FIRE EQUIPMENT

1 Introduction

In this chapter two national programs are addressed:

- Remote Automated Weather Stations (RAWS) Maintenance Program
- Working Capital Fund (WCF) Vehicle Replacement Program

These programs are managed and coordinated through the NPS Branch of Wildland Fire at the Fire Management Program Center. The RAWS program provides funding and technical support for the maintenance of station sensors and the accuracy of station data for the wildland fire program. The WCF replacement program provides a funding mechanism for the cyclic replacement of specialized wildland fire vehicles that are more difficult to replace using other vehicle acquisition options.

Individual parks or regions are responsible for acquiring, maintaining, and replacing all other wildland fire capital equipment not covered under the RAWS and WCF programs. Types of equipment not eligible for the RAWS and WCF programs may include the following:

- Portable pumps
- Chain saws
- Slip-on water pumping units
- Aerial and ground ignition devices
- Common utility vehicles
- All-terrain vehicles
- FM radios

Structural fire equipment and apparatus are not discussed in this chapter. Guidance and direction for equipment related to structural fire can be found in *Director's Order 58*.

2 Responsibilities Remote Automated Weather Stations Program

2.1 National Level

The NPS Branch of Wildland Fire is responsible for maintaining the interagency Memorandum of Understanding (MOU) for Remote Automated Weather Station support in coordination with the other DOI bureaus. The Branch develops the yearly Statement of Work and Budget (SWB) with BLM to determine the stations

maintained by the Remote Sensing Fire Weather Support Unit (RSFWSU) and the associated cost per station.

The Branch represents the NPS on the Interagency RAWS Partners Committee to provide programmatic interagency oversight and to recommend strategic direction, vision, and operational standards in commitment to the RSFWSU.

The NPS Branch of Wildland Fire supervises one electronics technician working in the RSFWSU to provide interagency support for RAWS maintenance.

2.2 Regional Level

The regional offices will:

- Monitor maintenance schedules for wildland fire RAWS within their region to ensure the stations meet NFDRS standards.
- Ensure "Points of Contact" (POCs) have updated maintenance documentation in the Wildland Fire Management Information (WFMI) system and Computer Maintenance Management System (CMMS) websites.
- Coordinate locations of wildland fire RAWS sites to maintain optimum coverage for primary wildland fire occurrence areas.
- Coordinate new purchases of wildland fire RAWS.
- Coordinate with the Branch of Wildland Fire on the number of stations within the region to be maintained by BLM on the MOU.

2.3 Park Level

Parks that have wildland fire RAWS will assign a Point of Contact for each station. The POC will be responsible for the operation, maintenance, and data quality of the station and will also be available as the first-line contact for questions about the specifics of that station. The POC may be responsible for more than one station and may personally do the annual station maintenance and periodic repairs or may supervise or contract those activities. The responsibilities of the POC include the following:

- Is available to be contacted by the RSFWSU to provide troubleshooting help for the period the station is in operation.
- Ensures repairs at the RAWS can be achieved within two days of any malfunction for the period the station is in operation.
- Monitors the station data for accuracy of readings.
- Ensures components on the station are maintained to standards as defined in Interagency Remote Automated Weather Station Standards website and *PMS 426-3*.

- Documents station maintenance and repairs in Wildland Fire Management Information (WFMI) and CMMS websites.
- Ensures personnel servicing the station are properly trained (the schedule for RAWS maintenance training can be found at the Interagency Remote Automatic Weather Stations under Training).
- Maintains the RAWS site, removing vegetation around the station in accordance with *NFDRS Weather Station Standards* (PMS 426-3).

3 Remote Automated Weather Stations Maintenance Program

The Remote Automated Weather Station (RAWS) system is an interagency network of approximately 2,200 stand-alone monitoring stations located throughout the United States (including Alaska, Hawaii, Guam, Puerto Rico, and the U.S. Virgin Islands) whose express purpose is to supply weather observations. Although station ownership, maintenance processes, and data use differ among the RAWS network agencies, each station funded by and supplying data to the wildland fire program must meet specific standards (see *NFDRS Weather Station Standards*, PMS 426-3). The weather data generated by the stations is used in fire business applications, such as the National Fire Danger Rating System (NFDRS) and fire behavior, in order to support critical fire decision-making requirements.

Through an interagency agreement, the Bureau of Land Management (BLM) provides data collection and communications support to the entire network from its Information Resource Management facility at the National Interagency Fire Center (NIFC) and imports data into the Wildland Fire Management Information (WFMI) system. Weather data is sent to the Weather Information Management System (WIMS), Real-time Observation Monitoring and Analysis Network (ROMAN), Western Region Climate Center (WRCC), Wildland Fire Management Information system (WFMI), and the Alaska Fire Service (AFS) in support of wildland fire management efforts. The WRCC is under contract for long-term storage of weather data and provides this data to customers upon request.

To ensure a common data format, a coordinated transmission plan and data quality parameters are enforced. All stations must meet this common standard, which has been defined by the National Fire Danger Rating System (NFDRS). The NFDRS RAWS maintenance requirements are found in *NFDRS Weather Station Standards*, PMS 426-3. This document provides common standards for weather stations used by the wildland fire agencies for calculation of NFDRS outputs.

Stations that do not meet these standards should not be used for making wildland fire operational decisions.

3.1 RAWS Maintenance

To ensure continuity of operations for RAWS, a maintenance support system must be in place for each station. Maintenance support includes calibration and repair of station components and annual maintenance. For stations operated by the NPS, maintenance is normally accomplished using the interagency MOU for Remote Automated Weather Station support with the Remote Sensing Fire Weather Support Unit (RSFWSU) of the BLM at NIFC. Currently, the RSFWSU only provides service for "Vaisala" and "Forest Technology Systems" (FTS) brand stations.

The RSFWSU provides three levels of service to its customers.

- Under a *Depot Maintenance Agreement*, the local unit provides a trained person to remove components from the station, send them in for calibration and repair, and install replacement components.
- Under a *Modified Maintenance Agreement*, the RSFWSU sends a technician to the site each year to replace the required components with refurbished, calibrated components.
- Under a *Full-Ride Maintenance Agreement*, the RSFWSU performs annual calibration and replacement and also provides emergency repair response according to standards specified in *NFDRS Weather Station Standards*, PMS-426-3.

The NPS wildland fire program will only fund maintenance service for permanent RAWS providing primary benefit to the wildland fire program, and only at the depot maintenance level of service. Upgraded levels of maintenance and maintenance costs for stations having primary benefit to other programs are chargeable to the benefiting programs. Maintenance of portable RAWS procured by parks is the responsibility of those parks and will not be considered for maintenance under the interagency RAWS MOU. Stations that have lacked maintenance for two or more years will be removed from the maintenance agreement and be de-activated to prevent data transmission.

To be considered a wildland fire weather station and to be qualified for inclusion in the interagency RAWS MOU, a proposed or existing RAWS must meet eligibility requirements. The following factors will be considered in making this eligibility determination:

- Proximity to other qualified weather stations
- Whether the station meets NFDRS standards
- Level of fire management activity in the area
- Level of use for determining representative fire danger rating indices for the park

- Whether the proposed station is a replacement of a manual station used primarily for wildland fire activities
- Ability of the park to provide trained maintenance support

3.2 Procurement of New RAWS

Procurement of new stations will be coordinated with the region and the NPS Branch of Wildland Fire prior to purchase to determine whether the station meets the wildland fire criteria listed above. If stations do not meet the listed criteria, maintenance arrangements will be the responsibility of the park and will not be included in the NPS wildland fire maintenance agreement.

3.3 RAWS Resource Ordering

Portable RAWS can be ordered for wildland fires and other resource projects through the NIFC cache system by submitting a resource order through established dispatch channels. There are two types of portable RAWS described in the *NWCG Fire Supplies and Equipment Catalog* (NFES 0362). The Fire Remote Automated Weather Stations (FRAWS NFES #5869) are used for wildfire incidents and prescribed fire projects. The Project Remote Automated Weather Stations (PRAWS NFES #5870) are primarily for non-fire use and resource related projects. Instructions on ordering these stations can be found in the *National Interagency Mobilization Guide* under Equipment/Supplies.

Portable RAWS (both FRAWS and PRAWS) can be ordered without RSFWSU technicians provided there is someone trained to set up and operate the station. If the park intends to supply the technician rather than using an RSFWSU technician, the request to do so must be documented on the resource order. The name of the trained person setting up the station must also be documented on the order.

The NPS maintains a portion of the cache of PRAWS that are located at the RSFWU, which enables parks to order and retain stations for an extended duration on specific projects. Parks should contact the Branch of Wildland Fire RAWS Coordinator at FMPC to address specific needs.

Costs charged for each dispatch include the following:

- Shipping of the station or “use rate” for RAWS vehicle travel.
- Refurbishment and recalibration of the station upon return to the RSFWSU.
- RSFWSU technician travel per diem (normally for two technicians).

4 Responsibilities Working Capital Fund Program

4.1 National Level

The national office will:

- Coordinate with BLM to replace WCF vehicles.
- Provide chairperson for the NPS Equipment Committee.
- Coordinate with venders on new vehicle purchases.
- Conduct acceptance inspections on new vehicle purchases.
- Provide a representative to the NWCG Equipment Technology Committee.
- Coordinate with BLM on the disposal of old or surplus WCF vehicles.
- Present regional proposals and WCF business rule proposals to the FMLB.

4.2 Regional Level

The regional offices will:

- Conduct periodic readiness inspections of WCF vehicles.
- Report periodic vehicle conditions to the Branch of Wildland Fire, and review replacement cycles of vehicles.
- Coordinate the placement of WCF vehicles with the Branch.
- Provide representatives to the NPS Equipment Committee.
- Provide written justifications for proposed additions, modifications, and deletions of vehicles to the WCF program in the region.
- Maintain accurate inventories of all wildland fire capitalized equipment within the region.

4.3 Park Level

Parks that have received WCF vehicles will:

- Provide covered storage for all WCF engines.
- Maintain the condition of WCF fire vehicles such that they can respond to fires 95% of the time.
- Perform scheduled maintenance in a timely manner.
- Keep vehicle weight under the listed Gross Vehicle Weight (GVW) rating at all times.
- Maintain accurate, detailed maintenance records for each vehicle.
- Maintain an accurate inventory of supplies and equipment on WCF fire vehicles.

5. Working Capital Fund Vehicle Replacement Program

Prior to 1997, National Park Service (NPS) wildland fire vehicles were replaced based on the most urgent needs and available funding. To ensure a safe wildland fire vehicle fleet, however, the NPS needed a reliable program to replace engines at the end of their life cycle and to remove old equipment from the NPS inventory.

Starting in 1997, the NPS entered into an agreement with the Bureau of Land Management (BLM) to manage an NPS Working Capital Fund (WCF) program. The NPS entered into this agreement to provide a reliable process for the replacement of wildland fire engines, tenders, and other non-standard vehicles that require dependable replacement schedules. The BLM, in accordance with the Federal Land Policy and Management Act of 1976, has the sole authority within the Department of the Interior (DOI) to administer a WCF program (43 U.S.C. § 1736 Working Capital Fund). Coordination through the BLM ensures fire vehicles are standardized among federal interagency wildland fire partners. The BLM also provides interagency standard specifications for wildland fire vehicles.

Each new NPS wildland fire vehicle purchase is entered into the WCF program. The BLM establishes Fixed Ownership Rates (FOR) for each type of vehicle, and FOR charges begin the year the vehicle is received by the park. The fixed ownership rate is derived from a formula using the expectant life of the vehicle, the average surplus value of the replaced vehicle, and a built-in inflation factor. The NPS provides FOR funding annually for each NPS vehicle in the program. Upon receiving the vehicle, the park funds 10% of the FOR through its wildland fire support funds. The remaining 90% comes from the NPS Branch of Wildland Fire. For parks that are not provided wildland fire support funding, 100% of the cost is financed by the Branch. When the vehicle reaches the end of its life cycle, BLM replaces the equipment for the NPS, using funds provided by the WCF program. The NPS also pays an administrative fee to BLM for this service, as provided for in the BLM agreement. Vehicle repairs are the responsibility of each park and are not part of the WCF program at this time.

For accounting purposes, the NPS annually obligates FOR funds through the interagency agreement. This funding is treated as an “advance of funds” and remains as an un-liquidated obligation in the NPS accounting system. At the time of replacement, the new vehicle is entered into the NPS Fixed Asset System and the un-liquidated obligation is expended for the replacement cost of the vehicle. As an un-liquidated obligation, it is not part of any carryover funding.
The Branch of Wildland Fire administers the agreement with BLM and is a contact for the regions and parks on matters of quality control and standards. In addition, the NPS has an Equipment Committee that is made up of fire management officers, operational specialists, the Branch's equipment specialist,

a regional representative, and a BLM representative. This committee oversees the NPS standards and general specifications for fire engines and other fire equipment. They also recommend business rules to the Fire Management Leadership Board (FMLB) for administering the program.

The following types of wildland fire vehicles are currently purchased through the WCF program:

- Type 6 and Type 3 engines
- Water tenders
- Hotshot crew carriers
- Wildland Fire Module support vehicles
- Helitack support vehicles

Engines are placed into the WCF program based on the amount of wildland fire occurrence, fuels projects, and mutual aid assistance each park experiences. FIREPRO, a discontinued fire management analysis program, formerly provided a process for determining engine placement. Although FIREPRO has been discontinued, the output data can still provide historical perspective on engine placement. A new interagency fire management analysis program is under development but is not expected to be operational in the near future. In the interim, no placement changes or additions to the WCF program will occur unless approved by the FMLB. Requests for changes will be submitted through the NPS Branch of Wildland Fire at FMPC and presented to the Board. Written justification is required for a request to be considered.

When the WCF program began, the size or type of engine placed in a park was originally determined by historical need. (FIREPRO analysis did not address engine typing.) Engine typing and determination of general specifications can be found in the *Wildland Fire Incident Management Field Guide*.

Upgrades in engine type must be approved by the FMLB. Requests for changes in engine type must be submitted through the FMPC and presented to the Board. Written justification is required before a request can be considered. The difference in cost between the FOR purchase price of the original engine type and the cost of an upgraded engine will be the responsibility of either the park or the region.

The Branch of Wildland Fire will consider, on a case-by-case basis, the placement and type of vehicles other than engines in the WCF program. Addition of tenders to the WCF program requires approval by the FMLB and entails the same justification process required for engines. Determination of need for Wildland Fire Module support vehicles will be the responsibility of the fuels program at the FMPC. Vehicles provided by the WCF program are assigned to

specific locations, and permanent relocation or trading of WCF vehicles requires approval from the NPS Fire Management Leadership Board (FMLB).

The care, operation, and staffing of all WCF vehicles is guided by the *Interagency Standards for Fire and Fire Aviation Operations* (see the chapter on Firefighting Equipment). The minimum supply stocking levels for engines is also discussed. Parks are required by NPS policy to provide covered storage for all engines in the WCF program. Where cold weather may freeze plumbing, heated storage is required.

5.1 Ordering WCF Vehicles

Ordering replacement WCF vehicles through the BLM will be coordinated by the Fire Equipment and Facilities Specialist at the FMPC. The call for replacement of WCF vehicles will be announced to the parks through an electronic memorandum with an attached order form. The WCF program funds only the minimum standard of vehicles, and these standards are determined by the NPS Fire Equipment Committee. Parks are responsible for covering the cost of any additional options for wildland fire vehicles. The order form lists the most common optional items for consideration. For options not listed, contact the FMPC.

Prior to the delivery of new engines to parks, the Branch of Wildland Fire will conduct final inspections at the manufacturing location in coordination with the BLM. After inspections are completed, parks will be notified and given options for vehicle delivery. If possible, parks should send operators to the manufacturing location to pick up vehicles. The manufacturer is contracted to provide training on new vehicle care and operation to park operators, particularly for engines or tenders. The Branch will provide travel funding for one operator for each vehicle.

5.2 Disposal of Surplus or Old WCF Vehicles

The disposal of surplus or old WCF vehicles is handled by the BLM. Prior to the delivery of new WCF vehicles, information and instructions for disposal will be sent to the parks by the Branch of Wildland Fire. WCF vehicles cannot be turned over to GSA or offered to other parks. Revenue from the resale provides 20% of the replacement cost for the new vehicle. For instructions on filling out Standard Form 126 for wildland fire equipment exchange sales, see Exhibit 1.

Exhibit 1

EXCHANGE SALE INSTRUCTIONS
NPS Working Capital Fund

The National Park Service's **Working Capital Fund** (WCF) was developed in 1996 in cooperation with the Bureau of Land Management (BLM) to insure funding for timely replacement of NPS wildland fire apparatus. The BLM provides administrative assistance and support to the NPS WCF program.

Proceeds from the sale of surplus fire equipment replaced by the WCF will form one component of this program, along with annual amortization payments [FOR's = Fixed Ownership Rates] for each piece of new equipment placed in the WCF. The fire engines and water tenders being replaced [***excluding slip-on pumpers***] **MUST BE REPORTED TO BLM on a Standard Form 126 and disposed of as "exchange sale"**, which allows received sales revenue to be credited to the NPS WCF program. Any other method of sale results in the loss of the income to the program.

If there is any known interest from local rural fire departments (RFD), a negotiated fixed-price sale can be worked between the RFD and NPS. Annotate the name of the RFD, a contact person and telephone number on the SF-126. The fair market value will be established, computed from several available means. The Kelley Blue Book, NADA Blue Book, or Truck Paper.com can give a rough idea of the fair market value. BLM also uses 20% of the original cost of the engine as another estimating tool. The Working Capital Fund Program Manager will determine that value, which then should be included in the description of the SF-126.

Specific Instructions for the SF-126:

Use an electronic form so it can be e-mailed.
Do not send a hard copy form.

Block 1: Bureau of Land Management, Property Operations Branch (BC-653), Attn: Property Utilization Specialist, Building 50, P.O. Box 25047, Denver CO 80225-0047.

Block 2: Locally Assigned

Block 4: ***2320***

Block 6: Name and contact information for the person who can arrange for an inspection of the unit

Block 7: Location where the vehicle can be inspected**.**

Exhibit 1

Block 8: Address for the GSA office that services your area

Block 9: Recommend that you check this block NO unless you want to get stuck with loading the engine on a flatbed for someone.

Block 10: Yes

Block 11: Yes

Block 12: National Park Service, Fire Management Program Center
Attention: WCF Mgr.
3833 S. Development Ave.
Boise ID 83705-5354

Block 13: ***14X6875***

Block 14: *14-11-0008*

Block 15: These vehicles are not available for donation.

Block 16:

- Indicate the manufacturer
- List the VIN [vehicle identification number]
- License plate (Tag) number
- Identify the model
- List the model year
- Describe the body type [*e.g.,* pick-up; van; cab/chassis; etc.]
- List the gross vehicle weight rating [GVWR]
- Wheelbase in feet and inches
- Number of cylinders [CID or CC]
- Type of transmission
- Color
- Fuel type (gas or diesel)
- Accessories [*e.g.,* **PS** = power steering; **PB** = power brakes; **RA** = radio; **AC** = air conditioning; etc.]
- List the mileage/hours [**a statement MUST be provided indicating that the odometer reading is "*Correct*", "*Turned Over*", or "*Incorrect*", and whether it has "*Not been altered*", "*Been altered-correct*", or "*Been altered-incorrect*".**
- Indicate the condition code 1, 4, 7, X, or S; a list of repairs required, and missing or broken parts. The new condition code definitions are as follows:
    1. New. Property which is in new condition or unused condition and can be used immediately without modifications or repairs.

4. Usable. Property which shows some wear, but can be used without significant repair.
7. Repairable. Property which is unusable in its current condition but can be economically repaired.
X. Salvage. Property which has value in excess of its basic material content, but repair or rehabilitation is impractical and/or uneconomical.
S. Scrap. Property which has no value except for its basic material content.

E-mail to the NPS Working Capital Fund Manager at the Fire Management Program Center**.** Label the SF-126 form by the Tag number. Example; I1234567_sf126

Take at least four electronic photos of the surplus vehicle from different angles viewing the different sides of the vehicle. Before taking pictures, remove the NPS Arrowhead decal on both sides of the vehicle. If there is any damage, take close-ups of the damaged area and explain the damage on the SF-126 form. Label the file using the tag number and the view. The view to be described as follows; Front (frt), Rear (rr), Left Side (ls), Right Side (rs). An example being I1234565_rr. E-mail the photos to the Working Capital Fund Manager at the Fire Management Program Center**.**

The FMPC staff will review either of the forms and then forward to the BLM WCF Sales Coordinator. They will then input the information in the automated property management system to initiate the exchange sale or transfer action. Do not have your local property people put the unit up for sale. If this is done, any proceeds from the sale may go to the U.S. Treasury and be lost to the WCF program.

If there is known interest from another park or another federal government agency, use of the SF-126 is not necessary. A DI-104, Transfer of Property, or an SF-122, Transfer of Excess Property, form can be used. That park or agency will still be required to pay the “fair market value” of the engine. Again, the Working Capital Fund Program Manager will determine this cost. If a DI-104 form is used, be sure to enter the financial charge code information of the acquiring agency, somewhere on the form. If the SF-122 form is used, enter “N/A” in Block 3 and **do not send to GSA**. Also enter the financial charge code of the acquiring agency in the appropriate block. Send either the completed DI-104 or SF-122 to the above address.

Questions concerning the NPS Working Capital Fund Program should be addressed to the Working Capital Fund Manager at the Fire Management Program Center.