Chapter 10 Preparedness

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Preparedness

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6 Preparedness is the result of activities that are planned and implemented prior to wildland fire ignitions to ensure safe, efficient, and effective management action. Preparedness is a continuous process that includes developing and maintaining unit, state/regional, and national level firefighting infrastructure, predicting fire activity, hiring, training, equipping, and deploying firefighters, evaluating performance, correcting deficiencies, and improving overall operations. The preparedness process includes routine pre-season actions as well as incremental in-season actions conducted in response to increasing fire danger.

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Preparedness actions are based on operational plans such as Fire Danger Operating Plans (FDOPs), Preparedness Level/Step-up Plans, and/or initial response plans.

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Fire Danger Operating Plan

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22 FDOPs use information from decision support tools such as the National Fire
23 Danger Rating System (NFDRS), the Canadian Forest Fire Danger Rating
24 System (CFFDRS, used in interior Alaska), the Palmer Drought Index, live fuel
25 moisture data, monthly or seasonal wildland fire outlooks, seasonal climate
26 forecasts, and wildland fire risk analyses. FDOPs should be prepared by
27 individuals trained at the Intermediate NFDRS (S-491) level, and preferably the
28 Advanced NFDRS level.

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The FDOP guides the application of information from decision support tools
(i.e. NFDRS, CFFDRS, etc.) at the local level. A FDOP documents the
establishment and management of the local unit fire weather station network and
describes how fire danger ratings are applied to local unit fire management
decisions. FDOPs are generally prepared for local interagency areas; therefore,
interagency involvement throughout the process is essential. Interagency
FDOPs are an integral component of unit fire management plan(s). FDOPs may
be packaged as a stand-alone document or as part of a larger planning effort
(such as a fire management plan).

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All units will develop and maintain a Fire Danger Operating Plan. Fire Danger Operating Plans include, but are not limited to, the following components:

42 • Roles and Responsibilities

Defined for those responsible for maintenance and daily implementation of the plan, program management related to the plan, and associated training.

Training for development of fire danger rating areas is available through NWCG-sponsored NFDRS courses.

Fire Danger Rating Inventory

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An inventory of the basic components of the operating plan will include a description of the dispatch response areas, protection units, administrative units, fire occurrence, land management objectives, standards, guidelines, etc. The fire danger rating inventory:

- o includes identification of fire/ignition issues specific to the area;
- incorporates NFDRS fuel models, slope classes (topography, and weather/climatology into Fire Danger Rating Areas (FDRAs); and
- validates the existing weather station network and identifies any additional weather stations that support fire danger rating needs.

Operational Procedures

This section establishes the procedures used to gather and process data in order to integrate fire danger rating information into decision processes. The network of fire weather stations whose observations are used to determine fire danger ratings is identified. Station maintenance responsibilities and schedules are defined.

- NFDRS offers several choices of fuel model and output to the user. Distinct selections of fuel model and index/component are appropriate for different management decisions (such as internal readiness or industrial and public restrictions). The choice of NFDRS fuel model and index or component used to determine fire danger ratings to support particular decisions is explained in this section.
- NFDRS requires periodic management in order to produce appropriate results that are applied in a timely manner. Some daily observation variables (such as state of the weather) must be manually validated and published daily. This procedure is essential for the calculation of daily and forecasted NFDRS outputs in the Weather Information Management System (WIMS) and ensures weather data storage in the National Interagency Fire Management Integrated Database (NIFMID). These efforts are coordinated with the local National Weather Service fire weather meteorologists and Geographic Area Coordination Center (GACC) predictive services meteorologists to provide timely forecasted NFDRS outputs. Observed (today) and forecasted (tomorrow) NFDRS outputs are communicated daily. Live fuel moisture model inputs (such as herbaceous vegetation type/stage, season code, greenness factor) are adjusted seasonally in WIMS (http://fam.nwcg.gov/fam-web/) at appropriate times. Decision points are determined through analysis using FireFamily Plus and reviewed and adjusted annually or more often as appropriate in WIMS.

• Climatic Breakpoints and Fire Business Thresholds

Climatological breakpoints and fire business thresholds are established to provide NFDRS-based decision points for all appropriate management responses in a Fire Danger Rating Area (FDRA). Climatological

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breakpoints are points on the cumulative distribution of one fire
       weather/danger index computed from climatology without regard for
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       associated fire occurrence/business. For example, the value of the 90th
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       percentile ERC is the climatological breakpoint at which only 10 percent of
       the ERC values are greater in value. Climatological percentiles are used for
       budgetary decisions by federal agencies.
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BLM - 80th and 95th percentiles

FWS/NPS/FS - 90th and 97th percentiles

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It is important to identify the period or range of data analysis used to determine 10 the agency percentiles. The percentile values for 12 months of data will be different from the percentile values for the fire season. Year round data should be used for percentiles for severity type decisions, and percentiles based on fire season data for staffing levels and adjective fire danger rating. 14

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It is equally important to recognize that these agency-specific climatological 16 percentiles represent a method to describe a point during the year with respect to fire weather/danger indices computed from historical weather only. Climatological percentiles do not incorporate the correlation of fire occurrence 19 20

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Fire business thresholds are values of one or more fire weather/fire danger 22 indices that have been statistically related to occurrence of fires (fire business). Generally, the threshold is a range of weather/fire danger values where fire activity has significantly increased or decreased. Assuming that a comprehensive FireFamilyPlus analysis of historical weather and fire occurrence data is completed, fire business thresholds are expected to more closely predict large and/or multiple fire activity than climatological breakpoints.

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Staffing Level

The Staffing Level is used to make daily internal fire operations decisions. A 31 unit can operate with anywhere from 3 to 9 levels of staffing. Most units typically use 5 (1,2,3,4,5) or 6 (1,2,3L,3H,4,5) levels. Staffing Level is a direct output of the danger rating processor (WIMS) and is based on one of the 35

- NFDRS (Burning Index, Energy Release Component, Spread Component, 36 or Ignition Component) 37
 - Keetch-Byram Drought Index

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Adjective Fire Danger Rating 40

Adjective Fire Danger Rating (low, moderate, high, very high, extreme) is based on the NFDRS index or component used to compute staffing level and the ignition component (the probability that a firebrand would cause a wildland 44 fire). It is a general description of fire danger for the purpose of informing the

public. Adjective ratings are computed automatically in the WIMS based on NFDRS parameters provided by local fire managers.

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Climatological breakpoints and fire business thresholds are developed with NFDRS software, such as FireFamilyPlus, and are applied in the NFDRS processor, (WIMS), to determine daily staffing levels and adjective ratings.

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Preparedness Plans

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Preparedness plans provide management direction given identified levels of burning conditions, fire activity, and resource commitment, and are required at national, state/regional, and local levels. Preparedness plans must be documented as part of the unit's Fire Management Plan. Preparedness plans consist of:

An analysis and decision making process, including a Fire Danger
 Operating Plan;

- A validation that each Remote Automated Weather Station (RAWS) meets the requirements of the *Interagency Wildland Fire Weather Station* Standards and Guidelines (PMS 426-3); and
- The identification of actions to be taken in response to increasing levels of fire severity and activity (preparedness level) at the unit level. Preparedness levels (1-5) are determined by incremental measures of burning conditions, fire activity, and resource commitment.

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Refer to the National Interagency Mobilization Guide and GACC Mobilization Guides for more information on preparedness plans.

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Preparedness Level/Step-up Plans

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Preparedness Level/Step-up Plans are designed to direct incremental preparedness actions in response to increasing fire danger. Each Step-Up Plan should address the five preparedness levels (1, 2, 3, 4, and 5) and the corresponding planned actions that are intended to mitigate those fire danger conditions.

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Outputs from the FDOP process are used to support the decisions found in staffing plans, step-up staffing plans, preparedness levels, dispatch response plans, dispatch response levels, etc. Increasing fire danger suggests a corresponding increase in preparedness actions intended to mitigate those fire danger conditions.

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The Staffing Plan describes escalating responses that are pre-approved in the FDOP and fire management plan. Mitigating actions are designed to enhance the unit's fire management capability during short periods (one burning period,

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Fourth of July, or other pre-identified events) where normal staffing cannot meet initial attack, prevention, or detection needs.

- The difference between preparedness level/step-up and severity is that
- preparedness level/step-up actions are established in the unit FDOP and fire
- management plan and implemented by the unit when those pre-identified
- conditions are experienced. Severity is a longer duration condition that cannot
- be adequately dealt with under normal staffing, such as a killing frost converting
- live fuel to dead fuel or drought conditions. Severity is discussed later in this

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- Mitigating actions identified in the fire management plan should include, but are 12 not limited to, the following items: 13
- Management direction and considerations 14
- Fire prevention actions, including closures/restrictions, media messages, 15 signing, and patrolling 16
- Prepositioning suppression resources 17
 - Cooperator discussion and/or involvement
- Safety considerations: safety message, safety officer 19
- Augmentation of suppression forces • 20
- Support function: consideration given to expanded dispatch activation, 21 initial attack dispatch staffing, and other support needs (procurement, 22 23 supply, ground support, and communication)
- Support staff availability outside of fire organization • 24
- Communication of Fire Weather Watch and Red Flag Warning conditions 25
- Fire danger/behavior assessment 26
- Briefings for management and fire suppression personnel • 27
- Fire information internal and external 28
- Multi-agency coordination groups/area command activation 29
- Prescribed fire direction and considerations 30
- 31 Increased detection activities

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Initial Response Plans

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Initial Response plans (e.g. run cards, preplanned response, etc.) specify the 35 response to an unplanned ignition. Based on fire weather, fuel conditions, fire 36 management objectives, and resource availability, initial response plans identify 37 the fire management response (e.g. number and type of suppression assets to dispatch) to an unplanned ignition. 39

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Fire Danger Pocket Card for Firefighter Safety

Fire Danger Pocket Cards provide, through a graphical interpretation of daily 43

fire danger, a means for firefighters to understand the fire potential for a given

- 1 local area during any day of the fire season. Interagency Pocket cards are
- 2 encouraged in areas where multiple agencies share fire suppression
- responsibilities. Fire Danger Pocket Cards must adhere to the NWCG standard
- 4 located at
- 5 http://fam.nwcg.gov/fam-web/pocketcards/default.htm

- Compliance with the standard, including quality, currency, and application of the Pocket Card, is the responsibility of the local fire management unit.
- **BLM-** BLM units will maintain Fire Danger Pocket Cards and ensure they are available to all personnel.
- FS- Obtain Regional certification for Fire Danger Pocket Cards.
 Distribute Pocket Cards to each fireline supervisor on Type 3, 4, and 5
 wildfires. Annually update and post the cards to the website referenced above.

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Seasonal Risk Analysis

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A Seasonal Risk Analysis (SRA) requires fire managers to review current and predicted weather and fuels information, compare this information with historic weather and fuels records, and predict the upcoming fire season's severity and duration for any given area. It is important to incorporate drought indices into this assessment.

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Information from a SRA can be used to modify the Annual Operating Plan (AOP), step-up and pre-attack plans. It provides the basis for actions such as prepositioning critical resources, requesting additional funding, or modifying Memoranda of Understanding (MOU) to meet anticipated needs.

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- Each unit selects, and compares to normal, the current value and seasonal trend
 of one or more of the following indicators which are most useful in predicting
 fire season severity and duration in its area:
- NFDRS (or CFFDRS) index values (ERC, BI)
- Temperature levels
- Precipitation levels
- 35 Humidity levels
- Palmer Drought or Standardized Precipitation Index
- 1000-hour fuel moisture (timber fuels)
- Vegetation moisture levels
- 39 Live fuel moisture (brush fuels)
- 40 ◆ Curing rate (grass fuels)
- Episodic wind events (moisture drying days)
- Unusual weather events (early severe frost)
- Fires to date

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The seasonal trend of each selected indicator is graphically compared to normal and all-time worst. This comparison is updated regularly and posted in dispatch and crew areas.

If the SRA suggests an abnormal fire season might be anticipated, a unit should notify the state/regional office and request additional resources commensurate with the escalated risk. SRA for each geographic area are prepared, issued, and updated each year by GACC Predictive Service staffs. These analyses consider detailed information for each of the Predictive Services Areas (PSA) within the

10 geographic area.

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Seasonal Assessment Workshops are conducted to facilitate these seasonal outlook reports. Local risk analyses should be compiled at the state/regional office to determine the predicted fire season severity within the state/region, and then forwarded to the respective national office for use in determining national fire preparedness needs. Risk analysis is ongoing. It should be reviewed periodically and revised when significant changes in key indicators occur. All reviews of seasonal risk analysis, even if no changes are made, should be documented.

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Fire Severity Funding

Fire severity funding is the authorized use of suppression operations funds (normally used exclusively for suppression operations and distinct from preparedness funds) for extraordinary preparedness activities that are required due to:

- Preparedness plans (fire management plan, fire danger operating plan,
 annual operating plan, etc.) indicate the need for additional
 preparedness/suppression resources. The plan(s) should identify thresholds
 for severity needs.
- Anticipated fire activity will exceed the capabilities of local resources.
- Fire seasons that either start earlier or last longer than planned in the fire management plan.
- An abnormal increase in fire potential or danger not planned for in existing preparedness plans.

The objective of fire severity funding is to mitigate losses by improving suppression response capability.

When suppression resources acquired through the approved fire planning process (e.g. NFMAS, IIAA, FPA) are insufficient to meet the extraordinary need, suppression resources may be requested through the severity funding process. Fire severity funding is not intended to raise preparedness funding

levels to cover differences that may exist between funds actually appropriated

and those identified in the fire planning process.

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Typical Uses

- Severity funds are typically used to:
- Increase prevention activities
- Temporarily increase firefighting staffing
- Pay for standby
- Preposition initial attack suppression forces
- Provide additional aerial reconnaissance
- 8 Provide for standby aircraft availability

Authorization

Authorization to use severity funding is provided in writing based on a written request with supporting documentation. Authorization is on a line item basis and comes with a severity cost code. Agencies will follow their administrative procedures for issuing severity cost codes. Authorization is provided for a maximum of 30 days per request; however, regardless of the length of the authorization, use of severity funding must be terminated when abnormal conditions no longer exist. If the fire severity situation extends beyond the 30 day authorization, the State/Region must prepare a new severity request.

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State/Regional Level Severity Funding

Each fiscal year the national office will provide each state/region with funding and a severity cost code for state/regional short-term severity needs (e.g. wind events, cold dry front passage, lightning events, and unexpected events such as off road rallies) that are expected to last less than one week. Expenditure of these funds is authorized by the state/regional directors at the written request of accountable for ensuring that these funds are used only to meet severity funding objectives and that amounts are not exceeded. The national office will notify the state/regional director, state/regional budget officer, and the state/regional FMO when the severity cost code is provided.

- FWS Short-term severity or "step-up" cost codes are established yearly (at the Regional level) as PER1, PER2, etc (numeric value indicates the specific region utilizing short-term severity funding).
- NPS Parks have the authority to approve "Step-up" actions only, as
 defined in their fire management plan. Regional offices approve severity
 (long term up to 30 days) for parks up to \$100,000 per severity event.
- FS Severity funding direction is found in FSM 5190.

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National Level Severity Funding

- 40 National Agency Fire Directors or their delegates are authorized to allocate fire
- severity funding under specific conditions stated or referenced in this chapter.
- Expenditure of these funds is authorized by the appropriate approving official at
- the written request of the state/regional director. Approved severity funding will

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be used only for the preparedness activities and timeframes specifically outlined in the authorization, and only for the objectives stated above.

- NPS- National office approves all requests over \$100,000.
- FWS- Additional information may be found on the FWS Sharepoint site.

6 Appropriate Severity Funding Charges

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Labor

Appropriate labor charges include:

- Regular pay for non-fire personnel
- Regular pay for seasonal/temporary fire personnel outside their normal fire funded activation period
- Overtime pay for all fire and non-fire personnel
- Severity funded personnel and resources must be available for immediate
 initial attack regardless of the daily task assignment
- Severity funded personnel and resources will not use a severity cost code
 while assigned to wildfires. The wildfire firecode number will be used.

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Vehicles and Equipment

- GSA lease rate and mileage
- 21 Hourly rate or mileage for Agency owned vehicles
- 22 Commercial rentals and contracts
 - FWS Severity-related repair and maintenance of Fish and Wildlife vehicles and equipment may be funded by severity because FWS does not have a use rate covering these charges. These charges must be approved by the National Office.

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28 Aviation

29 This includes:

- 30 Contract extensions
- The daily minimum for call when needed (CWN) aircraft
- 32 Preposition flight time
- Support expenses necessary for severity funded aircraft (facility rentals, utilities, telephones, etc.)

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36 Travel and Per Diem

- Severity funded personnel in travel status are fully subsisted by the government in accordance with their agency regulations. Costs covered include:
 - Lodging
- Government provided meals (in lieu of per diem)
- Airfare (including returning to their home base)
- Privately owned vehicle mileage (with prior approval)
- Other miscellaneous travel and per diem expenses associated with the
 assignment

Prevention Activities

- These include:
- Funding Prevention Teams (Preventions teams will be mobilized as referenced in the *National Mobilization Guide*, Chapter 20)
- Implementing local prevention campaigns, to include community risk assessment, mitigation planning, outreach, and education
- Augmenting patrols
- Note: Non-fire funded prevention team members should charge base 8 and overtime to the severity cost code for the length of the prevention activities assignment. Fire funded personnel should charge overtime only to the severity cost code for the length of the prevention activities assignment.

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13 Inappropriate Fire Severity Funding Charges

- To cover differences that may exist between funds actually appropriated (including rescissions) and those identified in the fire planning process
- Administrative surcharges, indirect costs, fringe benefits
- Equipment purchases
- 18 Purchase, maintenance, repair, or upgrade of vehicles
- 19 Purchase of radios
- 20 Purchase of telephones
- Purchase of pumps, saws, and similar suppression equipment
- 22 Aircraft availability during contract period
- Cache supplies which are normally available in fire caches
- Fixed ownership rate vehicle costs
- Equipment that has been solicited allows for use on nationwide fire suppression, all-hazard incidents and severity. Pre-season EERAs / Incident Only EERAs may not be used for severity use or hazardous fuels projects.

 Long term rehabilitation projects require a separate solicitation for equipment.

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Interagency Requests

Agencies working cooperatively in the same geographic area must work together to generate and submit joint requests, to minimize duplication of required resources, reduce interagency costs and to utilize severity funded resources in an interagency manner. However, each agency should request funds only for its own agency specific needs. The joint request should be routed simultaneously through each agency's approval system, and the respective approving official will issue an authorization that specifies allocations by agency.

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41 Requesting Fire Severity Funding

42 Each agency has established severity funding request protocols. The completed 43 and signed request is submitted from the state/regional director to the

1 appropriate approving official as per the sequence of action outlined below.

- 2 Authorizations will be returned in writing.
- 3 Severity funding request information for all agencies can be found at
- 4 www.nifc.gov/policies/severity.htm

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Sequence of Action and Responsible Parties for Severity Funding Requests

Action	Responsible Party
Identify and develop severity funding request.	Unit FMO
Review, modify, and approve (or reject) request. Forward to state/regional office.	Unit agency administrator
Review, modify, and approve (or reject) unit request. Add state/regional needs and consolidate. Forward to state/regional director for approval within 48 hours.	State/Regional FMO
Review, modify, and approve (or reject) request. Forward to the appropriate National Fire Director/approving official within 48 hours. Notify the fire budget staff.	State/Regional Director
Review, modify, and approve (or reject) the request within 48 hours. Issue written authorization with a severity cost code.	Appropriate National Fire Director/Approving Official
Establish severity cost code in the appropriate finance system within 24 hours.	Applicable National Finance System
Notify unit office(s) and state/regional budget lead upon receipt of authorization.	State/Regional FMO
Execute severity cost code. Ensure that project expenditures are only used for authorized purposes.	Unit Office
Maintain severity files, including requests, authorizations, and summary of expenditures and activities.	Unit/State/Regional/ National Offices

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Labor Cost Coding For Severity Funded Personnel

- 9 Fire personnel outside their normal activation period, employees whose regular
- salary is not fire funded, and Administratively Determined (AD) employees
- 11 hired under an approved severity request should charge regular time and
- 12 approved non-fire overtime to the severity suppression operations subactivity
- 13 and the requesting office's severity cost code.

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- 15 Fire funded personnel should charge their regular planned salary (base-eight) to
- their budgeted subactivity using their home unit's location code. Overtime
- associated with the severity request should be charged to the severity
- suppression operations subactivity and the requesting office's severity cost code.

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- Regular hours worked in suppression operations will require the use of the
- 2 appropriate fire subactivity with the appropriate firecode number. Overtime in
- fire suppression operations will be charged to the suppression operations
- subactivity with the appropriate firecode number.

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Employees from non-federal agencies should charge their time in accordance with the approved severity request and the appropriate local and statewide agreements. A task order for reimbursement will have to be established and is authorized under the Interagency Agreement for Fire Management.

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Documentation

The state/regional and national office will document and file accurate records of severity funding activity. This will include complete severity funding requests, written authorizations, and expenditure records.

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Severity Funding Reviews

State/regional and national offices should ensure appropriate usage of severity funding and expenditures. This may be done as part of their normal agency fire program review cycle.

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Fire Prevention/Mitigation

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Wildland Fire Cause Determination & Fire Trespass

Agency policy requires any wildfire to be investigated to determine cause, origin, and responsibility. For all human-caused fires where responsibility and negligence can be determined, actions must be taken to recover the cost of suppression activities, land rehabilitation, and damages to the resources and improvements. Refer to Chapter 18 for additional guidance.

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Wildland Fire Mitigation and Prevention

Fire programs are required to fund and implement unit level Fire Prevention
Plans by completing a wildland mitigation/prevention assessment. The purpose
of this is to reduce undesirable human caused ignitions, to reduce damages and
losses caused by unwanted wildland fires, and to reduce the suppression costs of
wildland fires. As weather and fuel conditions move from average to above
average or severe, and/or human activity increases, mitigation and prevention
activities must be strengthened to maintain effectiveness.

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Prevention includes education (sign posting plans, school programs, radio and news releases, recreation contacts, local business contacts, exhibits), industrial program monitoring (timber, mining, power line maintenance operations), reconnaissance patrols, and other activities to prevent and mitigate wildfire damage and loss.

• NPS- Only units that experience more than an average of 26 human caused fires per ten-year period are required to develop a fire prevention plan.

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• FS -Refer to FSM 5110 and 5300.

Professional Liability Insurance

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Public Law 110-161 provides for reimbursement for up to one half of the cost incurred for professional liability insurance (including any administrative

processing cost charged by the insurance company) for temporary fire line

managers, management officials, and law enforcement officers.

O To qualify for reimbursement, "temporary fire line managers" must meet one of the following three criteria:

- Provide temporary supervision or management of personnel engaged in wildland fire activities;
- Provide analysis or information that affects a supervisor's or manager's
 decision about a wildland fire;
- Direct the deployment of equipment for a wildland fire, such as a base camp manager, an equipment manager, a helicopter coordinator, or an initial attack dispatcher.
- o **DOI** see Personnel Bulletin No. 08-07, March 20, 2008
- o FS refer to http://fsweb.asc.fs.fed.us/HRM/benefits/PLI.php

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