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## Chapter 18

### Reviews, Investigations Analyses

#### Introduction

Reviews and investigations are used by wildland fire and aviation managers to assess and improve the effectiveness and safety of organizational operations.

#### Reviews

Reviews are methodical examinations of system elements such as program management, safety, leadership, operations, preparedness, training, staffing, business practices, budget, cost containment, planning, and interagency or intra-agency cooperation and coordination. Reviews do not have to be associated with a specific incident. The purpose of a review is to ensure the effectiveness of the system element being reviewed, and to identify deficiencies and recommend specific corrective actions. Established review types are described below and include:

- preparedness review
- after action review
- fire and aviation safety team review
- aviation safety assistance team review
- national cost oversight team review
- individual fire review
- lessons learned review
- escaped prescribed fire review

#### Preparedness Reviews

Fire preparedness reviews assess fire programs for compliance with established fire policies and procedures as outlined in the current *Interagency Standards for Fire and Fire Aviation Operations* and other pertinent policy documents.

Reviews identify organizational, operational, procedural, personnel, or equipment deficiencies, and recommend specific corrective actions. Interagency Preparedness Review Checklists can be found at:

[http://www.nifc.gov/references/prep\\_review.htm](http://www.nifc.gov/references/prep_review.htm)

- **BLM/FS - Preparedness review functional checklists that can be found at:**  
[http://www.blm.gov/nifc/st/en/prog/fire/fireops/preparedness/preparedness\\_review/checklists.html](http://www.blm.gov/nifc/st/en/prog/fire/fireops/preparedness/preparedness_review/checklists.html)

#### After Action Reviews (AAR)

An AAR is a learning tool intended for the evaluation of an incident or project in order to improve performance by sustaining strengths and correcting weaknesses. An AAR is performed as immediately after the event as possible by the personnel involved. An AAR should encourage input from participants that is focused on:

- what was planned
- what actually happened

- 1 • why it happened
- 2 • what can be done the next time

3

4 It is a tool that leaders and units can use to get maximum benefit from the  
5 experience gained on any incident or project. When possible, the leader of the  
6 incident or project should facilitate the AAR process. However, the leader may  
7 choose to have another person facilitate the AAR as needed and appropriate.  
8 AARs may be conducted at any organizational level. However, all AARs follow  
9 the same format, involve the exchange of ideas and observations, and focus on  
10 improving proficiency. The AAR should not be utilized as an investigational  
11 review. The format can be found in the *Interagency Response Pocket Guide*  
12 (*IRPG*), *PMS #461*, *NFES #1007*

13

#### 14 **Fire and Aviation Safety Team (FAST) Reviews**

15 Fire and Aviation Safety Teams assist agency administrators during periods of  
16 high fire activity by assessing policy, rules, regulations, and management  
17 oversight relating to operational issues. They can also do the following:

- 18 • Provide guidance to ensure fire and aviation programs are conducted  
19 safely.
- 20 • Assist with providing immediate corrective actions.
- 21 • Review compliance with OSHA abatement plan(s), reports, reviews and  
22 evaluations.
- 23 • Review compliance with *Interagency Standards for Fire and Fire Aviation*  
24 *Operations*.

25

26 FAST reviews can be requested through geographic area coordination centers to  
27 conduct reviews at the state/regional and local level. If a more comprehensive  
28 review is required, a national FAST can be ordered through the National  
29 Interagency Coordination Center.

30

31 FASTs include a team leader, who is either an agency administrator or fire  
32 program lead with previous experience as a FAST member, a safety and health  
33 manager, and other individuals with a mix of skills from fire and aviation  
34 management.

35

36 FASTs will be chartered by their respective Geographic Area Coordinating  
37 Group (GACG) with a delegation of authority, and report back to the GACG.

38

39 FAST reports includes an executive summary, purpose, objectives,  
40 methods/procedures, findings, recommendations, follow-up actions (immediate,  
41 long-term, national issues), and a letter delegating authority for the review. As  
42 follow-up, the team will gather and review all reports prior to the end of the  
43 calendar year to ensure identified corrective actions have been taken. FAST  
44 reports should be submitted to the geographic area with a copy to the Federal  
45 Fire and Aviation Safety Team (FFAST) within 30 days. See Appendix O for  
46 sample FAST Delegation of Authority.

**1 Aviation Safety Assistance Team (ASAT) Reviews**

2 During high levels of aviation activity it is advisable to request an Aviation  
3 Safety Assistance Team (ASAT). The team's purpose is to assist and review  
4 helicopter and/or fixed wing operations on ongoing wildland fires. An ASAT  
5 team should be requested through the agency chain of command and operate  
6 under a delegation from the appropriate state/regional aviation manager or  
7 multi-agency coordinating group. Formal written reports will be provided to the  
8 appropriate manager. An ASAT should consist of:

- 9 • Aviation Safety Manager
- 10 • Operations Specialist (helicopter and/or fixed wing)
- 11 • Pilot Inspector
- 12 • Maintenance Inspector (optional)
- 13 • Avionics Inspector (optional)

**15 National Cost Oversight Team Reviews**

16 A National Cost Oversight Team will be assigned to a fire with suppression  
17 costs of more than 5 million dollars. This team will include a Line Officer (team  
18 lead), Incident Business Specialist, Incident Management Team Specialist, and a  
19 Financial Specialist. The team lead and the receiving agency administrator can  
20 agree to add team members as needed to address issues specific to the incident,  
21 i.e., aviation, personnel, or contracting specialists.

**23 Individual Fire Reviews**

24 Individual fire reviews examine all or part of the operations on an individual  
25 fire. The fire may be ongoing or controlled. These reviews may be a local,  
26 state/regional, or national. These reviews evaluate decisions and strategies;  
27 correct deficiencies; identify new or improved procedures, techniques or tactics;  
28 determine cost-effectiveness; and compile and develop information to improve  
29 local, state/regional or national fire management programs.

**31 Lessons Learned Review (LLR)**

32 The LLR provides the wildland fire community an immediate learning  
33 opportunity in the form of a written report in an effort to identify underlying  
34 factors that could lead to future accidents and/or provide reasons for successes--  
35 all in support of organizational learning and accident prevention. This process  
36 bridges the gap between the after action review (performed on site immediately  
37 after the operation and conducted by the participants themselves) and the  
38 accident investigation (formally mandated effort to identify causes and develop  
39 control measures). LLRs provide an outside perspective with appropriate  
40 technical experts assisting involved personnel in identifying root causes and  
41 sharing findings and recommendations.

**43 Notification**

44 Near misses or successful operations should be reported to first line supervisors.  
45 Supervisors will notify unit fire management officer, who will then notify their  
46 agency administrator. In cases of entrapment near misses, notification to the

1 respective agency's national fire office is required and determination for  
2 review/investigation level will be made from the national level.

3

#### 4 **LLR Process**

5 A LLR will be led by a facilitator who was not involved in the event. A  
6 facilitator should be an appropriate fire management expert who possesses skills  
7 in interpersonal communications, organization, and be unbiased to the event.  
8 Personnel who were involved in the event will also be full participants in the  
9 review process. Depending upon the complexity of the event, the facilitator may  
10 request assistance from technical experts (e.g., fire behavior, fire operations,  
11 etc.).

12

13 The LLR facilitator will convene the participants and:

- 14 • Identify facts of the event (sand tables maybe helpful in the process) and  
15 develop a chronological narrative of the event.
- 16 • Identify underlying reasons for success or failure.
- 17 • Identify what individuals learned and what they would do differently in the  
18 future.
- 19 • Provide a final written report including the above items to the pertinent  
20 agency administrator(s) within two weeks of event occurrence. Names of  
21 involved personnel should not be included in this report (reference them by  
22 position).

23

24 A copy of the final report will be submitted to the respective agency's national  
25 fire safety lead who will provide a copy to the Wildland Fire Lessons Learned  
26 Center (WFLLC). Website: <http://wildlandfirelessons.net>

- 27 • *FS - The Forest Service has developed two processes for conducting  
28 Lessons Learned Reviews: the Facilitated Learning Analysis (FLA) and  
29 the Accident Prevention Analysis (APA). Guides have been produced for  
30 these processes and are available from Regional and National risk  
31 management and safety personnel.*

32

#### 33 **Escaped Prescribed Fire Reviews**

34 Escaped prescribed fire review direction is found in Chapter 18 of this document  
35 and in these agency documents:

36 *Interagency Prescribed Fire Planning and Implementation Procedures  
37 Reference Guide (September 2006)*

- 38 • *BLM - BLM 9214 Prescribed Fire Handbook and the 9215 BLM Fire  
39 Training Handbook.*
- 40 • *FWS - Fire Management Handbook*
- 41 • *NPS - RM-18, Chapter 7 & 17*
- 42 • *FS - 5140-1*

43

44

45

## 1 **Investigations**

2 Investigations are detailed and methodical efforts to collect and interpret facts  
3 related to an incident or accident, identify causes (organizational factors, local  
4 workplace factors, unsafe acts), and develop control measures to prevent  
5 recurrence. Established investigation types include:

- 6 • serious wildland fire accident investigation
- 7 • non-serious wildland fire accident investigation
- 8 • entrapment/ burnover investigation
- 9 • fire shelter deployment investigation
- 10 • fire trespass investigation

## 12 **Wildland Fire Accident and Event Definitions**

### 14 **Serious Wildland Fire Accident**

15 An unplanned event or series of events that resulted in death; injury;  
16 occupational illness; or damage to or loss of equipment or property. For  
17 wildland fire operations, a serious accident involves any of the following:

- 18 • One or more fatalities
- 19 • Three or more personnel who are inpatient hospitalized as a direct result of  
20 or in support of wildland fire operations
- 21 • Property or equipment damage of \$250,000 or more
- 22 • Consequences that the Designated Agency Safety and Health Official  
23 (DASHO) judges to warrant Serious Accident Investigation

### 25 **Non-Serious Wildland Fire Accident**

26 An unplanned event or series of events that resulted in injury; occupational  
27 illness; or damage to or loss of equipment or property to a lesser degree than  
28 defined in “serious wildland fire accident.”

### 30 **Near-miss**

31 An unplanned event or series of events that could have resulted in death; injury;  
32 occupational illness; or damage to or loss of equipment or property but did not.

### 34 **Entrapment**

35 A situation where personnel are unexpectedly caught in a fire behavior-related,  
36 life-threatening position where planned escape routes or safety zones are absent,  
37 inadequate, or compromised. Entrapment may or may not include deployment  
38 of a fire shelter for its intended purpose (NWCG Glossary of Fire Terminology).  
39 Entrapment may result in a serious wildland fire accident, a non-serious  
40 wildland fire accident, or a near-miss.

### 42 **Fire Shelter Deployment**

43 The removing of a fire shelter from its case and using it as protection against fire  
44 (NWCG Glossary of Fire Terminology). Fire shelter deployment may or may  
45 not be associated with entrapment. Fire shelter deployment may result in a

1 serious wildland fire accident, a non-serious wildland fire accident, or a near-  
 2 miss. Any time a fire shelter is deployed (other than for training purposes),  
 3 regardless of circumstances, notification to the National Fire and Aviation  
 4 Safety Office of the jurisdictional agency is required.

5

#### 6 **Escaped Prescribed Fire**

7 A prescribed fire which has exceeded or is expected to exceed its prescription.

8

#### 9 **Fire Trespass**

10 The occurrence of unauthorized fire on agency-protected lands where the source  
 11 of ignition is tied to some type of human activity.

12

13

### **Review and Investigation Requirements**

<b>Wildland Fire Event</b>	<b>Review/Investigation Type</b>	<b>Management level that determines review type and authorizes review*</b>
Serious Wildland Fire Accident	Serious Accident Investigation (SAI)	National
Non -Serious Wildland Fire Accident	Non-Serious Accident Investigation (NSAI)	Region/State/Local
Near-miss	Lesson Learned Review (LLR)	Region/State/Local
Entrapment	SAI, NSAI, LLR, depending on severity	National
Fire Shelter Deployment	SAI, NSAI, LLR, depending on severity	National
Escaped Prescribed Fire	Escaped Prescribed Fire Review	National/Region/State
Fire Trespass	Fire Cause Determination & Trespass Investigation	Local

14 \*Management may override lower level management and request a review or  
 15 investigation regardless of the above criteria.

16

#### 17 **Agency Specific Policy Documents**

18 These documents provide specific direction related to incident and accident  
 19 investigations.

	<b>Safety</b>	<b>Prescribed Fire</b>
<b>DOI</b>	485 DM Chapter 7	
<b>BLM</b>	Manual 1112-2, 1112-1	
<b>FWS</b>	Service Manual 095	
<b>NPS</b>	DO/RM-50B, RM-18 Chapter 3	RM-18, Chapter 7

<p><b>FS</b></p>	<p>FSH-6709.11</p>	<p>FSM-5140</p>
	<p>FSM-5100 and FSH-6709.11 FSM 5720 (Aviation), FSM 5130 (Ground Operations), FSM 6730 (Specific policy), FSH 6709.12, Chapter 30 (General guidance), and most recent <i>Accident Investigation Guide</i>, for specific guidance.</p>	
<p><b>Interagency</b></p>	<p>Information on accident investigations may be found at:<a href="http://www.nifc.gov/safety/accident_resources.htm">http://www.nifc.gov/safety/accident_resources.htm</a>                  Also refer to <i>Investigating Wildland Fire Entrapments, 2001 Edition, MTDC</i>.                  For reporting use <i>PMS 405-1, Wildland Fire Fatality and Entrapment Initial Report, 2007</i>.<a href="http://www.nwcg.gov/pms/pms.htm">http://www.nwcg.gov/pms/pms.htm</a></p>	

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**Serious Wildland Fire Accident Investigation Process**

**Fire Director Responsibilities**

The Fire Director(s) or designee(s) of the lead agency, or agency responsible for the land upon which the accident occurred, will:

- Notify the agency safety manager and Designated Agency Safety and Health Official (DASHO).
- Immediately appoint, authorize, and deploy an accident investigation team.
- Provide resources and procedures adequate to meet the team’s needs.
- Receive the factual and management evaluation reports and take action to accept or reject recommendations.
- Forward investigation findings, recommendations, and corrective action plan to the DASHO (the agency safety office is the “office of record” for reports).
- Convene an accident review board/ board of review (if deemed necessary) to evaluate the adequacy of the factual and management reports and suggest corrective actions.
- Ensure a corrective action plan is developed, incorporating management initiatives established to address accident causal factors.

**Agency Administrator Responsibilities**

- Develop local preparedness plans to guide emergency response.
- Identify agencies with jurisdictional responsibilities for the accident.
- Provide for and emphasize treatment and care of survivors.
- Ensure the Incident Commander secures the accident site.
- Conduct an in-briefing to the investigation team.
- Facilitate and support the investigation as requested.
- Implement Critical Incident Stress Management (CISM).
- Notify home tribe leadership in the case of a Native American fatality.
- Prepare and issue required 24 and 72 hour reports.

**1 Notification**

2 Agency reporting requirements will be followed. As soon as a serious accident  
3 is verified, the following groups or individuals should be notified:

- 4 • Agency administrator
- 5 • Public affairs
- 6 • Agency Law Enforcement
- 7 • Safety personnel
- 8 • County sheriff or local law enforcement as appropriate to jurisdiction
- 9 • National Interagency Coordination Center (NICC)
- 10 • Agency headquarters
- 11 • OSHA (within 8 hours if the accident resulted in one or more fatalities or if  
12 three or more personnel are inpatient hospitalized)

13  
14 Notification to the National Fire and Aviation Safety Office is required.

15 National Office will determine the level of investigation. Agency fire safety  
16 contacts are listed below:

17 *BLM - Michelle Ryerson*

18 *FWS - Rod Bloms*

19 *NPS - Al King*

20 *FS - Larry Sutton*

21 *FS - Forest Service protocol for multiple fatalities or 3 or more serious injuries*  
22 *requiring hospitalization investigation teams are assigned by the Office of Safety*  
23 *and Occupational Health in the WO.*

**24 Designating the Investigation Team Lead**

25 The 1995 Memorandum of Understanding between the U.S. Department of the  
26 Interior and the U.S. Department of Agriculture states that serious wildland fire-  
27 related accidents will be investigated by interagency investigation teams.

28 Following initial notification of a serious accident, the National Fire Director(s)  
29 or their designee(s) will designate a Serious Accident Investigation Team  
30 Lead(s) and provide that person(s) with a written delegation of authority to  
31 conduct the investigation and the means to form and deploy an investigation  
32 team.  
33

**34 Serious Accident Investigation Team Composition**  
**35 Team Leader**

36 A senior agency management official, at the equivalent associate/assistant  
37 regional/state/area/division director level. The team leader will direct the  
38 investigation and serve as the point of contact to the Designated Agency Safety  
39 and Health Official (DASHO).  
40

**41 Chief Investigator**

42 A qualified accident investigation specialist is responsible for the direct  
43 management of all investigation activities. The chief investigator reports to the  
44 team leader.  
45

1 **Accident Investigation Advisor**

2 An experienced safety and occupational health specialist or manager who acts as  
3 an advisor to the team leader to ensure that the investigation focus remains on  
4 safety and health issues. The accident investigation advisor also works to ensure  
5 strategic management issues are examined.

6  
7 **Interagency Representative**

8 An interagency representative will be assigned to every fire-related Serious  
9 Accident Investigation Team. They will assist as designated by the team leader  
10 and will provide outside agency perspective.

11  
12 **Technical Specialists**

13 Personnel who are qualified and experienced in specialized occupations,  
14 activities, skills, and equipment, addressing specific technical issues such as  
15 arson, third-party liability, weather, and terrain.

- 16 • *BLM - Has established Serious Accident Investigation Teams (SAIT) that*  
17 *are managed on a rotational basis. Coordinating is done from the*  
18 *National Office of Fire and Aviation Safety Manager.*

19  
20 **The Final Report**

21 Within 45 days of the incident, a Factual Report (FR) and a Management  
22 Evaluation Report (MER) will be produced by the investigation team to  
23 document facts, findings, and recommendations and forwarded to the  
24 Designated Agency Safety and Health Official (DASHO) through the agency  
25 Fire Director(s).

26  
27 **Factual Report**

28 This report contains a brief summary or background of the event, and facts  
29 based only on examination of technical and procedural issues related to  
30 equipment and tactical fire operations. It does not contain opinions,  
31 conclusions, or recommendations. Names of injured personnel are not to be  
32 included in this report (reference them by position). Post-accident actions  
33 should be included in this report (emergency response attribute to survival of a  
34 victim, etc).

35  
36 Factual Reports will be submitted to Wildland Fire Lessons Learned Center  
37 (WFLLC) by the respective agency's National Wildland Fire Safety Leads.  
38 Website: <http://www.wildfirelessons.net/Reviews.aspx>

39  
40 **Management Evaluation Report (MER)**

41 The MER is intended for internal use only and explores management policies,  
42 practices, procedures, and personal performance related to the accident. The  
43 MER categorizes findings identified in the factual report and provides  
44 recommendations to prevent or reduce the risk of similar accidents. The MER  
45 includes the following sections:

- 1 • **Executive Summary:** A brief narrative of the facts involving the accident.  
2 Keep this section short. Readers can refer to the factual report if they want  
3 more detail.
- 4 • **Findings:** From the factual report.
- 5 • **Other Findings (DOI only):** Other findings not contributing to the  
6 accident but, if left uncorrected, could lead to other accidents.
- 7 • **Other Information:** This paragraph can contain opinions by the  
8 investigators, conclusions and observations, and confidential information  
9 which the team feels is relevant for management consideration. (This  
10 paragraph is not required).
- 11 • **Recommendations:** Recommendations are prevention measures  
12 management may take to prevent similar accidents. The recommendations  
13 must be reasonable, feasible, relate to the cause(s) of the accident, and  
14 allow for definitive closure. Depending upon the scope of impact the  
15 recommendations can be implemented by a local unit, the state/regional  
16 office or the national office. The team should specify who should  
17 implement the recommendations.
- 18 • **Enclosures:** Information not contained in the Factual Report, but which  
19 the team feels necessary to support their recommendations. Since this  
20 report can be obtained by the public under certain circumstances, do not  
21 include anything that is not needed to substantiate recommendations.  
22

#### 23 **Accident Review Board/Board of Review**

24 An Accident Review Board/Board of Review is used to evaluate  
25 recommendations, and develop a corrective action plan.  
26

#### 27 **Non-Serious Wildland Fire Accident Investigation Process**

##### 28 **Notification**

29 Agency specific reporting requirements shall be followed. In most instances,  
30 supervisors will notify unit fire management officer, who will then make  
31 notification through chain of command.  
32

##### 33 **Investigation Team Membership**

34 Investigation team membership will depend upon the severity of the accident.  
35 At a minimum, the team should consist of a chief investigator, a safety advisor,  
36 and one technical specialist. Team members may have dual roles (e.g., chief  
37 investigator/safety advisor). More complex accidents may require the need for a  
38 Team Leader and multiple technical specialists.  
39

##### 40 **Final Report**

41 Within 45 days of the accident, a final report detailing the accident to include  
42 facts, findings, and recommendations shall be submitted to the senior manager  
43 dependent upon the level of investigation (e.g., Local agency administrator,  
44 State/Regional Director, and Agency Fire Director or their designee).  
45

1 The Final Report (minus recommendations, conclusions and observations) will  
2 be submitted to Wildland Fire Lessons Learned Center (WFLLC) by the  
3 respective agency's National Fire Safety Leads. Website:  
4 <http://www.wildfirelessons.net/Reviews.aspx>

5  
6 **Processes Common to Serious and Non-Serious Wildand Fire Investigations**

- 7 • **Site Protection** - The site of the incident should be secured immediately  
8 and nothing moved or disturbed until the area is photographed and visually  
9 reviewed. Exact locations of injured personnel, entrapments, injuries,  
10 fatalities, and the condition and location of personal protective equipment,  
11 property, and other equipment must be documented.
- 12 • **Management of Involved Personnel** - Treatment, transport, and follow-  
13 up care must be immediately arranged for injured and involved personnel.  
14 The agency administrator or delegate should develop a roster of involved  
15 personnel and supervisors and ensure they are available for interviews by  
16 the investigation team. The agency administrator should consider relieving  
17 involved supervisors from fireline duty until the preliminary investigation  
18 has been completed. Attempt to collect initial statements from the involved  
19 individuals prior to a Critical Incident Stress Management (CISM) session.
- 20 • **Critical Incident Stress Management (CISM)** - CISM is the  
21 responsibility of local agency administrators, who should have individuals  
22 re-identified for critical incident stress debriefings. The process for  
23 ordering CISM support can be found in Appendix Q. Also refer to *The*  
24 *Agency Administrator's Guide to Critical Incident Management (PMS*  
25 *926)*, available at: <http://www.nwcc.gov/pms/pubs/PMS926-DRAFT.pdf>.  
26 Individuals or teams may be available through Employee Assistance  
27 Programs (EAP's) or Geographic Area Coordination Centers (GACC's). A  
28 Critical Incident Stress Defusing should be provided no more than 8 hours  
29 after an incident, or if possible, it should be provided immediately (one to  
30 two hours) after the incident, and usually takes 30 minutes to 1 hour. A  
31 Critical Incident Stress Debriefing should occur between 24 to 72 hours  
32 after the incident, and usually takes 1-3 hours.
- 33 • **24-Hour-Preliminary Report** - This report contains only the most  
34 obvious and basic facts about the accident. It will be completed and  
35 forwarded by the agency administrator responsible for the jurisdiction  
36 where the accident occurred. Names of injured personnel are not to be  
37 included in this report (reference them by position).
- 38 • **72-Hour Expanded Report** - This report provides more detail about the  
39 accident and may contain the number of victims, severity of injuries, and  
40 information focused on accident prevention. It will be completed and  
41 forwarded by the SAIT. Names of injured personnel are not to be included  
42 in this report (reference them by position).

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## 1 Investigation Report Standard Format

- 2 • **Executive Summary** - A brief narrative of the facts involving the accident  
3 including dates, locations, times, name of incident, jurisdiction(s), number  
4 of individuals involved, etc.
- 5 • **Narrative** - A detailed chronological narrative of events leading up to and  
6 including the accident, as well as rescue and medical actions taken after the  
7 accident. This section should spell out in detail who, what, and where.
- 8 • **Investigation Process** - A brief narrative stating the team was assigned to  
9 investigate the accident. It should include a standard statement that  
10 human, material, and environmental factors were considered. If one of  
11 these factors is determined to be noncontributing to the accident, it should  
12 be addressed first and discounted. For example, if the investigation  
13 revealed that there were no environmental findings that contributed to the  
14 accident, simply note the fact and move on to the next factor. Human  
15 factors or material factors paragraphs should not be formulated so as to  
16 draw conclusions, nor should they contain adjectives or adverbs that  
17 describe and thus render an opinion into pertinent facts.
- 18 • **Findings** - Findings are developed from the factual information and are  
19 based on the weight of evidence, professional knowledge, good judgment  
20 and are listed in chronological order. Findings must be substantiated by  
21 the factual data within the report.
- 22 • **Discussion** - Provide a brief explanation of factual and other pertinent  
23 information that lead to the finding(s).
- 24 • **Recommendations** - Recommendations are the prevention measures that  
25 should be taken to prevent similar accidents. Provide recommendations  
26 that are consistent with the findings and identify at which level the action  
27 needs to occur.
- 28 • **Conclusions and Observations** - Investigation team's opinions and  
29 inferences may be captured in the section.
- 30 • **Maps/Photographs/Illustrations** - Graphic information used to document  
31 and visually portray facts.
- 32 • **Appendices** - Reference materials (e.g., fire behavior analysis, equipment  
33 maintenance reports, agreements).
- 34 • **Records** - factual data and documents used to substantiate facts involving  
35 the accident.

## 37 Fire Cause Determination & Trespass Investigation

### 39 Introduction

40 Agency policy requires any wildfire to be investigated to determine cause,  
41 origin, and responsibility. Accurate fire cause determination is a necessary first  
42 step in a successful fire investigation. Proper investigative procedures, which  
43 occur concurrent with initial attack, more accurately pinpoint fire causes and can  
44 preserve valuable evidence that would otherwise be destroyed by suppression  
45 activities.

1 The agency or its employees must pursue cost recovery or document why cost  
2 recovery is not initiated for all human caused fires on public and/or other lands  
3 under protection agreement.

4  
5 Fire trespass refers to the occurrence of unauthorized fire on agency-protected  
6 lands where the source of ignition is tied to some type of human activity.

7  
8 **Policy**

9 The agency must pursue cost recovery, or document why cost recovery is not  
10 required, for all human-caused fires on public lands. The agency will also  
11 pursue cost recovery for other lands under fire protection agreement where the  
12 agency is not reimbursed for suppression actions, if so stipulated in the  
13 agreement.

14  
15 For all human-caused fires where negligence can be determined, trespass actions  
16 are to be taken to recover cost of suppression activities, land rehabilitation, and  
17 damages to the resource and improvements. Only fires started by natural causes  
18 will not be considered for trespass and related cost recovery.

19  
20 The determination whether to proceed with trespass action must be made on  
21 “incident facts,” not on “cost or ability to pay.” Trespass collection is both a  
22 cost recovery and a deterrent to prevent future damage to public land. It is  
23 prudent to pursue collection of costs, no matter how small. This determination  
24 must be documented and filed in the unit office’s official fire report file.  
25 The agency administrator has the responsibility to bill for the total cost of the  
26 fire and authority to accept only full payment. On the recommendation of the  
27 State/Regional Director, the Solicitor/Office of General Counsel may  
28 compromise claims of the United States, up to the monetary limits (\$100,000)  
29 established by law 31 U.S.C. 3711[a], 4 CFR 103-104, and 205 DM 7.1 and 7.2.  
30 The Solicitor/Office of General Counsel will refer suspension or termination of  
31 the amount, in excess of \$100,000, exclusive of interest, penalties, or  
32 administrative charges, to the Department of Justice.

33  
34 Unless specified otherwise in an approved protection agreement, the agency that  
35 has the land management jurisdiction/administration role is accountable for  
36 determining the cause of ignition, responsible party, and for obtaining all  
37 billable costs, performing the billing, collection, and distribution of the collected  
38 funds. The agency with the fire protection responsibility role must provide the  
39 initial determination of cause to the agency with the land management  
40 jurisdiction/administration role. The agency providing fire protection shall  
41 provide a detailed report of suppression costs that will allow the jurisdictional  
42 agency to proceed with trespass procedures in a timely manner.

43  
44 Each agency’s role in fire trespass billing and collection must be specifically  
45 defined in the relevant Cooperative Fire Protection Agreement. The billing and  
46 collection process for federal agencies is:

- 1 • For example, a federal agency fire occurs on another federal agency's land  
2 and is determined to be a trespass fire. BLM provides assistance, and  
3 supplies costs of that assistance to the federal agency with jurisdictional  
4 responsibility for trespass billing. The responsible federal agency bills and  
5 collects trespass, and BLM then bills the federal agency and is reimbursed  
6 for its share of the collection.
- 7 • For example, where BLM administered land is protected by a state agency,  
8 the billing and collection process is:
- 9 ➤ The state bills BLM for their suppression costs. The BLM will  
10 pursue trespass action for all costs, suppression, rehabilitation, and  
11 damages, and deposits the collection per BLM's trespass guidance.
- 12
- 13 All fires must be thoroughly investigated to determine cause. Initiation of cause  
14 determination must be started with notification of an incident. The initial attack  
15 incident commander and the initial attack forces are responsible for initiating  
16 fire cause determination and documenting observations starting with their travel  
17 to the fire. If probable cause indicates human involvement, an individual trained  
18 in fire cause determination should be dispatched to the fire. Agency References:
- 19 • **BLM** - *9238-1*
- 20 • **FWS** - *Fire Management Handbook Chapter 4 or*  
21 *[www.fws.gov/fire/redbook/trespass.pdf](http://www.fws.gov/fire/redbook/trespass.pdf)*
- 22 • **NPS** - *RM-18, Chapter 8 and RM-9*
- 23 • **FS** - *FSM-5130 and FSM-5300*