

Chapter 18

Reviews and Investigations

3 Introduction

4 When an accident occurs, each agency will meet their agency-specific accident
5 investigation reporting requirements (e.g., DOI Safety Management Information
6 System (SMIS) or USDA eSafety).

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

9 Information (other than factual) derived from safety reviews and accident
10 investigations should only be used by agencies for accident prevention and
11 safety purposes.

12 Multiagency Cooperation

13 Many reviews and investigations involve cooperation between federal, state,
14 county, and municipal agencies. To comply with each agency's authorities,
15 policies, and responsibilities, a multiagency review or investigation may be
16 necessary. A multiagency Delegation of Authority should be provided to outline
17 roles, responsibilities, and expected deliverables.

18 The Team Leader or delegating official(s) should establish cooperative
19 relationships with the other agencies involved in the review or investigation to
20 ensure policies and responsibilities are met. This may involve negotiations,
21 cooperative agreements, and coordination with the agency Designated Agency
22 Safety and Health Official (DASHO) or the agency official who signs the
23 Delegation of Authority.

24 Federal Interagency Investigations

25 Close calls or accidents that involve interagency (USFS or DOI) personnel
26 and/or jurisdiction (e.g., USFS firefighter injured on FWS jurisdictional
27 wildland fire and vice versa) shall be reviewed or investigated cooperatively and
28 conducted at the appropriate level as outlined in this chapter.

29 Agency Administrators will ensure that affected agencies are involved
30 throughout the review/investigation process.

31 When an incident does not meet the serious accident criteria, the affected
32 Agency Administrators should jointly decide what type and level of
33 investigation will be conducted based on agency processes outlined in this
34 chapter. Questions should be addressed to your agency Wildland Fire Safety
35 Program Manager.

36 Reviews

37 Reviews are methodical examinations of system elements such as program
38 management, safety, leadership, operations, preparedness, training, staffing,
39 business practices, budget, cost containment, planning, and interagency or intra-

1 agency cooperation and coordination. Reviews do not have to be associated with
 2 a specific incident. The purpose of a review is to ensure the effectiveness of the
 3 system element being reviewed, and to identify deficiencies and recommend
 4 specific corrective actions. Established review types are described below and
 5 include:

- 6 • Preparedness Reviews
- 7 • After Action Reviews
- 8 • Fire and Aviation Safety Team Reviews
- 9 • Safety Assistance Team Visits
- 10 • Aviation Safety and Technical Assistance Team Reviews
- 11 • Continuous Improvement Assessments (FS)
- 12 • Significant Wildland Fire Review (DOI)
- 13 • Individual Fire Review
- 14 • Lessons Learned Reviews
- 15 • Rapid Lesson Sharing
- 16 • Declared Wildfire Reviews
- 17 • Notice of Air Quality Exceedance (NOV) Reviews

18 **Review Types and Requirements**

Type	When Conducted	Delegating or Authorizing Official
Preparedness Review	Annually, or management discretion	Local/State/Region/National
After Action Review	Management discretion	N/A
Fire and Aviation Safety Team Review	As fire activity dictates	Geographic Area Coordinating Group
Safety Assistance Team Visit	As fire activity dictates	Local/State/Region/National
Aviation Safety and Technical Assistance Team Review	As aviation activity dictates	State/Regional Aviation Manager or MACG
Continuous Improvement Assessments (FS)	Washington Office discretion	Washington Office
Significant Wildland Fire Review (DOI)	Refer to OWF Policy Memorandum 2016-013	Agency Director, Agency Administrator or individual bureau direction
Individual Fire Review	Management discretion	Local/State/Region/National
Lessons Learned Review • <i>NPS/FS – FLA may be used</i>	Management discretion	Local/State/Region/National

Type	When Conducted	Delegating or Authorizing Official
Rapid Lesson Sharing	Management discretion	N/A
Declared Wildfire Review	See <i>Interagency Prescribed Fire Planning and Implementation Procedures Guide</i> (PMS 484)	See <i>Interagency Prescribed Fire Planning and Implementation Procedures Guide</i> (PMS 484)
Notice of Air Quality Exceedance (NOV) Review	See <i>Interagency Prescribed Fire Planning and Implementation Procedures Guide</i> (PMS 484)	See <i>Interagency Prescribed Fire Planning and Implementation Procedures Guide</i> (PMS 484)

1 Preparedness Reviews

2 Preparedness Reviews assess fire programs for compliance with established fire
3 policies and procedures outlined in the current *Interagency Standards for Fire*
4 *and Fire Aviation Operations* and other pertinent policy documents.

5 Preparedness Reviews identify organizational, operational, procedural,
6 personnel, or equipment deficiencies, and recommend specific corrective
7 actions. Interagency Preparedness Review Checklists can be found at
8 <https://www.nifc.gov/standards>.

9 After Action Reviews (AAR)

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

- 15 • What was planned?
- 16 • What actually happened?
- 17 • Why it happened?
- 18 • What can be done the next time?

19 An AAR is a tool that leaders and units can use to get maximum benefit from
20 the experience gained on any incident or project. When possible, the leader of
21 the incident or project should facilitate the AAR process. However, the leader
22 may choose to have another person facilitate the AAR as needed and
23 appropriate. AARs may be conducted at any organizational level. However, all
24 AARs involve the exchange of ideas and observations, and focus on improving
25 proficiency. The AAR should not be utilized as an investigational review. The
26 format can be found in the *Interagency Response Pocket Guide (IRPG)*, PMS
27 461, NFES 1077. Additional AAR information is available at
28 <https://www.nwcg.gov/wfldp/toolbox/aars>.

1 Fire and Aviation Safety Team (FAST) Reviews

2 Fire and Aviation Safety Teams assist Agency Administrators during periods of
3 high fire activity by assessing policy, rules, regulations, and management
4 oversight relating to operational issues. They can also do the following:

- 5 • Provide guidance to ensure fire and aviation programs are conducted safely;
- 6 • Assist with providing immediate corrective actions;
- 7 • Review compliance with OSHA abatement plan(s), reports, reviews, and
8 evaluations; and
- 9 • Review compliance with *Interagency Standards for Fire and Fire Aviation
10 Operations*.

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

15 FASTs include a team leader, who is either an Agency Administrator or fire
16 program lead with previous experience as a FAST member, a safety and health
17 manager, and other individuals with a mix of skills from fire and aviation
18 management.

19 FASTs will be chartered by their respective Geographic Area Coordinating
20 Group (GACG) with a Delegation of Authority, and report back to the GACG.

21 FAST reports will include an executive summary, purpose, objectives,
22 methods/procedures, findings, recommendations, follow-up actions (immediate,
23 long-term, national issues), and a letter delegating authority for the review.

24 FAST reports should be submitted to the GACG with a copy to the Federal Fire
25 and Aviation Safety Team (FFAST) chair within 30 days. See Appendix L for
26 sample FAST Delegation of Authority.

27 Safety Assistance Team (SAT) Visits

28 In addition to FAST reviews, SAT visits emphasize engaging individual
29 firefighters, managers, and administrators to grasp potential issues, with a focus
30 on firefighting safety fundamentals. SAT visits are not inspections. SATs are
31 often ordered when activity within an area escalates rapidly, or when a high
32 level of activity has been occurring for a long time. SATs can be single agency
33 or interagency in scope and composition.

34 The goals of a Safety Assistance Team are to:

- 35 • Assist fire managers and IMTs with site visits with firefighters, fire
36 managers, and program leaders.
- 37 • Be service oriented, assisting the local units.
- 38 • Provide early warning of potentially hazardous conditions or situations.

39 Direct intervention, circumventing normal chain of command, is authorized
40 when necessary; however, the overall objective is to create a work environment
41 where the normal operating procedures are responsible for safe practices.

1 **Aviation Safety and Technical Assistance Team (ASTAT) Reviews**

2 Refer to Chapter 16 for ASTAT information.

3 **Continuous Improvement Assessments (FS)**

4 The Washington Office, Director of Fire and Aviation Management, will select
5 a subset of fires for review based on complexity and National significance
6 ensuring the selected fires provide a cross sectional representation of cost, size,
7 and oversight complexity. The reviews will be multi-tiered and foster a working
8 environment that will improve the decision-making process and develop a
9 capacity for organizational learning. If a site visit is required, the Washington
10 Office, Deputy Chief, State and Private Forestry, will notify the Regional
11 Forester. The National review process can include real time analysis of fire
12 information, informal discussions with fire managers and Regional personnel,
13 and/or site visits by a cadre of specialists to individual incidents and or
14 geographic areas. For more detail, see FSM 5139.2.

15 **Significant Wildland Fire Review (DOI)**

16 A Significant Wildland Fire Review (SWFR) will be conducted when an
17 incident (single fire or complex) meets or exceeds federal combined
18 expenditures of \$15 million in suppression costs, and more than 50% of the
19 burned acres are managed by one or more DOI bureaus. It is the agency's
20 responsibility to advise the appropriate individual(s) within their agency of the
21 need for a SWFR. When a multi-jurisdictional fire requires review, the DOI
22 bureaus will determine which agency will be designated as the lead in the
23 review process. The Agency will provide a Delegation of Authority to the
24 SWFR Team authorizing the implementation of a review. When possible,
25 SWFRs should be conducted when the Incident Management Team is still in
26 place to allow prompt access to records and incident personnel. For more
27 information, see
28 [https://www.doi.gov/sites/doi.gov/files/elips/documents/owf_policy_memo_201](https://www.doi.gov/sites/doi.gov/files/elips/documents/owf_policy_memo_2016-13_criteria_for_review_wildfire_incidents.pdf)
29 [6-13_criteria_for_review_wildfire_incidents.pdf](https://www.doi.gov/sites/doi.gov/files/elips/documents/owf_policy_memo_2016-13_criteria_for_review_wildfire_incidents.pdf).

- 30 • *BLM – The Assistant Director, Fire and Aviation will initiate, facilitate,*
31 *and provide oversight for the SWFR process when BLM is the lead DOI*
32 *agency. Upon determination of the need for a SWFR, the AD will*
33 *coordinate with the appropriate state director and assemble a SWFR team,*
34 *provide a Delegation of Authority, and initiate the SWFR using the BLM*
35 *guidance found at*
36 *[https://web.blm.gov/internal/fire/budget/Reference_docs/reviews/reviews.ht](https://web.blm.gov/internal/fire/budget/Reference_docs/reviews/reviews.html)*
37 *ml. The AD will provide briefings to the Bureau Director, as appropriate.*
- 38 • *NPS – Significant Wildland Fire Review (SWFR) will be conducted at*
39 *Management discretion and the Delegating Official may be at the Local,*
40 *Regional, or National level. See the Agency Administrator and Fire*
41 *Management Performance Tables in Chapter 3 and the “Review Types and*
42 *Requirements” table for further information.*

1 **Individual Fire Review**

2 An Individual Fire Review may also be conducted on incidents that do not rise
3 to the level of a Significant Wildland Fire Review. Individual fire reviews
4 examine all or part of the operations on an individual fire. The fire may be
5 ongoing or controlled. These reviews may be local, state/regional, or national.
6 These reviews evaluate decisions and strategies, correct deficiencies, identify
7 new or improved procedures, techniques, or tactics, determine cost-
8 effectiveness, and compile and develop information to improve local,
9 state/regional, or national fire management programs.

- 10 • **BLM** – *Any fire that burns more than 50,000 acres of sagebrush rangelands*
11 *will be evaluated by the Fire and Aviation Directorate to determine if an*
12 *Individual Fire Review is warranted. If an individual fire review is*
13 *warranted, the Assistant Director will organize a review and provide*
14 *oversight for the review team. Individual Fire Reviews may also be*
15 *conducted when there are significant natural resource concerns; or there*
16 *are policy, political, social, or economic concerns, including significant*
17 *impacts to infrastructure and energy related corridors; or there are*
18 *significant and complicated cost-share or multi-jurisdictional issues.*

19 **Lessons Learned Reviews (LLRs)**

20 The purpose of a LLR is to explore, investigate, or review unintended outcomes
21 or near misses in order to learn from the event and prevent future occurrences.
22 In order to learn from these events, it is imperative to conduct a LLR in an open,
23 non-punitive manner. LLRs are intended to provide educational opportunities
24 that foster open and honest dialog and assist the wildland fire community in
25 sharing lessons learned information. LLRs provide an outside perspective with
26 appropriate technical experts assisting involved personnel in identifying
27 conditions that led to the unexpected outcome and sharing findings and
28 recommendations.

29 A LLR should be tailored to the event being reviewed. The scope of the review
30 should be commensurate with the severity of the incident. A LLR will not be
31 substituted for a Serious Accident Investigation (SAI) or other agency-specific
32 accident investigation reporting requirements (e.g., DOI Safety Management
33 Information System (SMIS) or USDA eSafety).

- 34 • **NPS** – *Facilitated Learning Analysis (FLA) may be used for incidents*
35 *meeting the AI criteria.*
- 36 • **FS** – *Facilitated Learning Analysis (FLA) may be used for incidents*
37 *meeting the AI criteria or if a CRP is not being utilized for an incident*
38 *meeting SAI criteria. A guide for the FLA process is available at*
39 *[https://www.wildfirelessons.net/viewdocument/facilitated-learning-analysis-](https://www.wildfirelessons.net/viewdocument/facilitated-learning-analysis-imple-1)*
40 *imple-1. The Forest Service's formal Learning Review Processes are the*
41 *Facilitated Learning Analysis (FLA) which may be used for unintended*
42 *outcomes of all types and the Coordinated Response Protocol (CRP)*
43 *reserved for FS employee fatality events. Both processes are explicitly non-*
44 *punitive and must have a delegation signed by a line officer so stating.*

1 *Where appropriate, and for less serious incidents the FS may also use the*
2 *Rapid Lesson Sharing (RLS) process or other review process such as After*
3 *Action Reviews which typically do not have a Line Officer's delegation. The*
4 *FS does not use the SAI process but may assist other agencies in a SAI for*
5 *incidents involving the FS interests or personnel. FS Aviation accidents and*
6 *incidents utilize the FS Aviation Mishap Investigation process. Current*
7 *versions of the FLA and CRP guides can be found on the Wildland Fire*
8 *Lessons Learned Center's website*
9 *([https://www.wildfirelessons.net/viewdocument/facilitated-learning-](https://www.wildfirelessons.net/viewdocument/facilitated-learning-analysis-imple-1)*
10 *analysis-imple-1).*

11 A LLR will be led by a facilitator not involved in the event. A facilitator should
12 be an appropriate fire management expert who possesses skills in interpersonal
13 communications, organization, and be unbiased to the event. Personnel involved
14 in the event will be participants in the review process. Depending upon the
15 complexity of the event, the facilitator may request assistance from technical
16 experts (e.g., fire behavior, fire operations, etc.).

17 The LLR facilitator will convene the participants and:

- 18 • Obtain a Delegation of Authority from appropriate agency level. See
19 Appendix J for a sample LLR Delegation of Authority;
- 20 • Identify facts of the event (sand tables maybe helpful in the process) and
21 develop a chronological narrative of the event;
- 22 • Identify underlying reasons for success or unintended outcomes;
- 23 • Identify what individuals learned and what they would do differently in the
24 future;
- 25 • Identify any recommendations that would prevent future similar
26 occurrences;
- 27 • While not required, 24- and 72-hour reports may be produced, and are a
28 valuable element of the many learning focused products that LLR Teams
29 may produce; and
- 30 • Provide a final written report including the above items to the pertinent
31 Agency Administrator(s) within two weeks of event occurrence unless
32 otherwise negotiated. Names of involved personnel should not be included
33 in this report (reference them by position).

34 A copy of the final report will be submitted to the respective agency's national
35 fire safety lead who will provide a copy to the Wildland Fire Lessons Learned
36 Center (LLC). <https://www.wildfirelessons.net/aboutus>.

37 **Rapid Lesson Sharing (RLS)**

38 RLS is a type of Lessons Learned Review (LLR) for field personnel to quickly
39 share lessons with others. RLS can be used to document and share lessons
40 learned as a result of close calls, minor accidents, successes, efficient ways of
41 performing work, adaptations, or anything wildland fire personnel can learn
42 from.

- 1 To submit or view RLS documents, go to
- 2 <https://www.wildfirelessons.net/resources/rapidlessonsharing>.

3 **Declared Wildfire Reviews**

4 Every prescribed fire resulting in a wildfire declaration will receive an Outcome
5 Review. Declared wildfire outcome review direction is found in these agency
6 documents:

- 7 • *Interagency Prescribed Fire Planning and Implementation Procedures*
8 *Reference Guide* (PMS 484)
 - 9 ○ **BLM** – Refer to *Fuels Management Manual 9214 and Handbook 9214-*
10 *1, Chapter 5.*
 - 11 ○ **NPS** – Refer to *RM-18, Chapter 7 and 17.*
 - 12 ○ **FWS** – Refer to *Fire Management Handbook, Chapter 17.*
 - 13 ○ **FS** – Refer to *FSM 5140.*
 - 14 ○ **BIA** – Refer to *Bureau of Indian Affairs Fuels Management Program*
15 *Supplement to the Interagency Prescribed Fire Planning and*
16 *Implementation Procedures Reference Guide (December 2008),*
17 *Chapter 3.*

18 Declared Wildfire Reviews will be submitted to the Wildland Fire Lessons
19 Learned Center (LLC) by the agency fuels program lead. Submissions should be
20 sent to lldocsubmit@gmail.com.

21 **Notice of Air Quality Exceedance (NOV) Reviews**

22 A Notice of Air Quality Exceedance (NOV) Review supports understanding of
23 the planning, decisions, and actions taken that contributed to the NOV.
24 <https://www.nwccg.gov/publications/484>

25 **Investigations**

26 Investigations are detailed and methodical efforts to collect and interpret facts
27 related to an incident or accident, identify causes or conditions that contributed
28 to the accident (organizational factors, local workplace factors, unsafe acts), and
29 develop control measures to prevent recurrence.

30 In addition to agency-specific accident investigation reporting requirements
31 (SMIS/eSafety), distinct types of wildland fire incidents and accidents have
32 specific investigation requirements.

33 **Wildland Fire Incident and Accident Types and Definitions**

- 34 • **Serious Wildland Fire Accident** – An unplanned event or series of events
35 that resulted in death, injury, occupational illness, or damage to or loss of
36 equipment or property. For wildland fire operations, a serious accident
37 involves any of the following:
 - 38 ○ One or more fatalities;
 - 39 ○ Three or more personnel who are inpatient hospitalized as a direct
40 result of or in support of wildland fire operations;
 - 41 ○ Property or equipment damage of \$250,000 or more; and/or

- 1 ○ Consequences that the Designated Agency Safety and Health Official
 - 2 (DASHO) judges to warrant a Serious Accident Investigation.
 - 3 ● **Wildland Fire Accident** – An unplanned event or series of events that
 - 4 resulted in injury, occupational illness, or damage to or loss of equipment or
 - 5 property to a lesser degree than defined in “Serious Wildland Fire
 - 6 Accident.”
 - 7 ● **Near-miss** – An unplanned event or series of events that could have
 - 8 resulted in death, injury, occupational illness, or damage to or loss of
 - 9 equipment or property but did not.
 - 10 ● **Entrapment** – A situation where personnel are unexpectedly caught in a
 - 11 fire behavior-related, life-threatening position where planned escape routes
 - 12 or safety zones are absent, inadequate, or compromised. Entrapment may or
 - 13 may not include deployment of a fire shelter for its intended purpose.
 - 14 Entrapment may result in a serious wildland fire accident, a wildland fire
 - 15 accident, or a near-miss.
 - 16 ● **Burnover** – An event in which a fire moves through a location or overtakes
 - 17 personnel or equipment where there is no opportunity to utilize escape
 - 18 routes and safety zones, often resulting in personal injury or equipment
 - 19 damage.
 - 20 ● **Fire Shelter Deployment** – The removing of a fire shelter from its case and
 - 21 unfolding it to use as protection against heat, smoke and burning embers.
 - 22 ● **Fire Trespass** – The occurrence of unauthorized fire on agency-protected
 - 23 lands where the source of ignition is tied to some type of human activity.
- 24 Accident investigation types and final reports should be commensurate with the
- 25 complexity and/or severity of the accident and focus on organizational learning
- 26 and the prevention of reoccurrence. Investigations and reports may range from
- 27 large investigation teams producing comprehensive accident investigation
- 28 reports to first-level supervisors initiating investigations and reporting
- 29 injury/property damage in their agency-specific reporting systems
- 30 (SMIS/eSafety). Final accident investigation reports may range between agency-
- 31 specific accident reports, small one-page Rapid Lessons Sharing, simple or
- 32 complex Lessons Learned Review reports, to extensive investigation reports that
- 33 follow the same format as a serious accident.

1 Investigation Types and Requirements

Wildland Fire Event	Investigation Type	Management Level Requiring Notification ¹	Management level that determines review type and authorizes review ²
Serious Wildland Fire Accident	Serious Accident Investigation (SAI) <i>FS – Facilitated Learning Analysis (FLA) process or the Coordinated Response Protocol (CRP) for FS employee fatality events.</i>	National	National
Wildland Fire Accident	SAI, Accident Investigation (AI), Lessons Learned Review (LLR), Rapid Lesson Sharing (RLS), depending on severity. This is in addition to agency-specific accident report (e.g., SMIS/eSafety) <i>NPS/FS – FLA may be used</i>	BLM/NPS–National FS/FWS – Management Discretion	Region/State/Local
Entrapment/ Burnover	SAI, AI, LLR, depending on severity	National	National/Regional/ State
Fire Shelter Deployment	SAI, AI, LLR, depending on severity	National	National/Regional/ State
Near-miss	LLR, AAR	Management Discretion	Region/State/Local
Fire Trespass	Fire Cause Determination and Trespass Investigation	Local	Local

¹In the event that a wildland fire entrapment or fatality occurs, immediate notification to NICC is required. A *Wildland Fire Fatality and Entrapment Initial Report* (PMS 405-1) should be submitted to NICC within 24 hours. Submit this report even if some data is missing. The PMS 405-1 is located at https://www.nifc.gov/nicc/logistics/coord_forms.htm.

² Higher level management may exercise their authority to determine the type of review or investigation.

- 1 • **BLM** – *When a BLM employee is involved, investigations will occur*
2 *regardless of land jurisdiction. BLM Agency Administrators may jointly*
3 *delegate authority to investigate accidents in cases of mixed jurisdiction or*
4 *employee involvement. Joint delegations must ensure that BLM accident*
5 *investigation reporting requirements are met.*
- 6 • **FS** – *Forest Service Line Officers are the deciding officials regarding what*
7 *type of accident investigation or analysis method is to be used for accidents*
8 *or near misses occurring under Forest Service jurisdiction.*

9 Investigation Processes

10 Processes Common to All Wildland Fire Accident Investigations

- 11 • **Site Protection** – The site of the incident should be secured immediately
12 and nothing moved or disturbed until the area is photographed and visually
13 reviewed by the investigation team. Exact locations of injured personnel,
14 entrapments, injuries, fatalities, and the condition and location of personal
15 protective equipment, property, and other equipment must be documented.
- 16 • **Management of Involved Personnel** – Treatment, transport, and follow-up
17 care must be immediately arranged for injured and involved personnel. The
18 Agency Administrator or delegate should develop a roster of involved
19 personnel and supervisors and ensure they are available for interviews by
20 the investigation team. The Agency Administrator should consider relieving
21 involved supervisors from fireline duty until the preliminary investigation
22 has been completed. Attempt to collect initial statements from the involved
23 individuals prior to a Critical Incident Stress Management (CISM) session.
- 24 • **Delegation of Authority** – A Delegation of Authority shall be issued to the
25 investigation team leader. The Delegation of Authority will outline roles,
26 responsibilities, and expected deliverables. Delegation of Authority
27 templates are available at <https://www.nifc.gov/programs/safety/>.
- 28 • **Critical Incident Stress Management (CISM)** – CISM is the
29 responsibility of local Agency Administrators, who should have individuals
30 pre-identified for critical incident stress debriefings. Also refer to the
31 Agency Administrator’s Guide to Critical Incident Management (PMS 926),
32 available at <https://www.nwcg.gov/publications/926>. Individuals or teams
33 may be available through Employee Assistance Programs (EAPs) or
34 Geographic Area Coordination Centers (GACCs).

35 Wildland Fire Accident Investigation (AI) Process

- 36 • **FS** – *The Wildland Fire Accident Investigation (AI) Process is not*
37 *applicable to Forest Service accidents. The Forest Service’s formal*
38 *Learning Review Processes are the Facilitated Learning Analysis (FLA)*
39 *which may be used for unintended outcomes of all types and the*
40 *Coordinated Response Protocol (CRP) reserved for FS employee fatality*
41 *events. Both processes are explicitly non-punitive and must have a*

1 *delegation signed by a line officer so stating. Where appropriate, and for*
2 *less serious incidents the FS may also use the Rapid Lesson Sharing (RLS)*
3 *process or other review process such as After Action Reviews which*
4 *typically do not have a Line Officer's delegation. The FS does not use the*
5 *SAI process but may assist other agencies in a SAI for incidents involving*
6 *the FS interests or personnel. FS Aviation accidents and incidents utilize*
7 *the FS Aviation Mishap Investigation process.*

8 Accident investigations and reports should be commensurate with the
9 complexity and/or severity of the accident and focus on organizational learning
10 and the prevention of reoccurrence. Investigations and reports may range from
11 large investigation teams producing comprehensive reports to first-level
12 supervisors initiating investigations and reporting injury/property damage in
13 agency reporting systems (e.g., SMIS/eSafety). Final accident investigation
14 reports may range between agency-specific accident reports, small one-page
15 Rapid Lessons Sharing, simple or complex Lessons Learned Review reports, to
16 extensive investigation reports that follow the same format as a serious accident.

17 **Notification**

18 When an accident occurs, agency notification requirements will be followed.
19 Notification requirements universally include:

- 20 • Local dispatch center
- 21 • Unit Fire Management Officer
- 22 • Agency Administrator
- 23 • OSHA (refer to Chapter 7 for reporting criteria)

24 **Investigation Team Membership**

25 Investigation team membership should be commensurate with the complexity
26 and/or severity of the accident. An investigation team should consist of a team
27 leader and an adequate number of technical specialists and subject matter
28 experts. For complex investigations, team membership may also include a chief
29 investigator, a safety advisor/manager, and additional technical specialists, and a
30 writer/editor. Team members may have dual roles (e.g., chief investigator/safety
31 advisor).

32 **Investigation Methodology**

33 Accident Investigations (AI) are detailed and methodical efforts to collect and
34 interpret facts related to an accident and to provide specific recommendations to
35 prevent recurrence. The AI may include the following actions:

- 36 • Visual inspection of involved site, equipment, or material;
- 37 • Detailed analysis of equipment or material, as necessary;
- 38 • Interviews with involved personnel, witnesses, managers, and other
39 pertinent persons;
- 40 • Collection and review of written statements;
- 41 • Review of records, archives, plans, policies, procedures, and other pertinent
42 documents;

- 1 • Consideration of environmental, equipment, material, procedural, and
2 human factors as they related to the incident; and
3 • Development of specific findings and related recommendations for the AI
4 report.

5 **Accident Investigation 24- and 72-Hour Reports**

6 24- and 72-hour reports should be completed when an AI will be conducted.
7 Final 24- and 72-hour reports will be approved by the AI delegating official,
8 then sent to the agency fire safety/risk management lead who will provide a
9 copy to the Wildland Fire Lessons Learned Center (LLC). E-mail:
10 llcdocsubmit@gmail.com.

- 11 • **24-Hour Preliminary Report** – This report contains known basic facts
12 about the accident. It will be completed and forwarded by the responsible
13 Agency Administrator to the next higher level (e.g., District Manager
14 forwards to State Director). Names of injured personnel will not be included
15 in this report. Personnel may be referenced by position.
16 • **72-Hour Expanded Report** – This report provides additional factual
17 information, if available. The information may include the number of
18 victims and severity of injuries. The focus should be on information that
19 may have immediate impact on future accident prevention. This report will
20 be completed and forwarded by the AI team to the AI delegating official.
21 Names of injured personnel will not be included in this report. Personnel
22 may be referenced by position.

23 **Accident Investigation Final Report**

24 Within approximately 45 days of the accident, a final report shall be submitted
25 to the senior manager dependent upon the level of investigation (e.g., local
26 Agency Administrator, State/Regional Director, and Agency Fire Director or
27 their designee). If a lower level investigation is conducted, a courtesy copy of
28 the final report shall be sent to the respective agency's national fire safety/risk
29 management lead.

30 The Final Report (minus names of employees—they should be referenced by
31 position) will be submitted to Wildland Fire Lessons Learned Center (LLC) by
32 the respective agency's National Fire Safety Leads. E-mail:
33 llcdocsubmit@gmail.com.

34 **Accident Investigation Report Standard Contents**

35 Accident investigation reports will vary in length, format and complexity. Each
36 report should be commensurate to the complexity of the incident and focus on
37 organizational learning and the prevention of reoccurrence. The following list is
38 common or standard contents often found in accident investigation reports.

- 39 • **Executive Summary** – A brief narrative of the facts involving the accident
40 including dates, locations, times, name of incident, jurisdiction(s), number
41 of individuals involved, etc. Names of injured personnel or personnel
42 involved in the accident are not to be included in this report (reference them
43 by position).

- 1 • **Narrative** – A detailed chronological narrative of events leading up to and
2 including the accident, as well as rescue and medical actions taken after the
3 accident. This section will contain who, what, and where.
- 4 • **Investigation Process** – A brief narrative of actions taken by the
5 investigation team. This narrative should include investigation team
6 membership, Delegation of Authority information (from who and contents,
7 include a copy as an appendix), investigative actions and timeline (when the
8 team conducted interviews, inspections, site visits, etc.), and if other sources
9 were consulted (i.e., professional accident reconstruction experts,
10 equipment manufacturers, etc.). This section may also address if
11 environmental, equipment, material, procedural, and human factors were
12 present, and state how findings/recommendations were developed.
- 13 • **Findings/Recommendations**
- 14 ○ **Findings** – Developed from the factual information. Each finding is a
15 single event or condition. Each finding is an essential step in the
16 accident sequence, but each finding is not necessarily causal or
17 contributing, and each finding may not have an associated
18 recommendation. Findings should only include information necessary
19 to explain the specific event or condition. Findings must be
20 substantiated by the factual data. Findings should not include opinion
21 or speculation.
- 22 ○ **Discussion** – This provides explanation or information pertinent to a
23 specific finding.
- 24 ○ **Recommendations** – Recommendations are proposed actions intended
25 to prevent similar accidents. Recommendations should be directly
26 related to findings, should not contain opinion or speculation, and when
27 appropriate, should identify the specific organization responsible for
28 completing the recommended action. Recommendations will be
29 evaluated and may be incorporated into future operational direction
30 through established processes.
- 31 • **Conclusions and Observations** – Investigation team’s opinions and
32 inferences, and “lessons learned” may be captured in the section.
- 33 • **Reference Materials**
- 34 ○ **Maps/Photographs/Illustrations** – Graphic information used to
35 document and visually portray facts.
- 36 ○ **Appendices** – Reference materials (e.g., fire behavior analysis,
37 equipment maintenance reports, agreements).
- 38 AI Delegation of Authority templates, AI report template and examples of AI
39 reports can be found at the NIFC Safety website,
40 <https://www.nifc.gov/programs/safety/>.

41 **Wildland Fire Serious Accident Investigation (SAI) Process**

42 For interagency serious accident investigations, a multi-agency Delegation of
43 Authority to conduct the investigation may be issued. The delegation will ensure
44 that the investigation meets the policy requirements of involved agencies.

- 1 • **BLM/FWS** – *The Interagency Serious Accident Investigation Guide*
2 *establishes core direction for BLM, FWS, and interagency serious accident*
3 *investigations (exceptions for aviation accidents are stated in the guide). It*
4 *provides serious accident investigation teams a standardized and*
5 *comprehensive process for conducting serious accident investigations. The*
6 *guide is available at <https://www.nifc.gov/programs/safety/>.*
7 *Serious accident investigation reports will be completed, routed, and*
8 *disseminated according to processes established in the guide. Reports may*
9 *contain information supplemental to the requirements of the guide if it*
10 *augments the BLM/FWS's ability to learn and to develop further*
11 *improvements. The guide may be used entirely or in part for accidents that*
12 *do not meet the serious accident definition.*
- 13 • **FS** – *The Forest Service's response to serious accidents are the Facilitated*
14 *Learning Analysis (FLA) which may be used for unintended outcomes of all*
15 *types, and the Coordinated Response Protocol (CRP) reserved for FS*
16 *employee fatality events. Both processes are explicitly non-punitive and*
17 *must have a delegation signed by a line officer so stating. FS Aviation*
18 *accidents and incidents utilize the FS Aviation Mishap Investigation*
19 *process. Current versions of the FLA and CRP guides can be found on the*
20 *Wildland Fire Lessons Learned Center's website*
21 *(<https://www.wildfirelessons.net/home>).*

22 **Fire Director Responsibilities**

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

- 25 • Ensure the agency safety manager and Designated Agency Safety and
26 Health Official (DASHO) have been notified;
- 27 • Immediately appoint, authorize (through Delegation of Authority), and
28 deploy an accident investigation team;
- 29 • Provide resources and procedures adequate to meet the team's needs;
- 30 • Receive the factual and management evaluation reports and take action to
31 accept or reject recommendations;
- 32 • Forward investigation findings, recommendations, and corrective action
33 plan to the DASHO (the agency safety office is the "office of record" for
34 reports);
- 35 • Convene an accident review board/ board of review (if deemed necessary)
36 to evaluate the adequacy of the factual and management reports and suggest
37 corrective actions;
- 38 • Ensure a corrective action plan is developed, incorporating management
39 initiatives established to address accident causal factors; and
- 40 • Ensure Serious Accident Investigations remain independent of other
41 investigations.

42 **Agency Administrator Responsibilities**

- 43 • Develop local preparedness plans to guide emergency response.
44 • Identify agencies with jurisdictional responsibilities for the accident.

- 1 • Provide for and emphasize treatment and care of survivors.
- 2 • Ensure the Incident Commander secures the accident site.
- 3 • Conduct an in-briefing to the investigation team.
- 4 • Facilitate and support the investigation as requested.
- 5 • Determine need and implement Critical Incident Stress Management
- 6 (CISM).
- 7 • Notify home Tribe leadership in the case of a Native American fatality.
- 8 • Prepare and issue the required 24-Hour Preliminary Report unless formally
- 9 delegated to another individual.

10 **Notification**

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

- 13 • Agency Administrator;
- 14 • Public affairs;
- 15 • Agency Law Enforcement;
- 16 • Safety personnel;
- 17 • County sheriff or local law enforcement as appropriate to jurisdiction;
- 18 • National Interagency Coordination Center (NICC) through the local
- 19 dispatch center and GACC. Provide a *Wildland Fire Fatality and*
- 20 *Entrapment Initial Report* (PMS 405-1) directly to NICC within 24 hours;
- 21 • Agency headquarters; and
- 22 • OSHA will be notified according to agency policy when an employee is
- 23 killed on the job or suffers a work-related hospitalization, amputation, or
- 24 loss of an eye. <https://www.osha.gov/report.html>
- 25 ○ A fatality must be reported within **8 hours**.
- 26 ○ An in-patient hospitalization, amputation, or eye loss must be reported
- 27 within **24 hours**.

28 Notification to the respective agency's fire national safety/risk management lead
29 is required.

30 **Designating the Investigation Team Lead**

31 The 1995 Memorandum of Understanding (MOU) between the U.S. Department
32 of the Interior and the U.S. Department of Agriculture states that serious
33 wildland fire-related accidents will be investigated by interagency investigation
34 teams.

35 The *Memorandum of Agreement (MOA) between Department of Agriculture*
36 *Forest Service and Department of Interior* augments and provides clarification
37 to the 1995 MOU for investigation type and team lead/deputy team
38 lead/interagency representative designation. The MOA also provides an
39 interagency template for joint Delegation of Authority. The MOA is available at
40 <https://www.nifc.gov/programs/safety/>.

41 Following initial notification of a serious accident, the agency DASHO will
42 designate a Serious Accident Investigation Team Lead(s) and provide that

- 1 person(s) with a written Delegation of Authority to conduct the investigation
2 and the means to form and deploy an investigation team.
- 3 • *BLM/NPS/FWS – The agency DASHOs have delegated this responsibility*
4 *to the respective agency fire directors.*
 - 5 • *BLM – The Fire and Aviation Directorate Safety Program Manager*
6 *mobilizes SAI teams in coordination with the SAI Team Leader.*
- 7 Accidents involving more than one agency will require a collaboratively
8 developed Delegation of Authority that is signed by each of the respective
9 agencies.

10 **Serious Accident Investigation Team (SAIT) Composition**

11 SAIT members should not be affiliated with the unit that sustained the accident.

12 ***Team Leader (Core Team Member)***

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

17 ***Chief Investigator (Core Team Member)***

18 A qualified accident investigation specialist is responsible for the direct
19 management of all investigation activities. The chief investigator reports to the
20 team leader.

21 ***Accident Investigation Advisor/Safety Manager (Core Team Member)***

22 An experienced safety and occupational health specialist or manager who acts as
23 an advisor to the team leader to ensure that the investigation focus remains on
24 safety and health issues. The accident investigation advisor/safety manager also
25 works to ensure strategic management issues are examined. Delegating Officials
26 or their designee may, at their discretion, fill this position with a trained and
27 qualified NWCG Safety Officer, Line (SOFR), Safety Officer, Type 2 (SOF2),
28 or Safety Officer, Type 1 (SOF1).

29 ***Interagency Representative***

30 An interagency representative will be assigned to every fire-related Serious
31 Accident Investigation Team. They will assist as designated by the team leader
32 and will provide outside agency perspective. They will assist as assigned by the
33 Team Leader and will provide a perspective from outside the agency.

34 ***Technical Specialists***

35 Personnel who are qualified and experienced in specialized occupations,
36 activities, skills, and equipment, addressing specific technical issues such as
37 specialized fire equipment, weather, and fire behavior.

38 ***Public Affairs Officer***

39 For investigations with high public visibility and significant news media
40 interest, a public affairs officer (PAO) should be considered a part of the team.
41 The PAO should develop a communications plan for the team, be a designated

- 1 point of contact for news media, and oversee all aspects of internal and external
2 communications. Ideally, the PAO should be qualified as a Type 1 or Type 2
3 public information officer and be familiar with SAI team organization and
4 function.
- 5 • **BLM** – All media related documents (news releases, talking points, etc.)
6 should be cleared through NIFC Public Affairs prior to external release.
- 7 Core SAIT members are required to take the Interagency Serious Accident
8 Investigation Course 1112-05 prior to serious accident investigation assignment.
9 This training is required every 5 years to maintain currency unless the Core
10 SAIT member has completed an SAIT assignment within the last 5 years.
- 11 • **BLM/FWS/FS** – This training is required every 5 years to retain currency.

12 **SAI 24- and 72-Hour Reports**

13 The final 24-hour report will be approved by the Agency Administrator in
14 concurrence with the SAI delegating official. The 72-hour report will be
15 approved by the SAI delegating official. Both reports are sent to the agency fire
16 safety/risk management lead who will provide a copy to the Wildland Fire
17 Lessons Learned Center (LLC). E-mail: llcdocsubmit@gmail.com.

- 18 • **24-Hour Preliminary Report** – This report contains known basic facts
19 about the accident. It will be completed and forwarded by the responsible
20 Agency Administrator to the SAI delegating official. Names of injured
21 personnel will not be included in this report. Personnel may be referenced
22 by position.
- 23 • **72-Hour Expanded Report** – This report provides additional factual
24 information, if available. The information may include the number of
25 victims and severity of injuries. The focus should be on information that
26 may have immediate impact on future accident prevention. This report will
27 be completed and forwarded by the SAI team to the SAI delegating official.
28 Names of injured personnel will not be included in this report. Personnel
29 may be referenced by position.

30 **SAI Final Report**

31 Within 45 days of the incident, a final report consisting of a Factual Report (FR)
32 and a Management Evaluation Report (MER) will be produced by the
33 investigation team and forwarded to the Designated Agency Safety and Health
34 Official (DASHO) through the agency Fire Director(s).

- 35 • **Factual Report** – This report contains a brief summary or background of
36 the event, and facts based only on examination of technical and procedural
37 issues related to equipment and tactical fire operations. It does not contain
38 opinions, conclusions, or recommendations. Names of injured personnel are
39 not to be included in this report (reference them by position). Post-accident
40 actions should be included in this report (emergency response attribute to
41 survival of a victim, etc.). Factual Reports will be submitted to Wildland
42 Fire Lessons Learned Center (LLC) by the respective agency's fire
43 safety/risk management leads. E-mail: llcdocsubmit@gmail.com.

- 1 • **Management Evaluation Report (MER)** – The MER is intended for
2 internal use only and explores management policies, practices, procedures,
3 and personal performance related to the accident. The MER categorizes
4 findings identified in the factual report and provides recommendations to
5 prevent or reduce the risk of similar accidents.

6 Factual Report and Management Evaluation Report formatting can be found at
7 <https://www.nifc.gov/programs/safety/>.

8 **Accident Review Board/Board of Review**

9 An Accident Review Board/Board of Review is used by some agencies to
10 evaluate recommendations, and develop a corrective action plan. Refer to the
11 respective agency’s safety and health policy.

12 **Fire Cause Determination and Trespass Investigation**

13 **Introduction**

14 Agency policy requires determination of cause, origin, and responsibility for all
15 wildfires. Accurate fire cause determination is a critical first step for a
16 successful fire investigation and for targeting fire prevention efforts. Proper
17 investigative procedures, which occur concurrent with initial attack, more
18 accurately pinpoint fire causes and can preserve valuable evidence that would
19 otherwise be destroyed by suppression activities. Fire trespass refers to the
20 occurrence of unauthorized fire on agency-protected lands where the source of
21 ignition is tied to some type of human activity.

22 Initiation of fire cause determination must be started with notification of an
23 incident. Initial attack dispatchers are responsible for capturing all pertinent
24 information when the fire is reported and throughout the incident. The initial
25 attack Incident Commander and the initial attack forces are responsible for
26 protecting the origin area and initiating fire cause determination and
27 documenting observations starting with their travel to the fire. If probable cause
28 indicates human involvement, an individual qualified in fire cause determination
29 (INVF or cooperator equivalent) should be dispatched to the fire.

30 **Policy**

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

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

39 The determination whether to proceed with trespass action must be made on
40 “incident facts,” not on “cost or ability to pay.” Trespass collection is both a cost
41 recovery and a deterrent to prevent future damage to public land. It is prudent to

1 pursue collection of costs, no matter how small. This determination must be
 2 documented and filed in the unit office's official fire report file.

3 Unless specified otherwise in an approved protection agreement, the agency that
 4 has the land management jurisdiction/administration role is accountable for
 5 determining the cause of ignition, responsible party, and for obtaining all
 6 billable costs, performing the billing, collection, and distribution of the collected
 7 funds. The agency with the fire protection responsibility role must provide the
 8 initial determination of cause to the agency with the land management
 9 jurisdiction/administration role. The agency providing fire protection shall
 10 provide a detailed report of suppression costs that will allow the jurisdictional
 11 agency to proceed with trespass procedures in a timely manner.

12 Each agency's role in fire trespass billing and collection must be specifically
 13 defined in a relevant Cooperative Fire Protection Agreement between federal
 14 and state cooperators. Federal agencies will follow established procedures for
 15 each agency and utilize the IPAC system to transfer funds.

16 Agency references:

- 17 • **BLM** – 9238-1
- 18 • **NPS** – RM-18, Chapter 6 and RM-9
- 19 • **FWS** – 621 FW 1
- 20 • **FS** – FSM 5130 and FSM 5300
- 21 • **BIA** – 53 IAM Chapter 7-H and 90IAM 1.4C (10)
- 22 • **BIA** – For guidance regarding origin and cause determination on lands
 23 under the jurisdiction of the Bureau of Indian Affairs, see 90 IAM 1.4C (10)
 24 *Wildland Fire Management - National Fire Investigation Handbook*
 25 available at <https://www.bia.gov/policy-forms/handbooks>.
- 26 • **BIA** – For guidance regarding fire trespass and damage to Indian Forest
 27 Products on lands under the jurisdiction of the Bureau of Indian Affairs see
 28 53IAM 7-H Indian Forest Management Handbook – Forest Trespass,
 29 available at
 30 [https://www.bia.gov/sites/bia.gov/files/assets/bia/ots/dfwfm/pdf/idc-](https://www.bia.gov/sites/bia.gov/files/assets/bia/ots/dfwfm/pdf/idc-022535.pdf)
 31 [022535.pdf](https://www.bia.gov/policy-forms/handbooks) and <https://www.bia.gov/policy-forms/handbooks>.

32 **Related Policy Documents**

33 These documents provide specific direction related to incident and accident
 34 investigations.

	Safety	Prescribed Fire
DOI	485 DM Chapter 7	
BLM	DOI Occupational Safety and Health Program – Field Manual, 1112-1	
NPS	DO/RM-50B, RM-18 Chapter 3	RM-18, Chapter 7
FWS	240 FW 7	

	Safety	Prescribed Fire
FS	FSH-6709.11	FSM-5140
	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 Accident Investigation Guide, for specific guidance.	Same as Safety
Interagency	Information on accident investigations may be found at https://www.nifc.gov/programs/safety/ . For reporting use PMS 405-1, <i>Wildland Fire Fatality and Entrapment Initial Report</i> , https://www.nwcg.gov/publications/405-1	Same as Safety

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