

**Forest Service Handbook
National Headquarters - Washington Office
Washington, DC**

**Forest Service Handbook 5109.16 – Fire Management Equipment, Supplies and Chemicals
Chapter 10 – Fire Management Equipment**

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Approved by: James E. Hubbard, Deputy Chief, S&PF

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Responsible Staff:

Last Change:

Superseded Document(s):

Digest: Following is an explanation of the changes throughout the directive by section.

5109.16: Establishes new handbook “FSH 5109.16, Fire Management Equipment, Supplies and Chemicals” and sets forth revises direction previously in FSM 5160.

Zero Code: Establishes codes and captions, and sets forth direction.

10: Establishes codes and captions for “Fire Management Equipment”, and sets forth direction.

20: Establishes codes and captions for “Fire Management Chemicals”, and sets forth direction.

30: Establishes codes and captions for “Emergency Lighting and Siren Equipment”, and sets forth direction.

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11 - Systems

11.1 - Aerial Ignition

Aerial ignition systems approved for operational use are listed in the Interagency Aerial Ignition Guide (sec. 06.1b). The Washington Office, Director, Fire and Aviation Management Staff, must approve use of any other system.

11.2 - Ground Ignition

For ground ignition device selection and use, follow the requirements in the Interagency Standards for Fire and Fire Aviation Operations (sec. 06.1b). Ground ignition devices and specifications are described in the Interagency Ground Ignition Guide (sec. 06.1b).

11.3 - Use and Storage

Use and storage of these ignition devices must comply with the Health and Safety Code Handbook (FSH 6709.11).

11.4 - Fuel Transportation and Dispensing

Follow the guidance in the Interagency Transportation Guide for Gasoline, Mixed Gas, Drip-Torch Fuel, and Diesel (sec. 06.1b) when transporting and dispensing fuel.

12 - Water Handling Equipment

The NWCG Water Handling Equipment Guide is a primary source of specific information on water handling equipment and accessories. See the NWCG NFES Catalog Part 1: Fire Supplies and Equipment (sec. 06.1b).

12.1 - Portable Pumping Equipment

Purchase only tested and qualified pumping equipment for operational use. The Washington Office, Director, Engineering Staff, maintains a qualified products list available for distribution. The National Interagency Cache System (NISC) stocks qualified units which are listed in the NWCG NFES Catalog Part 1: Fire Supplies and Equipment (sec. 06.1b).

12.2 - Mobile Fire Equipment

The purchase of new mobile fire equipment must meet the requirements as established in the applicable Forest Service national fire vehicle specifications. The specifications for national standard fire vehicles are found on the Forest Service Fire Equipment website at:

<http://www.fs.fed.us/fire/equipment/index.html>. Deviation from national standards must be requested in writing and approved by the Washington Office, Director, Fire and Aviation Management. The request form can be downloaded from the Forest Service Fire Equipment website.

12.3 - Fire Hose and Couplings

Purchase a fire hose which meets Forest Service specifications for operational use. The Washington Office, Director, Fire and Aviation Management Staff, must approve any exceptions. All fire hose threads used on Forest Service pumping equipment must be in accordance with Forest Service Standard 5100-190 (sec. 06.2b).

13 - Equipment Maintenance and Testing

13.1 - Portable Pumps

Maintain and test all portable pumps according to performance standards in the NWCG Fire Equipment Storage and Refurbishment Standards (sec. 06.1b).

13.2 - Fire Equipment in the National Fire Equipment System

Follow the service test procedures and equipment standards covered in the NWCG Fire Equipment Storage and Refurbishment Standards (sec. 06.1b).

13.3 - Fire-Weather Observation Instruments and Equipment

For comprehensive guidance on the operation of weather stations that provide data for wildland resource management, follow the Interagency Wildland Fire Weather Stations Standards and Guidelines (sec. 06.1b).

14 - Fire Equipment Use/Loss

Review the fire loss for equipment and supplies on each Type I, Type II, Type III or all Hazard incident. Investigate all cases in which the performance threshold in sec.14.4 has been exceeded. The performance threshold levels provided in exhibit 01 are the values that, when exceeded, initiate management action. The objective is no (zero) fire loss.

A performance threshold level for the use of consumable goods is provided as a reference.

14.1 - Cache Inventory and Documentation

Perform an inventory by physical count and document incident support cache inventories on an annual basis as specified by the National Incident Support Cache, Inventory Management Standard Operating Procedure.

14.2 - Assignment of Inventory Responsibility

The key duties of inventory custody and verification must be separated from inventory recordkeeping in incident support caches. Specifically, warehousing and data entry responsibilities must not be entrusted to the same individual. Supervisory approval is required for all inventory adjustments which are not supported by independent documentation.

14.3 - Fire Loss/Use Information

Ensure that the Incident Support Cache Manager compiles fire loss information using the approved automated cache inventory management system, for example Incident Cache Business System (ICBS). Compute a single fire loss (sec. 05) for an incident whenever more than one incident support cache provides equipment or supplies.

14.4 - Fire Loss/Use Rates

At the end of the incident, return all accountable property, durable, sensitive, trackable and unused consumable items (sec. 05) to the incident support cache. For missing or damaged property, document the item on a Report of Unserviceable, Lost, or Damaged Property (Form AD-112), available electronically.

Exhibit 01 provides performance threshold levels for fire loss. Follow up action plans as specified in sec. 04 are required if the performance threshold level is exceeded for any category except Consumable Goods. The levels delineated in exhibit 01 do not imply an acceptable loss level. A single instance of lost damaged, or destroyed accountable, sensitive and trackable property needs to be documented and reported.

Enforcement of these fire loss/use rates and related procedures is the responsibility of the Forest Supervisor (sec. 04.3).

14.4 - Exhibit 01

Fire Loss Performance Threshold Levels

Fire Loss Category	Performance Threshold Level
Accountable Property	10%
Durable Items	10 %
Sensitive Property	10%
Trackable Property	10%
Consumable Goods	65% returned to Incident Support Cache

14.5 - Equipment and Supplies Purchased with Wildland Fire Suppression Funds

Equipment and supplies procured with Wildland Fire Suppression Funds (WFSU) that are nonstandard items not provided through the cache system or that do not replace property lost or damaged during a fire, must be placed into the fire supply system after the fire season.