

Chapter 14 Firefighting Equipment

3 Introduction

4 The agency wildland fire program equipment resources include engines, dozers,
5 water tenders, and other motorized equipment for fire operations.

6 Policy

7 Each state/region will comply with established standards for training,
8 equipment, communications, organization, and operating procedures required to
9 effectively perform arduous duties in multi-agency environments and various
10 geographic areas.

11 Approved foam concentrate may be used to improve the efficiency of water,
12 except near waterways where accidental spillage or over spray of the chemical
13 could be harmful to the aquatic ecosystem, or other identified resource concerns.

14 Firefighting Engine/Water Tender Common Standards

15 Driving Standard

16 Refer to driving standards in Chapter 7.

- 17 • *BIA – Refer to Chapter 6 for BIA Specific Motor Vehicle Policies. BIA and*
18 *DOI policy requires all personnel who operate a vehicle with a Gross*
19 *Vehicle Weight (GVW) over 26,000 pounds to have a valid CDL.*

20 Engine/Tactical Water Tender Water Reserve

21 Engine/tactical water tender operators will maintain at least 10 percent of the
22 pumpable capacity of the water tank for emergency engine protection and
23 drafting.

24 Chocks

25 At least one set of wheel chocks will be carried on each engine/water tender and
26 will be properly utilized whenever the engine is parked or left unattended. This
27 includes engine/water tender operation in a stationary mode without a driver “in
28 place.”

29 Fire Extinguisher

30 All engines/water tenders will have at least one 5 lb. ABC rated (minimum) fire
31 extinguisher, either in full view or in a clearly marked compartment.

32 Nonskid Surfaces

33 All surfaces will comply with National Fire Protection Association (NFPA)
34 1906 Standard for Wildland Fire Apparatus requirements.

35 First Aid Kit

36 Each engine/water tender shall carry, in a clearly marked compartment, a fully
37 equipped 20-25 person first aid kit.

- 38 • *BLM – Fire First Response Kits will be carried in all Working Capital*
39 *Fund 600-series fire vehicles (excluding trailers).*

1 Gross Vehicle Weight (GVW)

2 Each engine and water tender will have an annually certified weight slip in the
3 vehicle at all times. Weight slip will show individual axle weights and total
4 GVW. Operators of engines and water tenders must ensure that the maximum
5 certified gross vehicle and axle weight ratings are never exceeded, including
6 gear, personnel, and fuel. The NFPA 1906 standard of 250 pounds per seat
7 position for each person and their personal gear will be used to calculate the
8 loaded weight.

- 9 • **FS** – Refer to *FSH 7109.19, Chapter 30 for calculation of Rough Road*
10 *Factor reduction for driving on rough or unsurfaced roads.*

11 Speed Limits

12 Posted speed limits will not be exceeded.

13 Lighting

14 Headlights and taillights shall be illuminated at all times while the vehicle is in
15 motion. All new orders for fire engine apparatus will include an overhead
16 lighting package in accordance with agency standards. Lighting packages will
17 meet NFPA 1906 standards at the time of manufacture. Engines currently in
18 service may be equipped with overhead lighting packages. A red, white, and
19 amber combination is the accepted color scheme for fire.

20 Emergency Light Use

21 Emergency lighting will be used only during on site wildland fire operations or
22 to mitigate serious safety hazards. Overhead lighting and other emergency
23 lighting must meet state code requirements, and will be illuminated whenever
24 the visibility is reduced to less than 300 feet.

- 25 • **BLM/NPS/FWS/BIA** – See agency chapters or policy for specific
26 *guidance.*
- 27 • **FS** – See *FSM 5120, FSM 5130, and FSH 5109.16 for red lights and siren*
28 *policy.*

29 Fire Equipment Maintenance and Inspections

30 Apparatus safety and operational inspections will be accomplished either on a
31 post-fire or daily basis. Offices are required to document these inspections.
32 Periodic maintenance (as required by the manufacturer) shall be performed at
33 the intervals recommended and properly documented. All annual inspections
34 will include a pump performance test to ensure the pump/plumbing system is
35 operating at desired specifications (pressure and gallons per minute).

1 **Mobile Attack (Pump and Roll)**

2 Firefighters must be seated and belted within an enclosed cab or walk alongside
 3 the apparatus during mobile attack (pump and roll) operations. Riding, standing
 4 or seated on the exterior of the apparatus is prohibited. Utilization of the NFPA
 5 1906 “on-board pump-and-roll fire-fighting position” if equipped, is not
 6 permitted.

7 **Firefighting Engines**

8 **Operational Procedures**

9 All engines will be equipped, operated, and maintained within guidelines
 10 established by the Department of Transportation (DOT) and regional/state/local
 11 operating plans. All personnel assigned to agency fire engines will meet all gear
 12 weight, cube, and manifest requirements specified in the *National Interagency*
 13 *Mobilization Guide*.

14 **Engine Typing**

15 Engine typing and respective standards have been established by NWCG.

16 <https://www.nwcg.gov/publications/pms200>

Engine Type <i>Components</i>	Structure		Wildland Engines				
	1	2	3	4	5	6	7
Tank Minimum Capacity (gal)	300	300	500	750	400	150	50
Pump Minimum Flow (gpm)	1000	500	150	50	50	50	10
@ Rated Pressure (psi)	150	150	250	100	100	100	100
Hose 2½"	1200	1000	-	-	-	-	-
1½"	500	500	1000	300	300	300	-
1"	-	-	500	300	300	300	200
Ladders per NFPA 1901	Yes	Yes	-	-	-	-	-
Master Stream 500 gpm Min.	Yes	-	-	-	-	-	-
Pump and Roll	-	-	Yes	Yes	Yes	Yes	Yes
Maximum GVWR (lbs.)	-	-	-	-	26,000	19,500	14,000
Personnel (NWCG min.)	4	3	3	2	2	2	2

17 • *FS* – See <https://www.fs.fed.us/managing-land/fire/engines> for description
 18 of Forest Service national engine standards.

1 **Fire Engine Staffing**

2 For Type 4, 5, 6, and 7 engines, minimum staffing is two individuals one of
3 which is Engine Boss qualified.

4 For Type 3 engines, minimum staffing is three individuals, including an Engine
5 Boss.

- 6 • **BLM** – For BLM engine staffing requirements see Chapter 2.
- 7 • **NPS** – For NPS engine staffing requirements see Chapter 3.

8 **Engine Inventories**

9 An inventory of supplies and equipment carried on each vehicle is required to
10 maintain accountability and to obtain replacement items lost or damaged on
11 incidents. Refer to agency-specific requirements regarding standard inventory
12 for engines.

- 13 • **BLM** – <https://doimspp.sharepoint.com/sites/blm-fa/fire-operations/SitePages/NFEP-Policy-Resources.aspx>
- 14 • **FWS** – FMH CH14

16 **Water Tenders**17 **Water Tender Typing**

18 Water tender typing and respective standards have been established by NWCG.
19 <https://www.nwcg.gov/publications/pms200>

Water Tender Type	Support			Tactical	
	<i>S1</i>	<i>S2</i>	<i>S3</i>	<i>T1</i>	<i>T2</i>
Tank Capacity (gal)	4000	2500	1000	2000	1000
Pump Minimum Flow (gpm)	300	200	200	250	250
@Rated Pressure (psi)	50	50	50	150	150
Max. Refill Time (mins)	30	20	15	-	-
Pump and Roll	-	-	-	Yes	Yes
Personnel (min)	1	1	1	2	2

20 **Water Tender Qualifications and Staffing Standards**21 • **Water Tender (Non-Tactical)**

- 22 ○ **Qualifications:** CDL (tank endorsement)
- 23 ▪ **BLM** – Refer to the *Federal Wildland Fire Qualifications Supplement*.
- 24 ○ **Staffing:** A water tender (non-tactical) may be staffed with a crew of
- 25 one driver/operator when it is used in a support role as a fire engine
- 26 refill unit or for dust abatement. These operators do not have to pass the
- 27 Work Capacity Test (WCT) but are required to take annual refresher
- 28 training.
- 29 ▪ **BLM** – A WCF class 669 non-tactical water tender may be staffed
- 30 with a crew of one driver/operator when it is used in a support role
- 31

- 1 *as a fire engine refill unit or for dust abatement. These operators*
2 *will pass the moderate Work Capacity Test (WCT), take BL-*
3 *300/RT-301 and annual refresher training, and possess a CDL*
4 *with tank endorsement and air brake endorsement (if applicable).*
- 5 • **Water Tender (Tactical)**
6 Tactical use is defined as “direct fire suppression missions such as pumping
7 hoselays, live reel use, running attack, and use of spray bars and monitors to
8 suppress fires.”
 - 9 ○ **Qualifications:**
 - 10 ▪ *BLM – ENOP, CDL (tank endorsement)*
 - 11 ▪ *NPS/FWS – ENGB, CDL (tank endorsement)*
 - 12 ▪ *FS – FFT1, CDL*
 - 13 ○ **Staffing:** Tactical water tenders will carry a minimum crew of two:
 - 14 ▪ *BLM – All WCF class 668 super-heavy tactical water tenders (2*
15 *seats, Tatra chassis, volume pump rated at 250 GPM and 150 PSI*
16 *or better) will be minimally staffed with an Engine Boss and FFT2.*
17 *A WCF class 669 non-tactical water tender may be staffed with a*
18 *crew of one driver/operator when it is used in a support role as a*
19 *fire engine refill unit or for dust abatement. These operators will*
20 *pass the moderate Work Capacity Test, take BL-300/RT-301 and*
21 *annual refresher training, and possess a CDL with tank*
22 *endorsement and air brake endorsement (if applicable); otherwise,*
23 *minimum staffing is one Engine Operator and one FFT2.*
 - 24 ▪ *NPS/FWS – One ENGB and one FFT2.*
 - 25 ▪ *FS – One FFT1 and one FFT1/FFT2.*

26 **Dozers/Tractor Plows**

27 **Dozer/Tractor Plow Training and Qualifications**

28 Agency wildland fire dozers/tractor plows will be staffed with personnel that
29 meet the training and experience standards for Dozer Operator (DZOP) or Dozer
30 Operator Initial Attack (DZIA) per the *Federal Wildland Fire Qualifications*
31 *Supplement*. While on fire assignments, all operators and support crew will meet
32 PPE requirements.

33 **Dozer/Tractor Plow Operational Procedures**

- 34 • Agency owned and operated dozer/tractor plows will be equipped with
35 programmable two-way radios, configured to allow the operator to monitor
36 radio traffic.
- 37 • Agency and contract dozer/tractor plows will have agency supplied
38 supervision when assigned to any suppression operations.
- 39 • Contract dozers must be provided with radio communications, either
40 through a qualified Heavy Equipment Boss (HEQB) or an agency-supplied
41 radio. Contract dozer/tractor plows will meet the specifications identified in
42 their agreement/contract.
- 43 • Operators of dozer/tractor plows and transport equipment will meet DOT
44 certifications and requirements regarding the use and movement of heavy

1 equipment, including driving limitations, CDL requirements, and pilot car
2 use.

3 **All-Terrain Vehicles (ATV)/Utility Terrain Vehicles (UTV)**

4 The operation of ATV/UTVs can be high risk. The use of ATV/UTVs should be
5 evaluated to ensure that use is essential to accomplish the mission, rather than
6 for convenience.

7 • **BLM** – *BLM personnel will not use ATVs for any wildland fire management*
8 *activity including preparedness, suppression, prescribed fire, hazardous*
9 *fuels reduction, post-fire rehabilitation, and emergency stabilization and*
10 *restoration, regardless of incident jurisdiction or project/activity location*
11 *after January 1, 2018. State Directors, Assistant State Directors and the*
12 *Director, National Operations Center have the authority to approve*
13 *exceptions to this policy on a case-by-case basis. All requests for exceptions*
14 *must be in writing and will include:*

- 15 ○ *A description of how the ATV is essential for the performance of*
16 *official duties;*
- 17 ○ *Analysis of the alternatives that were considered;*
- 18 ○ *Justification for an ATV being the only viable alternative; and*
- 19 ○ *Concurrence by the applicable Field Manager, District Manager,*
20 *District Safety Manager, and the State/Center Safety Manager.*

21 *Cost is not a basis for approval of an exception and no exceptions may be*
22 *made to the existing ban on industrial use of ATVs.*

23 • **BIA** – *Effective immediately, all BIA programs will cease the procurement*
24 *of ATVs used for wildland fire management activities (including*
25 *preparedness, suppression, prescribed fire, hazardous fuels reduction, post-*
26 *fire rehabilitation, and emergency stabilization and restoration). After this*
27 *date, BIA personnel will not utilize ATVs for any wildland fire management*
28 *activities, regardless of incident jurisdiction or project/activity location.*

29 • **BIA** – *Programs may continue to procure and utilize other commercially*
30 *available utility terrain vehicles (UTVs), provided the vehicle has*
31 *manufactured-installed seat belts, a steering wheel, is a multi-seat or newly*
32 *available single-seat model and is equipped with a certified roll-over*
33 *protection structure (ROPS) designed and installed by the original*
34 *equipment manufacturer as standard equipment.*

35 • **BLM/BIA** – *Employees of cooperating agencies/entities may utilize ATVs*
36 *on BLM/BIA incidents if allowed by their individual agency/entity policy.*

37 Because of the high risk nature, agencies have developed specific operational
38 policy (refer to current agency policy). ATV/UTV operators will meet the
39 training and certification requirements of their agency; employees certified by
40 their agency will be considered qualified ATV/UTV operators regardless of
41 incident jurisdiction. Common policy requirements for wildland fire operations
42 are highlighted below:

- 43 • A JHA/RA must be completed and approved by the supervisor prior to
44 vehicle operation.

- 1 • All personnel authorized to operate an ATV/UTV must first complete
2 agency specific or manufacturer-provided training in safe operating
3 procedures and appropriate PPE.
- 4 ○ **BLM** – *BLM offices may use either UTV training that is commercially*
5 *available from the Recreational Off-Highway Vehicle Association*
6 *(ROHVA), or continue to use the current version (8/2018) of the BLM*
7 *UTV Operator Field Training Range Cards to train their employees*
8 *who use UTVs. If offices choose to use ROHVA's Driver Course, they*
9 *must continue to train employees on UTV loading/unloading, trailer*
10 *use, and winch operations as prescribed in lesson plans eight through*
11 *ten of the BLM UTV range cards prior to employees engaging in these*
12 *activities. This change does not affect the requirement for UTV riders*
13 *to complete the DOI Talent course, "Introduction to Utility Terrain*
14 *Vehicle Operation" as a pre-requisite to the field training provided by*
15 *either ROHVA or the BLM range cards.*
- 16 • Re-evaluation/Re-certification – Operators shall be re-evaluated every three
17 years. Infrequent users (less than 16 hours of riding a year) shall have a
18 check ride prior to scheduled use of an ATV/UTV.
- 19 • Specific authorization for ATV/UTV use is required – All ATV/UTV
20 operations must hold a valid Motor Vehicle Operator's Identification Card,
21 OF-346 or agency equivalent.
- 22 ○ **BLM** – *Upon completion of UTV training and operator certification*
23 *requirements, UTV Operator (UTVO) will be placed on the employee's*
24 *Incident Qualification and Certification (IQCS) Card (Red Card). IQCS*
25 *Certifying Officials are responsible for verifying that UTV operator*
26 *qualifications are current, and that the UTVO qualification is removed*
27 *from the Red Card if training, certification, or currency requirements*
28 *lapse.*
- 29 ○ **NPS/FWS** – *Upon completion of agency-specific ATV/UTV training*
30 *and operator certification requirements, All-Terrain Vehicle Operator*
31 *(ATVO) will be placed on the employee's Incident Qualification and*
32 *Certification (IQCS) Card (Red Card). IQCS Certifying Officials are*
33 *responsible for verifying that ATV/UTV operator qualifications are*
34 *current, and that the ATVO qualification is removed from the Red Card*
35 *if agency-specific training, certification, or currency requirements*
36 *lapse.*
- 37 ○ **NPS** – *All Off-Highway Vehicle (OHV) operators (including ATV/UTV)*
38 *must hold a valid state Motor Vehicle Operator's Permit. Operating*
39 *restrictions identified on the operator's permit must be adhered to*
40 *while operating an OHV (e.g., use of corrective lenses, etc.). NPS ATV*
41 *operators must be qualified at either the Basic or Advanced Level as*
42 *described in RM-50B depending on the hazard potential of the*
43 *operation. All ATV operators shall be provided refresher training each*
44 *year in accordance with a JHA and reevaluated by an ASI Certified*
45 *Trainer every 3 years. The reevaluation shall be documented. RM-50B,*
46 *Appendix B (ATV Operator Accountability/Certification Tracking*

- 1 *Record) may be used to document the reevaluation. Further*
2 *information on ATV/UTV use is found in RM-50B.*
3 ○ **BIA** – *Upon completion of UTV training and operator certification*
4 *requirements, Utility Terrain Vehicle Operator will be placed on the*
5 *employee’s Incident Qualification and Certification (IQCS) Card (Red*
6 *Card). IQCS Certifying Officials are responsible for verifying that UTV*
7 *operator qualifications are current, and that the UTVO qualification is*
8 *removed from the Red Card if training, certification, or currency*
9 *requirements lapse.*
10 ● ATVs can only have a single rider—passengers are prohibited even if ATV
11 is designed for two riders.
12 ● UTVs passengers are limited to the number of seats installed by
13 manufacturer. The operator and passenger(s) must use seatbelts while the
14 vehicle is in motion.
15 ● Operators must use required PPE while loading/unloading ATV/UTV.
16 ● Cargo loads shall be loaded and secured as to not affect the vehicle’s center
17 of gravity, and shall not exceed manufacturer’s recommendations for
18 maximum carrying capacity; and
19 ● When transporting external fuel containers with a UTV/ATV, a 5 lb. class
20 BC fire extinguisher must be secured to the UTV/ATV.

21 **Required PPE**

22 **ATV Head Protection for Wildland Fire Operations**

- 23 ● ATV helmets must be worn at all times during ATV operations (on and off
24 the fireline); and
25 ● ATV helmets must meet Snell SA2010, SA2015, or DOT certification.
26 ○ A ¾ face model meeting Snell SA2010, SA2015 certification is
27 acceptable for use.
28 ○ Use of half “shorty” helmets requires a JHA/RA for fireline use and
29 must include justification for its use. Refer to MTDC Tech Tip
30 publication, *A Helmet for ATV Operators with Fireline Duties* (0651-
31 2350-MTDC).

32 **UTV Head Protection for Wildland Fire Operations:**

- 33 ● Helmets must meet DOT, ANSI Z90.1; or Snell SA2010, SA2015
34 certification unless:
35 ○ UTV is used for low speeds and smooth travel surfaces, administrative
36 use (e.g., campgrounds, incident base camps) UTV operators are not
37 required to wear helmets; or
38 ○ UTV is equipped with approved Rollover Protection System (ROPS),
39 and:
40 ■ **BLM** – *A comprehensive and properly prepared RA of the specific*
41 *conditions demonstrates no more than a medium residual risk*
42 *level, then a helmet meeting NFPA 1977 or ANSI Z 89.1 2009 Type*
43 *1, Class G standards standard may be worn with chin strap*
44 *secured in place under chin.*

- 1 ▪ ***NPS** – Approved helmets are required for UTV operations that are*
- 2 *rated moderate (amber) or high (red) using the “ORV Risk*
- 3 *Assessment Tool” included in the NPS Off-Highway Vehicle*
- 4 *Policy.*
- 5 ▪ ***FWS** – Per 243 FW 6.6 B.1, a hardhat meeting NFPA 1977 or*
- 6 *ANSI Z 89.1 standards may be worn with chin straps secured in*
- 7 *place unless the risk assessment for the operation dictates wearing*
- 8 *a securely fastened motorcycle helmet.*
- 9 ▪ ***FS** – UTV Helmet (for fire use) – must meet the policy within the*
- 10 *Safety Handbook (6709.11), Chapter 70, 71.12; Exhibit 01 states*
- 11 *“Specialized Equipment, such as ATVs, UTVs, Dirt Bikes,*
- 12 *Snowmobiles (Department of Transportation-approved helmet).”*
- 13 *Wearing hardhats while driving or riding on a UTV is not allowed.*
- 14 *Forest Service policy provides no exception to the helmet*
- 15 *requirement for low speeds, smooth travel surfaces, or*
- 16 *administrative use. UTV Helmet (for fire use) requirements are the*
- 17 *same as ATV use. Helmets must meet Snell, or DOT ANSI*
- 18 *certification. A ¾ face model meeting Snell or DOT certification is*
- 19 *acceptable for use. Use of half “shorty” helmets requires a*
- 20 *JHA/RA for fireline use approved by the Incident Commander or*
- 21 *relevant Line Officer and must include justification for its use.*
- 22 *Refer to MTDC Tech Tip 5 publication, A Helmet for ATV*
- 23 *Operators with Fireline Duties (0651-6 2350-MTDC).*
- 24 ▪ ***BIA** – UTV Helmet (for fire use) must be worn. Helmets must meet*
- 25 *DOT, ANSI Z90.1: or Snell SA2010, SA2015 certification.*
- 26 *Hardhats are not approved for Wildland Fire Operations (non-*
- 27 *admin use).*

28 Eye protection (goggles, face shield, or safety glasses) based upon JHA/RA:

- 29 • Eye protection is not required for a UTV equipped with an original
- 30 manufacturer windshield that protects the face from branches, flying debris,
- 31 etc., unless otherwise required by an associated industrial use activity or
- 32 JHA/RA.

33 If operating ATV/UTV on the fireline, the following are required:

- 34 • Leather or leather/flame resistant combination gloves. Flame resistant flight
- 35 gloves or NFPA 1977 compliant Driving Gloves can be used by heavy
- 36 equipment operators, drivers and fireline supervisors when not using
- 37 fireline hand tools.
- 38 • National Fire Protection Association (NFPA) 1977 compliant long-sleeved
- 39 flame resistant shirt (yellow recommended).
- 40 • NFPA 1977 compliant flame resistant trousers.
- 41 • Wildland fire boots.
- 42 • Appropriate head protection as described above.

- 1 ○ **FS** – *Shirt, trousers, and gloves used by USFS personnel must meet*
- 2 *Forest Service specification 5100-91 (shirt), 5100-92 (trousers), 6170-*
- 3 *5 (gloves), or be NFPA 1977 compliant.*
- 4 ATV/UTV operator shall carry a personal communication device (e.g., two-way
- 5 radio, cellular phone, or satellite phone).
- 6 All other ATV/UTV specific guidance is found in the respective agency's
- 7 policy:
- 8 • **BLM** – *Refer to BLM Handbook 1112-1, Chapter 17.*
- 9 • **NPS** – *Refer to Reference Manual 50B Occupational Health and Safety,*
- 10 *Section 6.1 Off-Highway Vehicle Safety at*
- 11 *<https://www.nps.gov/policy/RM50Bdoclist.htm>.*
- 12 • **FWS** – *Refer to 321 FW 1*

13 **Vehicle Cleaning/Invasive Species Prevention**

14 Refer to Chapter 11 for guidance on minimizing potential transmission of
15 invasive species.

16 **Incident Remote Automated Weather Stations**

17 Incident Remote Automated Weather Stations (IRAWS – NFES 5869) are
18 readily deployable, portable weather stations that may be utilized in unprepared
19 locations to monitor local weather conditions. IRAWS are intended for use on or
20 near the fireline or at other all-hazard incidents, and are installed by NIFC
21 technicians and operated as desired by Fire Behavior Analysts (FBAN) and/or
22 Incident Meteorologists (IMET) to record and distribute real time weather data.

23 National resource IRAWS systems are cached at the National Interagency Fire
24 Center (NIFC) and may be ordered through standard equipment resource
25 ordering systems. Following release from an incident, these stations must be
26 returned to the Remote Sensing/Fire Weather Support Unit (RSFWSU) at NIFC
27 for maintenance, recalibration, and redeployment.

28 **Aerial Ignition Devices**

29 Information on types of aerial ignition devices, operational guidelines, and
30 personnel qualifications may be found in the *NWCG Standards for Aerial*
31 *Ignition* (PMS 501) available at <https://www.nwcg.gov/publications/501>.

32 **Ground Ignition Devices and Transporting/Dispensing Fuel**

33 For ground ignition devices, follow the *NWCG Standards for Ground Ignition*
34 *Equipment* (PMS 443) for operational guidelines, personnel qualifications, and
35 equipment selection. <https://www.nwcg.gov/publications/443>

- 36 • **BLM** – *A 10 lb. class BC fire extinguisher is required for UTVs equipped*
- 37 *with a ground ignition device.*

- 1 For transporting and dispensing fuel, follow *NWCG Standards for Transporting*
- 2 *Fuel* (PMS 442) found at <https://www.nwcg.gov/publications/442> or agency-
- 3 specific guidance.
- 4 • **BLM** – *Effective May 1, 2019, all drip torches must meet United States*
- 5 *Forest Service (USFS) specification 5100-614.*
- 6 • **NPS** – *Follow the Forest Service standard for military style jerrican (UN*
- 7 *3A1) (PMS 442, page 8).*
- 8 • **FS** – *Direction is found in FSH 6709.11.*

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