device, safety procedures specific to the device, and operations near electrical hazards and overhead obstructions.

Requisite Skills: The ability to rotate and position to center, unlock, retract, lower, and bed the aerial device using the emergency operating system.

- 4-2.5 Deploy and operate an elevated master stream, given a master stream device and a desired flow, so that the stream is effective and the device is operated safely.

Requisite Knowledge: Nozzle reaction, range of operation, and weight limitations.

Requisite Skills: The ability to connect a water supply to a master stream device and control an elevated nozzle manually or remotely.

DEPARTMENT OF PUBLIC SAFETY STANDARDS & TRAINING

AERIAL OPERATOR EVALUATION FORM

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- 4-1.1 Perform routine tests, inspections, and servicing functions on the systems and components specified.
- Requisite knowledge verified Requisite skills verified
- 4-1.2 Perform the practical driving exercises specified in 2-3.2 through 2-3.5
- 2-3.2 Back a vehicle from a roadway into restricted spaces on both the right and left sides of the vehicle. (Offset alley.)
- Requisite knowledge verified Requisite skills verified
- 2-3.3 Maneuver a vehicle around obstructions on a roadway while moving forward and in reverse. (Serpentine.)
- Requisite knowledge verified Requisite skills verified
- 2-3.4 Turn a fire department vehicle 180 degrees within a confined space. (Confined space.)
- Requisite knowledge verified Requisite skills verified
- 2-3.5 Maneuver a fire department vehicle in areas with restricted horizontal and vertical clearances. (Diminishing clearance.)
- Requisite knowledge verified Requisite skills verified
- 4-1.3 Operate a fire department aerial apparatus over a predetermined route on a public way that incorporates the maneuvers and features specified in the list in 2-3.1.
- Requisite knowledge verified Requisite skills verified

- 4-2.1 Maneuver and position an aerial apparatus.
- Requisite knowledge verified Requisite skills verified
- 4-2.2 Stabilize an aerial apparatus.
- Requisite knowledge verified Requisite skills verified
- 4-2.3 Maneuver and position the aerial device from each control station.
- Requisite knowledge verified Requisite skills verified
- 4-2.4 Lower an aerial device using the emergency operating system.
- Requisite knowledge verified Requisite skills verified
- 4-2.5 Deploy and operate an elevated master stream.
- Requisite knowledge verified Requisite skills verified

JOB PERFORMANCE REQUIREMENTS

TILLER OPERATOR

- 5-2.1 Perform the practical driving exercises specified in 2-3.2 through 2-3.5 from the tiller position, given a qualified driver, a fire department aerial apparatus equipped with a tiller, and a spotter for backing, so that each exercise is performed safely without striking the vehicle or obstructions.

Requisite Knowledge: Capabilities and limitations of tiller aerial devices related to reach, tip load, angle of inclination, and angle from chassis axis; effects of topography, ground, and weather conditions on safe deployment; and use of a tiller aerial device.

Requisite Skills: The ability to determine the appropriate position for the tiller, maneuver the tiller into proper position, and avoid obstacles to operations.

- 5-2.2 Operate a fire department aerial apparatus equipped with a tiller from the tiller position over a predetermined route on a public way, using the maneuvers specified in the list in 2-3.1, given a qualified driver, a fire department aerial apparatus equipped with a tiller, and a spotter for backing, so that the vehicle is safely operated in compliance with all applicable state and local laws, departmental rules and regulations, and the requirements of NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, Section 4-2.

Requisite Knowledge: Principles of tiller operation, methods of communication with the driver, the effects on vehicle control of general steering reactions, night driving, negotiating intersections, and manufacturer operation limitations.

Requisite Skill: The ability to operate the communication system between the tiller operator's position and the driver's compartment, operate passenger restraint devices, maintain control of the tiller while accelerating, decelerating, and turning, operate the vehicle safely during nonemergency conditions, and operate under adverse environmental or driving surface conditions.

- 5-2.3 Position a fire department aerial apparatus equipped with a tiller from the tiller position, given the apparatus operating instructions, an incident location, a situation description, and an assignment, so that the aerial device is properly positioned and stabilized to safely accomplish the assignment.

Requisite Knowledge: Principles of positioning and stabilizing the aerial apparatus from the tiller position.

Requisite Skills: The ability to determine the appropriate position for the tiller, maneuver the tiller into proper position, and avoid obstacles to operations.

DEPARTMENT OF PUBLIC SAFETY STANDARDS & TRAINING

TILLER OPERATOR EVALUATION FORM

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5-2.1 Perform the practical driving exercises specified in 2-3.2 through 2-3.5 from the tiller position.

Back a vehicle from a roadway into restricted spaces on both the right and left sides of the vehicle. (Offset alley.)

Requisite knowledge verified Requisite skills verified

2-3.3 Maneuver a vehicle around obstructions on a roadway while moving forward and in reverse. (Serpentine.)

Requisite knowledge verified Requisite skills verified

2-3.4 Turn a fire department vehicle 180 degrees within a confined space. (Confined space.)

Requisite knowledge verified Requisite skills verified

2-3.5 Maneuver a fire department vehicle in areas with restricted horizontal and vertical clearances. (Diminishing clearance.)

Requisite knowledge verified Requisite skills verified

5-2.2 Operate a fire department aerial apparatus equipped with a tiller from the tiller position over a predetermined route on a public way, using the maneuvers specified in the list in 1.3.

Requisite knowledge verified Requisite skills verified

5-2.3 Position a fire department aerial apparatus equipped with a tiller from the tiller position.

Requisite knowledge verified Requisite skills verified

JOB PERFORMANCE REQUIREMENTS

WILDLAND FIRE APPARATUS OPERATOR

6-1.1 Perform the specified routine tests, inspections, and servicing functions specified in the following list, in addition to those contained in 2-2.1, given a wildland fire apparatus and its manufacturer's specifications, so that the operational status is verified.

- Water tank and/or other extinguishing agent levels (if applicable)
- Pumping systems
- Foam systems

Requisite Knowledge: Manufacturer specifications and requirements, policies, and procedures of the jurisdiction.

Requisite Skills: The ability to use hand tools, recognize system problems, and correct any deficiency noted according to policies and procedures.

6-1.2 Perform the practical driving exercises specified in 2-3.2 through 2-3.5, given a wildland fire apparatus, so that each exercise is performed safely without striking the vehicle or obstructions.

Requisite Knowledge: Vehicle dimensions, turning characteristics, the effects of liquid surge, spotter signaling, and principles of safe vehicle operation.

Requisite Skills: The ability to use mirrors, judge vehicle clearance, and operate the vehicle safely.

6-1.3 Operate a wildland fire apparatus over a predetermined route on a public way that incorporates the maneuvers and features specified in the list in 2-3.1, so that the vehicle is safely operated in compliance with all applicable state and local laws, departmental rules and regulations, and the requirements of NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, Section 4-2.

Requisite Knowledge: The effects on vehicle control of liquid surge, braking reaction time, load factors, general steering reactions, speed, and centrifugal force; applicable laws and regulations; principles of skid avoidance, night driving, shifting, and gear patterns; negotiating intersections, railroad crossings, and bridges; weight and height limitations for both roads and bridges; identification and operation of automotive gauges; and proper operation limits.

Requisite Skills: The ability to operate passenger restraint devices, maintain safe following distances, maintain control of the vehicle while accelerating,

decelerating, and turning, maintain reasonable speed for road, weather, and traffic conditions, operate safely during nonemergency conditions, operate under adverse environmental or driving surface conditions, and use automotive gauges and controls.

6-1.4 Operate a wildland fire apparatus, given a predetermined route off of a public way that incorporates the maneuvers and features specified in the following list that the driver/operator is expected to encounter during normal operations, so that the vehicle is safely operated in compliance with all applicable departmental rules and regulations, the requirements of NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, Section 4-2, and the design limitations of the vehicle.

- Loose or wet soil
- Steep grades (30 percent fore and aft)
- Limited sight distance
- Blind curve
- Vehicle clearance obstacles (height, width, undercarriage, angle of approach, angle of departure)
- Limited space for turnaround
- Side slopes (20 percent side to side)

Requisite Knowledge: The effects on vehicle control of braking reaction time, load factors, general steering reactions, speed, and centrifugal force; applicable laws and regulations; principles of skid avoidance, night driving, shifting, and gear patterns; negotiating intersections, railroad crossings, and bridges; weight and height limitations for both roads and bridges; identification and operation of automotive gauges; and proper operation limits.

Requisite Skills: The ability to operate passenger restraint devices, maintain safe following distances, maintain control of the vehicle while accelerating, decelerating, and turning, maintain reasonable speed for road, weather, and traffic conditions, operate safely during nonemergency conditions, operate under adverse environmental or driving surface conditions, and use automotive gauges and controls.

6-2.1 Produce effective fire streams, utilizing the sources specified in the following list, so that the pump is safely engaged, all pressure-control and vehicle safety devices are set, the rated flow of the nozzle is achieved, and the apparatus is continuously monitored for potential problems.

- Water tank
- Pressurized source
- Static source

Requisite Knowledge: Hydraulic calculations for friction loss and flow using both written formulas and estimation methods, safe operation of the pump, proper apparatus placement, personal safety considerations, problems related to small-diameter or dead-end mains and low-pressure and private water supply systems, hydrant cooling systems, and reliability of static sources.

Requisite Skills: The ability to position a wildland fire apparatus to operate at a fire hydrant and at a static water source, properly place apparatus for fire attack, transfer power from vehicle engine to pump, draft, operate pumper pressure control systems, operate the volume/pressure transfer valve (multistage pumps only), operate auxiliary cooling systems, make the transition between internal and external water sources, and assemble hose lines, nozzles, valves, and appliances.

6-2.1 Pump a supply line, given a relay pumping evolution the length and size of the line and pumping flow and desired intake pressure, so that adequate intake pressures and flow are provided to the next pumper in the relay.

Requisite Knowledge: Hydraulic calculations for friction loss and flow using both written formulas and estimation methods, safe operation of the pump, problems related to small-diameter or dead-end main and to low-pressure and private water supply systems, hydrant cooling systems, and reliability of static sources.

Requisite Skills: The ability to position a wildland apparatus to operate at a fire hydrant and at a static water source, transfer power from vehicle engine to pump, draft, operate pumper pressure control systems, operate the volume/pressure transfer valve (multistage pumps only), operate auxiliary cooling systems, make the transition between internal and external water sources, and assemble hose lines, nozzles, valves, and appliances.

6-2.3 Produce a foam fire stream, given foam-producing equipment, so that the proper proportion of foam is provided.

Requisite Knowledge: Proportioning rates and concentrations, equipment assembly procedures, foam systems limitations, and manufacturer specifications.

Requisite Skills: The ability to operate foam proportioning equipment and connect foam stream equipment.

DEPARTMENT OF PUBLIC SAFETY STANDARDS & TRAINING

**WILDLAND FIRE APPARATUS OPERATOR
EVALUATION FORM**

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6-1.1 Perform the specified routine tests, inspections, and servicing functions specified in the following list, in addition to those contained in 2-2.1.

Requisite knowledge verified Requisite skills verified

6-1.2 Perform the practical driving exercises specified in 2-3.2 through 2-3.5

2-3.2 Back a vehicle from a roadway into restricted spaces on both the right and left sides of the vehicle. (Offset alley.)

Requisite knowledge verified Requisite skills verified

2-3.3 Maneuver a vehicle around obstructions on a roadway while 2-3moving forward and in reverse. (Serpentine.)

Requisite knowledge verified Requisite skills verified

2-3.4 Turn a fire department vehicle 180 degrees within a confined space. (Confined space.)

Requisite knowledge verified Requisite skills verified

2-3.5 Maneuver a fire department vehicle in areas with restricted horizontal and vertical clearances. (Diminishing clearance.)

Requisite knowledge verified Requisite skills verified

6-1.3 Operate a wildland fire apparatus over a predetermined route on a public way that incorporates the maneuvers and features specified in the list in 2-3.1

Requisite knowledge verified Requisite skills verified

6-1.4 Operate a wildland fire apparatus.

Requisite knowledge verified Requisite skills verified

6-2.1 Produce effective fire streams.

Requisite knowledge verified Requisite skills verified

6-2.2 Pump a supply line.

Requisite knowledge verified Requisite skills verified

6-2.3 Produce a foam fire stream.

Requisite knowledge verified Requisite skills verified

JOB PERFORMANCE REQUIREMENTS

AIRCRAFT RESCUE & FIREFIGHTING APPARATUS OPERATOR

7-1.1 Perform the routine tests, inspections, and servicing functions specified in the following list in addition to those contained in the list in 2-2.1, given an ARFF vehicle and the manufacturer's servicing, testing, and inspection criteria, so that the operational status of the vehicle is verified.

- Agent dispensing systems
- Secondary extinguishing systems
- Vehicle-mounted breathing air systems

Requisite Knowledge: Manufacturer specifications and requirements, policies, and procedures of the jurisdiction.

Requisite Skills: The ability to use hand tools, recognize system problems, and correct any deficiency noted according to policies and procedures.

7-1.2 Perform the practical driving exercises specified in 2-3.2 through 2-3.5, given an ARFF vehicle and a spotter for backing, so that each exercise is performed safely without striking the vehicle or obstructions.

Requisite Knowledge: Vehicle dimensions, turning characteristics, the effects of liquid surge, spotter signaling, and principles of safe vehicle operation.

Requisite Skills: The ability to use mirrors, judge vehicle clearance, and operate the vehicle safely.

7-1.3 Operate an ARFF vehicle, given a predetermined route on an airport that includes the maneuvers listed in the list in 2-3.1, and operation on a taxiway, a runway, and in an aircraft parking area, so that the vehicle is safely operated in compliance with all applicable federal, state/provincial, and local laws, departmental rules and regulations, and the requirements of NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, Section 4-2.

Requisite Knowledge: The effects on vehicle control of liquid surge, braking reaction time, load factors, general steering reactions, speed, and centrifugal force; applicable laws and regulations; principles of skid avoidance, night driving, shifting, and gear patterns; negotiating intersections, railroad crossings, and bridges; weight and height limitations for both roads and bridges; identification and operation of automotive gauges; proper operation limits; hazards of driving

through smoke; control tower light signals; airfield markings; runway and taxiway designations; air and vehicle traffic patterns; and aircraft parking designations.

Requisite Skills: The ability to operate passenger restraint devices, maintain safe following distances, maintain control of the vehicle while accelerating, decelerating, and turning, maintain reasonable speed for road, weather, and traffic conditions, operate safely during nonemergency conditions, operate under adverse environmental or driving surface conditions, and use automotive gauges and controls.

7-1.4 Operate an ARFF apparatus, given a predetermined route, off of an improved surface that incorporates the maneuvers and features specified in the following list that the driver/operator is expected to encounter during normal operations, so that the vehicle is safely operated in compliance with all applicable departmental rules and regulations, the requirements of NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, Section 4-2, and the design limitations of the vehicle.

- Loose or wet soil
- Steep grades (30 percent fore and aft)
- Limited sight distance
- Vehicle clearance obstacles (height, width, undercarriage)
- Limited space for turnaround
- Side slopes (20 percent side to side)

Requisite Knowledge: The effects on vehicle control of braking reaction time, load factors, general steering reactions, speed, and centrifugal force; applicable laws and regulations; principles of skid avoidance, night driving, shifting, and gear patterns; negotiating intersections, railroad crossings, and bridges; weight and height limitations for both roads and bridges; identification and operation of automotive gauges; and proper operation limits.

Requisite Skills: The ability to operate passenger restraint devices, maintain safe following distances, maintain control of the vehicle while accelerating, decelerating, and turning, maintain reasonable speed for road, weather, and traffic conditions, operate safely during nonemergency conditions, operate under adverse environmental or driving surface conditions, and use automotive gauges and controls.

7-2.1 Maneuver and position an ARFF vehicle, given an incident location and description that involves the largest aircraft that routinely uses the airport, so that the vehicle is properly positioned for safe operation at each operational position for the aircraft.

Requisite Knowledge: Vehicle positioning for fire-fighting and rescue operations; capabilities and limitations of turret devices related to reach; and

effects of topography, ground, and weather conditions on agent application, distribution rates, and density.

Requisite Skills: The ability to determine the appropriate position for the apparatus, maneuver apparatus into proper position, and avoid obstacles to operations.

- 7-2.2 Produce a fire stream while the vehicle is in both forward and reverse power modulation, given a discharge rate and intended target, so that the pump is safely engaged, the turrets are deployed, the agent is delivered to the intended target at the proper rate, and the apparatus is safely moved and continuously monitored for potential problems.

Requisite Knowledge: Principles of agent management and application, effects of terrain and wind on agent application, turret capabilities and limitations, tower light signals, airport markings, aircraft recognition, aircraft danger areas, theoretical critical fire area and practical critical fire area, aircraft entry and egress points, and proper apparatus placement.

Requisite Skills: The ability to provide power to the pump, determine the appropriate position for the apparatus, maneuver apparatus into proper position, avoid obstacles to operations, apply agent, and determine the length of time an extinguishing agent will be available.

- 7-2.3 Produce a fire stream, given a rate of discharge and water supplied from the sources specified in the following list, so that the pump is safely engaged, the turrets are deployed, the agent is delivered to the intended target at the proper rate, and the apparatus is continuously monitored for potential problems.

- The internal tank
- Pressurized source
- Static source

Requisite Knowledge: Principles of agent management and application, effects of terrain and wind on agent application, turret capabilities and limitations, tower light signals, airport markings, aircraft recognition, aircraft danger areas, theoretical critical fire area and practical critical fire area, aircraft entry and egress points, and proper apparatus placement.

Requisite Skills: The ability to provide power to the pump, determine the appropriate position for the apparatus, maneuver apparatus into proper position, avoid obstacles to operations, apply agent, and determine the length of time an extinguishing agent will be available.

DEPARTMENT OF PUBLIC SAFETY STANDARDS & TRAINING

ARFF OPERATOR EVALUATION FORM

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- 7-1.1 Perform the routine tests, inspections, and servicing functions specified in the following list in addition to those contained in the list in 2-2.1
Requisite knowledge verified Requisite skills verified

- 7-1.2 Perform the practical driving exercises specified in 2-3.2 through 2-3.5
 - 2-3.2 Back a vehicle from a roadway into restricted spaces on both the right and left sides of the vehicle. (Offset alley.)
Requisite knowledge verified Requisite skills verified
 - 2-3.3 Maneuver a vehicle around obstructions on a roadway while moving forward and in reverse. (Serpentine.)
Requisite knowledge verified Requisite skills verified
 - 2-3.4 Turn a fire department vehicle 180 degrees within a confined space. (Confined space.)
Requisite knowledge verified Requisite skills verified
 - 2-3.5 Maneuver a fire department vehicle in areas with restricted horizontal and vertical clearances. (Diminishing clearance.)
Requisite knowledge verified Requisite skills verified

- 7-1.3 Operate an ARFF vehicle, given a predetermined route on an airport that includes the maneuvers listed in the list in 2-3.1
Requisite knowledge verified Requisite skills verified

- 7-1.4 Operate an ARFF apparatus.
- Requisite knowledge verified Requisite skills verified
- 7-2.1 Maneuver and position an ARFF vehicle.
- Requisite knowledge verified Requisite skills verified
- 7-2.2 Produce a fire stream while the vehicle is in both forward and reverse power modulation.
- Requisite knowledge verified Requisite skills verified
- 7-2.3 Produce a fire stream.
- Requisite knowledge verified Requisite skills verified

JOB PERFORMANCE REQUIREMENTS

MOBILE WATER SUPPLY APPARATUS OPERATOR

8-1.1 Perform routine tests, inspections, and servicing functions specified in the following list, in addition to those specified in the list in 2-2.1, given a fire department mobile water supply apparatus, so that the operational readiness of the mobile water supply apparatus is verified.

- Water tank and other extinguishing agent levels (if applicable)
- Pumping system (if applicable)
- Rapid dump system (if applicable)
- Foam system (if applicable)

Requisite Knowledge: Manufacturer specifications and requirements, policies, and procedures of the jurisdiction.

Requisite Skills: The ability to use hand tools, recognize system problems, and correct any deficiency noted according to policies and procedures.

8-1.2 Perform the practical driving exercises specified in 2-3.2 through 2-3.5, given a fire department mobile water supply apparatus and a spotter for backing, so that each exercise is performed safely without striking the vehicle or obstructions.

Requisite Knowledge: Vehicle dimensions, turning characteristics, the effects of liquid surge, spotter signals, and principles of safe vehicle operation.

Requisite Skills: The ability to use mirrors, judge vehicle clearance, and operate the vehicle safely.

8-1.2 Operate a fire department mobile water supply apparatus over a predetermined route on a public way, using the maneuvers specified in the list in 2-3.1, so that the vehicle is safely operated in compliance with all applicable state and local laws, department rules and regulations, and the requirements of NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, Section 4-2.

Requisite Knowledge: The effects on vehicle control of liquid surge, braking reaction time, load factors, general steering reactions, speed, and centrifugal force; applicable laws and regulations; principles of skid avoidance, night driving, shifting, and gear patterns; negotiating intersections, railroad crossings, and bridges; weight and height limitations for both roads and bridges; identification and operation of automotive gauges; and proper operation limits.

Requisite Skills: The ability to operate passenger restraint devices, maintain safe following distances, maintain control of the vehicle while accelerating, decelerating, and turning, maintain reasonable speed for road, weather, and traffic conditions, operate safely during nonemergency conditions, operate under adverse environmental or driving surface conditions, and use automotive gauges and controls.

- 8-2.1 Maneuver and position a mobile water supply apparatus at a water shuttle fill site, given a fill site location and one or more supply hoses, so that the apparatus is properly positioned, supply hoses are attached to the intake connections without having to stretch additional hose, and no objects are struck at the fill site.

Requisite Knowledge: Local procedures for establishing a water shuttle fill site, method for marking the stopping position of the apparatus, and location of the water tank intakes on the apparatus.

Requisite Skills: The ability to determine the appropriate position for the apparatus, maneuver apparatus into proper position, and avoid obstacles to operations.

- 8-2.2 Maneuver and position a mobile water supply apparatus at a water shuttle dump site, given a dump site and a portable water tank, so that all of the water being discharged from the apparatus enters the portable tank and no objects are struck at the dump site.

Requisite Knowledge: Local procedures for operating a water shuttle dump site and location of the water tank discharges on the apparatus.

Requisite Skills: The ability to determine the appropriate position for the apparatus, maneuver apparatus into proper position, avoid obstacles to operations, and operate the fire pump or rapid water dump system.

- 8-2.3 Establish a water shuttle dump site, given two or more portable water tanks, low-level strainers, water transfer equipment, fire hose, and a fire apparatus equipped with a fire pump, so that the tank being drafted from is kept full at all times, the tank being dumped into is emptied first, and the water is transferred efficiently from one tank to the next.

Requisite Knowledge: Local procedures for establishing a water shuttle dump site and principles of water transfer between multiple portable water tanks.

Requisite Skills: The ability to deploy portable water tanks, connect and operate water transfer equipment, and connect a strainer and suction hose to the fire pump.

(If applicable.) Pump a supply line of 2½ in. or larger, given a mobile water supply apparatus pumping evolution, the length and size of the line and the desired flow and intake pressure, so that the proper pressure and flow are provided.

Requisite Knowledge: Hydraulic calculations for friction loss and flow using both written formulas and estimation methods, safe operation of the mobile water supply apparatus and pump, and problems related to pumping from a mobile water supply apparatus tank.

Requisite Skills: The ability to position a fire department mobile water supply apparatus to pump in a supply mode, power transfer from vehicle engine to pump, draft, operate mobile water supply apparatus pressure control systems, operate the volume/pressure transfer valve (multistage pumps only), operate auxiliary cooling systems, and assemble hose lines, nozzles, valves, and appliances

DEPARTMENT OF PUBLIC SAFETY STANDARDS & TRAINING

**MOBILE WATER SUPPLY OPERATOR
EVALUATION FORM**

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- 8-1.1 Perform routine tests, inspections, and servicing functions specified in the following list, in addition to those specified in the list in 2-2.1.
- Requisite knowledge verified Requisite skills verified
- 8-1.2 Perform the practical driving exercises specified in 2-3.2 through 2-3.5
- 2-3.2 Back a vehicle from a roadway into restricted spaces on both the right and left sides of the vehicle. (Offset alley.)
- Requisite knowledge verified Requisite skills verified
- 2-3.3 Maneuver a vehicle around obstructions on a roadway while moving forward and in reverse. (Serpentine.)
- Requisite knowledge verified Requisite skills verified
- 2-3.4 Turn a fire department vehicle 180 degrees within a confined space. (Confined space.)
- Requisite knowledge verified Requisite skills verified
- 2-3.5 Maneuver a fire department vehicle in areas with restricted horizontal and vertical clearances. (Diminishing clearance.)
- Requisite knowledge verified Requisite skills verified
- 8-1.3 Operate a fire department mobile water supply apparatus over a predetermined route on a public way, using the maneuvers specified in the list in 2-3.1.
- Requisite knowledge verified Requisite skills verified

- 8-2.1 Maneuver and position a mobile water supply apparatus at a water shuttle fill site.
- Requisite knowledge verified Requisite skills verified
- 8-2.2 Maneuver and position a mobile water supply apparatus at a water shuttle dump site.
- Requisite knowledge verified Requisite skills verified
- 8-2.3 Establish a water shuttle dump site.
- Requisite knowledge verified Requisite skills verified