

Chapter 18

Reviews and Investigations

Introduction

When an accident occurs, each agency will meet their agency-specific accident investigation (AI) reporting requirements (e.g., Department of the Interior [DOI] Safety Management Information System (SMIS) or USDA eSafety).

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

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

Multiagency Cooperation

Many reviews and investigations involve cooperation between Federal, State, county, and municipal agencies. To comply with each agency's authorities, policies, and responsibilities, a multiagency review or investigation may be necessary. A multiagency delegation of authority should be provided to outline roles, responsibilities, and expected deliverables.

The team leader or delegating official(s) should establish cooperative relationships with the other agencies involved in the review or investigation to ensure policies and responsibilities are met. This may involve negotiations, cooperative agreements, and coordination with the agency designated agency safety and health official (DASHO) or the agency official who signs the delegation of authority.

Federal Interagency Investigations

Close calls or accidents that involve interagency (Forest Service [FS] or DOI) personnel and/or jurisdiction (e.g., FS firefighter injured on Fish and Wildlife Service [FWS] jurisdictional wildland fire and vice versa) shall be reviewed or investigated cooperatively and conducted at the appropriate level as outlined in this chapter.

Agency administrators will ensure that affected agencies are involved throughout the review/investigation process.

When an incident does not meet the serious accident criteria, the affected agency administrators should jointly decide what type and level of investigation will be conducted based on agency processes outlined in this chapter. Questions should be addressed to your agency wildland fire safety program manager.

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

1 a specific incident. The purpose of a review is to ensure the effectiveness of the
 2 system element being reviewed, and to identify deficiencies and recommend
 3 specific corrective actions. Established review types are described below and
 4 include:

- 5 • Preparedness review
- 6 • After action review (AAR)
- 7 • Fire and Aviation Safety Team (FAST) review
- 8 • Safety Assistance Team (SAT) visit
- 9 • Aviation Safety and Technical Assistance Team (ASTAT) review
- 10 • Wildland Fire Management Annual Report and Large Fire Review – (FS)
- 11 • Significant wildland fire review or (SWFR) - (DOI)
- 12 • Individual fire review
- 13 • Lessons learned review (LLR)
- 14 • Rapid lesson sharing (RLS)
- 15 • Declared wildfire review
- 16 • Air Quality Exceedance Notice of Violation (NOV) review

17 **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
Wildland Fire Management Annual Report and Large Fire Review (FS)	Washington Office discretion	Washington Office
Significant wildland fire review (DOI)	Refer to Office of Wildland Fire (OWF) Policy Memorandum 2016-013	Agency director, agency administrator, or individual bureau direction
Individual fire review	Management discretion	Local/state/region/national

Type	When Conducted	Delegating or Authorizing Official
Lessons learned review • <i>NPS/FS – FLA may be used</i>	Management discretion	Local/state/region/national
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)
Air Quality Exceedance Notice of Violation (NOV)	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 Review**

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, personnel,
6 or equipment deficiencies, and recommend specific corrective actions.

7 Interagency preparedness review checklists can be found at
8 <https://www.nifc.gov/standards>.

9 **After Action Review**

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

24 AARs may be conducted at any organizational level. However, all AARs
25 involve the exchange of ideas and observations, and focus on improving

1 proficiency. The AAR should not be utilized as an investigational review. The
2 format can be found in the *Interagency Response Pocket Guide (IRPG)*, PMS
3 461, NFES 1077. Additional AAR information is available at
4 <https://www.nwccg.gov/wfldp/toolbox/aars>.

5 **Fire and Aviation Safety Team Review**

6 A Fire and Aviation Safety Team (FAST) assists agency administrators during
7 periods of high fire activity by assessing policy, rules, regulations, and
8 management oversight relating to operational issues. They can also do the
9 following:

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

16 FAST reviews can be requested through Geographic Area Coordination Centers
17 (GACC) to conduct reviews at the state/regional and local level. If a more
18 comprehensive review is required, a national FAST can be ordered through the
19 National Interagency Coordination Center (NICC).

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

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

26 FAST reports will include an executive summary, purpose, objectives,
27 methods/procedures, findings, recommendations, follow-up actions (immediate,
28 long-term, national issues), and a letter delegating authority for the review.
29 FAST reports should be submitted to the GACG with a copy to the Federal Fire
30 and Aviation Safety Team (FFAST) chair within 30 days. See appendix L for
31 sample FAST delegation of authority.

32 **Safety Assistance Team Visit**

33 In addition to FAST reviews, Safety Assistance Team (SAT) visits emphasize
34 engaging individual firefighters, managers, and administrators to grasp potential
35 issues, with a focus on firefighting safety fundamentals. SAT visits are not
36 inspections. SATs are often ordered when activity within an area escalates
37 rapidly, or when a high level of activity has been occurring for a long time.
38 SATs can be single agency or interagency in scope and composition.

39 The goals of a SSAT are to:

- 40 • Assist fire managers and IMTs with site visits with firefighters, fire
41 managers, and program leaders.
- 42 • Be service oriented, assisting the local units.

- 1 • Provide early warning of potentially hazardous conditions or situations.
- 2 Direct intervention, circumventing normal chain of command, is authorized
- 3 when necessary; however, the overall objective is to create a work environment
- 4 where the normal operating procedures are responsible for safe practices.
- 5 **Aviation Safety and Technical Assistance Team Review**
- 6 Refer to chapter 16 for Aviation Safety and Technical Assistant Team (ASTAT)
- 7 information.
- 8 **Wildland Fire Management Annual Report and Large Fire Review (FS)**
- 9 The Washington Office, Director of Fire and Aviation Management, will select
- 10 a subset of fires for review based on complexity and national significance,
- 11 ensuring the selected fires provide a cross-sectional representation of cost, size,
- 12 and oversight complexity. The reviews will be multi-tiered and foster a working
- 13 environment that will improve the decision-making process and develop a
- 14 capacity for organizational learning. If a site visit is required, the Washington
- 15 Office, Deputy Chief, State and Private Forestry, will notify the regional
- 16 forester. The national review process can include real time analysis of fire
- 17 information, informal discussions with fire managers and regional personnel,
- 18 and/or site visits by a cadre of specialists to individual incidents and or
- 19 geographic areas. For more detail, see FSM 5139.2.
- 20 **Significant Wildland Fire Review (DOI)**
- 21 A significant wildland fire review (SWFR) will be conducted when an incident
- 22 (single-fire or complex) meets or exceeds Federal combined expenditures of \$15
- 23 million in suppression costs, and more than 50% of the burned acres are
- 24 managed by one or more DOI bureaus. The DOI is responsible for advising the
- 25 appropriate individual(s) within their agency of the need for a SWFR. When a
- 26 multi-jurisdictional fire requires review, the DOI bureaus will determine which
- 27 agency will be designated as the lead in the review process. The agency will
- 28 provide a delegation of authority to the SWFR team authorizing the
- 29 implementation of a review. When possible, SWFRs should be conducted when
- 30 the incident management team (IMT) is still in place to allow prompt access to
- 31 records and incident personnel. For more information, see
- 32 [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)
- 33 [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).
- 34 • **BLM** – *The will initiate, facilitate, and provide oversight for the SWFR*
- 35 *process when BLM is the lead DOI agency. Upon determination of the need*
- 36 *for a SWFR, the Assistant Director, FAD, will coordinate with the*
- 37 *appropriate state director and assemble a SWFR team, provide a delegation*
- 38 *of authority, and initiate the SWFR using the BLM guidance found at*
- 39 *[https://web.blm.gov/internal/fire/budget/Reference_docs/reviews/reviews.ht](https://web.blm.gov/internal/fire/budget/Reference_docs/reviews/reviews.html)*
- 40 *ml. The Assistant Director, FAD, will provide briefings to the BLM*
- 41 *Director, as appropriate.*
- 42 • **NPS** – *Management discretion determines when SWFRs will be conducted;*
- 43 *the delegating official may be at the local, regional, or national level. See*

1 *the agency administrator and fire management performance tables in*
2 *chapter 3 and the “Review Types and Requirements” table for further*
3 *information.*

4 **Individual Fire Review**

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

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

22 **Lessons Learned Review**

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

32 An LLR should be tailored to the event being reviewed. The scope of the review
33 should be commensurate with the severity of the incident. An LLR will not be
34 substituted for a serious accident investigation (SAI) or other agency-specific AI
35 reporting requirements (e.g., DOI Safety Management Information System
36 [SMIS] or United States Department of Agriculture [USDA] eSafety).

- 37 • **NPS** – *A facilitated learning analysis (FLA) may be used for incidents*
38 *meeting the AI criteria.*
- 39 • **FS** – *A facilitated learning analysis (FLA) may be used for incidents*
40 *meeting the AI criteria or if a coordinated response protocol (CRP) is not*
41 *being utilized for an incident meeting SAI criteria. A guide for the FLA*
42 *process is available at*
43 *<https://www.wildfirelessons.net/viewdocument/facilitated-learning-analysis->*
44 *and-l. The FS’s formal learning review processes are the FLA which may*

1 *be used for unintended outcomes of all types and the CRP reserved for FS*
2 *employee fatality events. Both processes are explicitly non-punitive and*
3 *must have a delegation signed by a line officer so stating. Where*
4 *appropriate, and for less serious incidents the FS may also use the rapid*
5 *lesson sharing (RLS) process or other review process such as AARs which*
6 *typically do not have a line officer's delegation. In some cases, an FLA and*
7 *an RLS may be produced for the same incident to quickly highlight lessons*
8 *revealed in the learning process while the larger narrative is still being*
9 *compiled. The FS does not use the SAI process but may assist other*
10 *agencies in an SAI for incidents involving the FS interests or personnel. FS*
11 *Aviation accidents and incidents utilize the FS aviation mishap*
12 *investigation process. Current versions of the FLA and CRP guides can be*
13 *found on the Wildland Fire Lessons Learned Center's (LLC) website*
14 *([https://www.wildfirelessons.net/viewdocument/facilitated-learning-](https://www.wildfirelessons.net/viewdocument/facilitated-learning-analysis-imple-1)*
15 *analysis-imple-1).*

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

22 The LLR facilitator will convene the participants and:

- 23 • Obtain a delegation of authority from appropriate agency level. See
24 appendix J for a sample LLR delegation of authority;
- 25 • Identify facts of the event (sand tables maybe helpful in the process) and
26 develop a chronological narrative of the event;
- 27 • Identify underlying reasons for success or unintended outcomes;
- 28 • Identify what individuals learned and what they would do differently in the
29 future;
- 30 • Identify any recommendations that would prevent future similar
31 occurrences;
- 32 • A 24- and 72-hour report should be produced as an acknowledgement that
33 an incident has occurred and to distribute initial facts about what happened.
34 These preliminary reports are a valuable element of the many learning-
35 focused products that LLR teams may produce; and
- 36 • Provide a final written report, including the above items to the pertinent
37 agency administrator(s) within two weeks of event occurrence unless
38 otherwise negotiated. Names of involved personnel should not be included
39 in this report (reference them by position).

40 A copy of the final report will be submitted to the respective agency's national
41 fire safety lead who will provide a copy to the LLC. Refer to
42 <https://www.wildfirelessons.net/aboutus>.

1 **Rapid Lesson Sharing**

2 RLS is a type of lessons learned review (LLR) for field personnel to quickly
3 share lessons with others. An RLS can be used to document and share lessons
4 learned as a result of close calls, minor accidents, successes, efficient ways of
5 performing work, adaptations, or anything from which wildland fire personnel
6 can learn.

7 To visit a searchable database with RLS documents, go to

8 <https://www.wildfirelessons.net/irdb>.

9 To submit or view RLS documents, go to

10 <https://www.wildfirelessons.net/resources/rapidlessonsharing>.

11 **Declared Wildfire Reviews**

12 Every prescribed fire resulting in a wildfire declaration will receive an outcome
13 review. Declared wildfire outcome review direction is found in these agency
14 documents:

- 15 • *Interagency Prescribed Fire Planning and Implementation Procedures*
16 *Reference Guide (PMS 484)*
 - 17 ○ *BLM – Refer to Fuels Management Manual 9214 and Handbook 9214-*
18 *1, chapter 5.*
 - 19 ○ *NPS – Refer to RM-18, chapter 7 and 17.*
 - 20 ○ *FWS – Refer to Fire Management Handbook, chapter 17.*
 - 21 ○ *FS – Refer to FSM 5140.*
 - 22 ○ *BIA – Refer to Bureau of Indian Affairs Fuels Management Program*
23 *Supplement to the Interagency Prescribed Fire Planning and*
24 *Implementation Procedures Reference Guide (December 2008),*
25 *chapter 3.*

26 Declared wildfire reviews will be submitted to the LLC by the agency fuels

27 program lead. Submissions should be sent to kelly_woods@nps.gov.

28 **Air Quality Exceedance Notice of Violation Reviews**

29 An Air Quality Exceedance Notice of Violation (NOV) review supports
30 understanding of the planning, decisions, and actions taken that contributed to
31 the NOV. Refer to <https://www.nwccg.gov/publications/484>.

32 **Investigations**

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

37 In addition to agency-specific AI reporting requirements (SMIS/eSafety),
38 distinct types of wildland fire incidents and accidents have specific investigation
39 requirements.

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

- 2 • **Serious Wildland Fire Accident** – An unplanned event or series of events
3 that resulted in death, injury, occupational illness, or damage to or loss of
4 equipment or property. For wildland fire operations, a serious accident
5 involves any of the following:
- 6 ○ One or more job-related fatalities or imminently fatal injuries or
7 illnesses to employees, volunteers, contractors, or the public;
 - 8 ○ The in-patient hospitalization of three or more employees, volunteers,
9 or members of the public due to departmental operations;
 - 10 ○ Amputation(s) or loss of an eye(s);
 - 11 ○ Property damage (including site mitigation or cleanup) or operating
12 loss of \$500,000 or more, or (6) accident, illness; and/or
13 Incident that a Bureau DASHO judges to warrant further investigation
14 using the serious accident investigation procedures.
- 15 • **Wildland Fire Accident** – An unplanned event or series of events that
16 resulted in injury, occupational illness, or damage to or loss of equipment or
17 property to a lesser degree than defined in a “serious wildland fire
18 accident.”
- 19 • **Near-miss** – An unplanned event or series of events that could have
20 resulted in death, injury, occupational illness, or damage to or loss of
21 equipment or property but did not.
- 22 • **Entrapment** – A situation where personnel are unexpectedly caught in a
23 fire behavior-related, life-threatening position where planned escape routes
24 or safety zones are absent, inadequate, or compromised. Entrapment may or
25 may not include deployment of a fire shelter for its intended purpose.
26 Entrapment may result in a serious wildland fire accident, a wildland fire
27 accident, or a near-miss.
- 28 • **Burnover** – An event in which a fire moves through a location or overtakes
29 personnel or equipment where there is no opportunity to utilize escape
30 routes and safety zones, often resulting in personal injury or equipment
31 damage.
- 32 • **Fire Shelter Deployment** – The removing of a fire shelter from its case and
33 unfolding it to use as protection against heat, smoke and burning embers.
- 34 • **Fire Trespass** – The occurrence of unauthorized fire on agency-protected
35 lands where the source of ignition is tied to some type of human activity.

36 AI types and final reports should be commensurate with the complexity and/or
37 severity of the accident and focus on organizational learning and the prevention
38 of reoccurrence. Investigations and reports may range from large investigation
39 teams producing comprehensive AI reports to first-level supervisors initiating
40 investigations and reporting injury/property damage in their agency-specific
41 reporting systems (SMIS/eSafety). Final AI reports may range between agency-
42 specific accident reports, small one-page RLSs, LLR reports (simple or
43 complex), to extensive investigation reports that follow the same format as a
44 serious accident.

1 Investigation and Review Types and Requirements

Wildland Fire Event	Investigation or Review Type	Management Level Requiring Notification ¹	Management level that determines review type and authorizes review ²
Serious wildland fire accident	SAI <i>FS –FLA process or the CRP for FS employee fatality events.</i>	National	National
Wildland fire accident	SAI, AI, LLR, 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>	<i>BLM/NPS–National</i> <i>FS/FWS – Management discretion</i>	Region/state/local
Entrapment/ burnover	SAI, AI, LLR, RLS depending on severity	National	National/regional/ state
Fire shelter deployment	SAI, AI, LLR, RLS depending on severity	National	National/regional/ state
Near-miss	LLR, AAR, RLS	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.nwcg.gov/publications/405-1>.

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

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

1 Investigation Processes

2 Processes Common to All Wildland Fire Accident Investigations

- 3 • **Site Protection** – The site of the incident should be secured immediately
4 and nothing moved or disturbed until the area is photographed and visually
5 reviewed by the investigation team. Exact locations of injured personnel,
6 entrapments, injuries, fatalities, and the condition and location of personal
7 protective equipment (PPE), property, and other equipment must be
8 documented.
- 9 • **Management of Involved Personnel** – Treatment, transport, and follow-up
10 care must be immediately arranged for injured and involved personnel. The
11 agency administrator or delegate should develop a roster of involved
12 personnel and supervisors and ensure all personnel are available for
13 interviews by the investigation team. The agency administrator should
14 consider relieving involved supervisors from fireline duty until the
15 preliminary investigation has been completed. Attempt to collect initial
16 statements from the involved individuals prior to a critical incident stress
17 management (CISM) session.
- 18 • **Delegation of Authority** – A delegation of authority shall be issued by the
19 agency administrator to the investigation team leader. The delegation of
20 authority will outline roles, responsibilities, and expected deliverables.
21 Delegation of authority templates are available from agency fire safety
22 program managers.
- 23 • **Critical Incident Stress Management (CISM)** – CISM is the
24 responsibility of local agency administrators, who should have individuals
25 preidentified for critical incident stress debriefings. Also refer to the *Agency*
26 *Administrator's Guide to Critical Incident Management (PMS 926)*,
27 available at <https://www.nwcg.gov/publications/926>. Individuals or teams
28 may be available through employee assistance programs (EAP) or GACCs.

29 Wildland Fire Accident Investigation Process

- 30 • **FS** – *The wildland fire AI process is not applicable to FS accidents. The*
31 *FS's formal learning review processes are the FLA which may be used for*
32 *unintended outcomes of all types and the CRP reserved for FS employee*
33 *fatality events. Both processes are explicitly non-punitive and must have a*
34 *delegation signed by a line officer so stating. Where appropriate, and for*
35 *less serious incidents the FS may also use the RLS process or other review*
36 *process such as AARs which typically do not have a line officer's*
37 *delegation. The FS does not use the SAI process but may assist other*
38 *agencies in an SAI for incidents involving the FS interests or personnel. FS*
39 *aviation accidents and incidents utilize the FS aviation mishap investigation*
40 *process.*

41 Accident investigations and reports should be commensurate with the
42 complexity and/or severity of the accident and focus on organizational learning
43 and the prevention of reoccurrence. Investigations and reports may range from

1 large investigation teams producing comprehensive reports to first-level
2 supervisors initiating investigations and reporting injury/property damage in
3 agency reporting systems (e.g., SMIS/eSafety). Final accident investigation
4 reports may range between agency-specific accident reports, small one-page
5 RLS, LLR reports (simple or complex), to extensive investigation reports that
6 follow the same format as a serious accident.

7 **Notification**

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

- 10 • Local dispatch center
- 11 • Unit fire management officer (FMO)
- 12 • Agency administrator
- 13 • Occupational Safety and Health Administration (OSHA) (Refer to chapter 7
14 for reporting criteria.)

15 **Investigation Team Membership**

16 Investigation team membership should be commensurate with the complexity
17 and/or severity of the accident. An investigation team should consist of a team
18 leader and an adequate number of technical specialists and subject matter
19 experts. For complex investigations, team membership may also include a chief
20 investigator, a safety advisor/manager, and additional technical specialists, and a
21 writer/editor. Team members may have dual roles (e.g., chief investigator/safety
22 advisor).

23 **Investigation Methodology**

24 Accident investigations are detailed and methodical efforts to collect and
25 interpret facts related to an accident and to provide specific recommendations to
26 prevent recurrence. The AI may include the following actions:

- 27 • Visual inspection of involved site, equipment, or material;
- 28 • Detailed analysis of equipment or material, as necessary;
- 29 • Interviews with involved personnel, witnesses, managers, and other
30 pertinent persons;
- 31 • Collection and review of written statements;
- 32 • Review of records, archives, plans, policies, procedures, and other pertinent
33 documents;
- 34 • Consideration of environmental, equipment, material, procedural, and
35 human factors as they related to the incident; and
- 36 • Development of specific findings and related recommendations for the AI
37 report.

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

39 The 24- and 72-hour reports should be completed when an AI will be conducted.
40 Final 24- and 72-hour reports will be approved by the AI delegating official,
41 then sent to the agency fire safety/risk management lead who will provide a
42 copy to the LLC. Submissions should be sent to kelly_woods@nps.gov.

- 1 • **24-Hour Preliminary Report** – This report contains known basic facts
2 about the accident and will be completed and forwarded by the responsible
3 agency administrator to the next higher level (e.g., district manager
4 forwards to state director). Names of injured personnel will not be included
5 in this report. Personnel may be referenced by position.
- 6 • **72-Hour Expanded Report** – This report provides additional factual
7 information, if available. The information may include the number of
8 victims and severity of injuries. The focus should be on information that
9 may have immediate impact on future accident prevention. The AI team
10 will complete and forward the report to the AI delegating official. Names of
11 injured personnel will not be included in this report. Personnel may be
12 referenced by position.

13 **Accident Investigation Final Report**

14 Within approximately 60 calendar days of the accident, a final report shall be
15 submitted to the senior manager dependent upon the level of investigation (e.g.,
16 local agency administrator, state/regional director, and agency fire director or
17 their designee). If a lower-level investigation is conducted, a courtesy copy of
18 the final report shall be sent to the respective agency's national fire safety/risk
19 management lead.

20 The final report (minus names of employees—they should be referenced by
21 position) will be submitted to LLC by the respective agency's national fire
22 safety leads. Submissions should be sent to kelly_woods@nps.gov.

23 **Accident Investigation Report Standard Contents**

24 AI reports will vary in length, format, and complexity. Each report should be
25 commensurate to the complexity of the incident and focus on organizational
26 learning and the prevention of reoccurrence. The following list is common or
27 standard contents often found in accident investigation reports.

- 28 • **Executive Summary** – A brief narrative of the facts involving the accident
29 including dates, locations, times, name of incident, jurisdiction(s), number
30 of individuals involved, etc. Names of injured personnel or personnel
31 involved in the accident are not to be included in this report (reference them
32 by position).
- 33 • **Narrative** – A detailed chronological narrative of events leading up to and
34 including the accident, as well as rescue and medical actions taken after the
35 accident. This section will contain who, what, and where.
- 36 • **Investigation Process** – A brief narrative of actions taken by the
37 investigation team. This narrative should include investigation team
38 membership, delegation of authority information (from who and contents,
39 include a copy as an appendix), investigative actions and timeline (when the
40 team conducted interviews, inspections, site visits, etc.), and if other sources
41 were consulted (e.g., professional accident reconstruction experts,
42 equipment manufacturers). This section may also address if environmental,
43 equipment, material, procedural, and human factors were present, and state
44 how findings/recommendations were developed.

- 1 • **Findings/Recommendations**
- 2 ○ **Findings** – Developed from the factual information. Each finding is a
- 3 single event or condition. Each finding is an essential step in the
- 4 accident sequence, but each finding is not necessarily causal or
- 5 contributing, and each finding may not have an associated
- 6 recommendation. Findings should only include information necessary
- 7 to explain the specific event or condition. Findings must be
- 8 substantiated by the factual data. Findings should not include opinion
- 9 or speculation.
- 10 ○ **Discussion** – This provides explanation or information pertinent to a
- 11 specific finding.
- 12 ○ **Recommendations** – Recommendations are proposed actions intended
- 13 to prevent similar accidents. Recommendations should be directly
- 14 related to findings, should not contain opinion or speculation, and when
- 15 appropriate, should identify the specific organization responsible for
- 16 completing the recommended action. Recommendations will be
- 17 evaluated and may be incorporated into future operational direction
- 18 through established processes.
- 19 • **Conclusions and Observations** – Investigation team’s opinions and
- 20 inferences, and lessons learned may be captured in the section.
- 21 • **Reference Materials**
- 22 ○ **Maps/Photographs/Illustrations** – Graphic information used to
- 23 document and visually portray facts.
- 24 ○ **Appendices** – Reference materials (e.g., fire behavior analysis,
- 25 equipment maintenance reports, agreements).

26 Examples of AI reports are available from agency fire safety program managers.

27 **Wildland Fire Serious Accident Investigation Process**

28 For interagency serious accident investigations (SAI), a multi-agency delegation
29 of authority to conduct the investigation may be issued. The delegation will
30 ensure that the investigation meets the policy requirements of involved agencies.

- 31 • **BLM/FWS** – *The Interagency Serious Accident Investigation Guide*
- 32 *establishes core direction for BLM, FWS, and interagency SAIs (exceptions*
- 33 *for aviation accidents are stated in the guide). The guide provides SAI*
- 34 *teams (SAIT) a standardized and comprehensive process for conducting*
- 35 *SAIs. The guide is available at*
- 36 *<https://www.nps.gov/subjects/fire/upload/interagency-serious-accident->*
- 37 *investigation-guide.pdf. SAI reports will be completed, routed, and*
- 38 *disseminated according to processes established in the guide. Reports may*
- 39 *contain information supplemental to the requirements of the guide if it*
- 40 *augments the BLM/FWS's ability to learn and to develop further*
- 41 *improvements. The guide may be used entirely or in part for accidents that*
- 42 *do not meet the serious accident definition.*
- 43 • **FS** – *The FS's response to serious accidents includes the FLA which may*
- 44 *be used for unintended outcomes of all types and the CRP reserved for FS*

1 *employee fatality events. Both processes are explicitly non-punitive and*
2 *must have a delegation signed by a line officer so stating. FS aviation*
3 *accidents and incidents utilize the FS aviation mishap investigation process.*
4 *Current versions of the FLA and CRP guides can be found on the LLC's*
5 *website [https://www.wildfirelessons.net/viewdocument/facilitated-learning-](https://www.wildfirelessons.net/viewdocument/facilitated-learning-analysis-and-l)*
6 *analysis-and-l.*

7 **Fire Director Responsibilities**

8 The fire director(s) or designee(s) of the lead agency, or agency responsible for
9 the land upon which the accident occurred, will:

- 10 • Ensure the agency safety manager and DASHO have been notified;
- 11 • Immediately appoint, authorize (through delegation of authority), and
12 deploy an accident investigation team;
- 13 • Provide resources and procedures adequate to meet the team's needs;
- 14 • Receive the factual and management evaluation reports and take action to
15 accept or reject recommendations;
- 16 • Forward investigation findings, recommendations, and corrective action
17 plan to the DASHO (the agency safety office is the "office of record" for
18 reports);
- 19 • Convene an accident review board/board of review (if deemed necessary) to
20 evaluate the adequacy of the factual and management reports and suggest
21 corrective actions;
- 22 • Ensure a corrective action plan is developed, incorporating management
23 initiatives established to address accident causal factors; and
- 24 • Ensure SAIs remain independent of other investigations.

25 **Agency Administrator Responsibilities**

- 26 • Develop local preparedness plans to guide emergency response.
- 27 • Identify agencies with jurisdictional responsibilities for the accident.
- 28 • Provide for and emphasize treatment and care of survivors.
- 29 • Ensure the incident commander (IC) secures the accident site.
- 30 • Conduct an in-briefing to the investigation team.
- 31 • Facilitate and support the investigation as requested.
- 32 • Determine need and implement CISM.
- 33 • Notify home Tribe leadership in the case of a Native American fatality.
- 34 • Prepare and issue the required 24-hour preliminary report unless formally
35 delegated to another individual.

36 **Notification**

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

- 39 • Agency administrator;
- 40 • Public affairs;
- 41 • Agency law enforcement;
- 42 • Safety personnel;
- 43 • County sheriff or local law enforcement as appropriate to jurisdiction;

- 1 • NICC through the local dispatch center and GACC. Provide a *Wildland*
2 *Fire Fatality and Entrapment Initial Report* (PMS 405-1) directly to NICC
3 within 24 hours;
 - 4 • Agency headquarters; and
 - 5 • OSHA will be notified according to agency policy when an employee is
6 killed on the job or suffers a work-related hospitalization, amputation, or
7 loss of an eye. Refer to <https://www.osha.gov/report.html>.
 - 8 ○ A fatality must be reported within **8 hours**.
 - 9 ○ An in-patient hospitalization, amputation, or eye loss must be reported
10 within **24 hours**.
- 11 Notification to the respective agency's fire national safety/risk management lead
12 is required.

13 **Designating the Investigation Team Lead**

14 The 1995 *Memorandum of Understanding (MOU) between the U.S. Department*
15 *of the Interior and the U.S. Department of Agriculture* states that serious
16 wildland fire-related accidents will be investigated by interagency investigation
17 teams.

18 The *Memorandum of Agreement (MOA) between Department of Agriculture*
19 *Forest Service and Department of Interior* augments and provides clarification
20 to the 1995 MOU for investigation type and team lead/deputy team
21 lead/interagency representative designation. The MOA also provides an
22 interagency template for joint delegation of authority. The MOA is available
23 from agency fire safety program managers.

24 Following initial notification of a serious accident, the agency DASHO will
25 designate a SAI team leader(s) and provide that person(s) with a written
26 delegation of authority to conduct the investigation and the means to form and
27 deploy an investigation team.

- 28 • **BLM/NPS/FWS** – *The agency DASHOs have delegated this responsibility*
29 *to the respective agency fire directors.*
- 30 • **BLM** – *The FAD Safety Program Manager mobilizes SAITs in coordination*
31 *with the SAI team leader.*

32 Accidents involving more than one agency will require a collaboratively
33 developed delegation of authority that is signed by each of the respective
34 agencies.

35 **Serious Accident Investigation Team Composition**

36 Serious accident investigation team (SAIT) members should not be affiliated
37 with the unit that sustained the accident.

38 **Team Leader (Core Team Member)**

39 The team leader is a senior agency management official, at the equivalent
40 associate/assistant regional/state/area/division director level. The team leader
41 will direct the investigation and serve as the point of contact to the designated
42 agency safety and health official (DASHO).

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

2 The chief investigator is a qualified accident investigation specialist is
3 responsible for the direct management of all investigation activities. The chief
4 investigator reports to the team leader.

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

6 The accident investigation advisor/safety manager is an experienced safety and
7 occupational health specialist or manager who acts as an advisor to the team
8 leader to ensure that the investigation focus remains on safety and health issues.
9 The accident investigation advisor/safety manager also works to ensure strategic
10 management issues are examined. Delegating officials or their designee may, at
11 their discretion, fill this position with a trained and qualified National Wildfire
12 Coordinating Group (NWCG) safety officer, line (SOFR), safety officer, type 2
13 (SOF2), safety officer, type 1 (SOF1), or safety officer complex (SOFC).

14 **Interagency Representative**

15 An interagency representative will be assigned to every fire-related SAIT. The
16 interagency representative will assist as assigned designated by the team leader
17 and will provide a perspective from outside the agency.

18 **Technical Specialists**

19 Technical specialists are qualified and experienced in specialized occupations,
20 activities, skills, and equipment, addressing specific technical issues such as
21 specialized fire equipment, weather, and fire behavior.

22 **Public Affairs Officer**

23 For investigations with high public visibility and significant news media
24 interest, a public affairs officer (PAO) should be considered a part of the team.
25 The PAO should develop a communications plan for the team, be a designated
26 point of contact for news media, and oversee all aspects of internal and external
27 communications. Ideally, the PAO should be qualified as a complex, type 1, or
28 type 2 public information officer and be familiar with SAIT organization and
29 function.

- 30 • **BLM** – All media-related documents (news releases, talking points, etc.)
31 should be cleared through NIFC Public Affairs prior to external release.

32 Core SAIT members are required to take the Interagency Serious Accident
33 Investigation Course (1112-05) prior to an SAI assignment. This training is
34 required every 5 years to maintain currency unless the core SAIT member has
35 completed an SAIT assignment within the last 5 years.

- 36 • **BLM/FWS/FS** – This training is required every 5 years to retain currency.

1 **Serious Accident Investigation 24- and 72-Hour Reports**

2 The final 24-hour report will be approved by the agency administrator in
3 concurrence with the SAI delegating official. The 72-hour report will be
4 approved by the SAI delegating official. Both reports are sent to the agency fire
5 safety/risk management lead who will provide a copy to the LLC. Submissions
6 should be sent to kelly_woods@nps.gov.

7 • **24-Hour Preliminary Report** – The 24-hour preliminary report contains
8 known basic facts about the accident. The responsible agency administrator
9 will complete the report and forward to the SAI delegating official. Names
10 of injured personnel will not be included in this report. Personnel may be
11 referenced by position.

12 • **72-Hour Expanded Report** – The 72-hour report provides additional
13 factual information, if available. The information may include the number
14 of victims and severity of injuries. The focus should be on information that
15 may have immediate impact on future accident prevention. The SAIT will
16 complete and forward the 72-hour expanded report to the SAI delegating
17 official. Names of injured personnel will not be included in this report;
18 positions may be referenced.

19 **Serious Accident Investigation Final Report**

20 Within 60 calendar days of the incident, the SAIT will produce a final report
21 consisting of a factual report and a management evaluation report and forward to
22 the DASHO through the agency fire director(s).

23 • **Factual Report (FR)** – The FR contains a brief summary or background of
24 the event and facts based only on examination of technical and procedural
25 issues related to equipment and tactical fire operations. The FR does not
26 contain opinions, conclusions, or recommendations. Names of injured
27 personnel are not to be included in this report; positions may be referenced.
28 Post-accident actions (emergency response attribute to survival of a victim,
29 etc.) should be included in this report. FRs will be submitted to LLC by the
30 respective agency's fire safety/risk management leads. Submissions should
31 be sent to kelly_woods@nps.gov.

32 • **Management Evaluation Report (MER)** – The MER is intended for
33 internal use only and explores management policies, practices, procedures,
34 and personal performance related to the accident. The MER categorizes
35 findings identified in the FR and provides recommendations to prevent or
36 reduce the risk of similar accidents.

37 **Accident Review Board/Board of Review**

38 An accident review board/board of review is used by some agencies to evaluate
39 recommendations and develop a corrective action plan. Refer to the respective
40 agency's safety and health policy.

1 Fire Cause Determination and Trespass Investigation**2 Introduction**

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

11 Initiation of fire cause determination must be started with notification of an
12 incident. Initial attack dispatchers are responsible for capturing all pertinent
13 information when the fire is reported and throughout the incident. The initial
14 attack IC and the initial attack forces are responsible for protecting the origin
15 area and initiating fire cause determination and documenting observations
16 starting with their travel to the fire. If probable cause indicates human
17 involvement, an individual qualified in fire cause determination (wildland fire
18 investigator [INVF] or cooperater equivalent) should be dispatched to the fire.

19 Policy

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

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

28 The determination whether to proceed with trespass action must be made on
29 “incident facts,” not on “cost or ability to pay.” Trespass collection is both a cost
30 recovery and a deterrent to prevent future damage to public land. Pursue
31 collection of costs, regardless of amount. This determination must be
32 documented and filed in the unit office’s official fire report file.

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

1 Each agency’s role in fire trespass billing and collection must be specifically
 2 defined in a relevant cooperative fire protection agreement between Federal and
 3 State cooperators. Federal agencies will follow established procedures for each
 4 agency and utilize the Intra-Governmental Payment and Collection (IPAC)
 5 system to transfer funds.

6 Agency references:

- 7 • **BLM** – 9238-1
- 8 • **NPS** – RM-18, chapter 6 and RM-9
- 9 • **FWS** – 621 FW 1
- 10 • **FS** – FSM 5130 and FSM 5300
- 11 • **BIA** – For guidance regarding origin and cause determination on lands
 12 under the jurisdiction of the Bureau of Indian Affairs, see 90 IAM 1.4C (10)
 13 *Wildland Fire Management - National Fire Investigation Handbook*
 14 available at
 15 [https://www.bia.gov/sites/default/files/dup/assets/public/raca/handbook/pdf/](https://www.bia.gov/sites/default/files/dup/assets/public/raca/handbook/pdf/90_iam_6-h_wildfire_investigations_hb_final_signed_5.16.22_w.footer_508.pdf)
 16 [90_iam_6-](https://www.bia.gov/sites/default/files/dup/assets/public/raca/handbook/pdf/90_iam_6-h_wildfire_investigations_hb_final_signed_5.16.22_w.footer_508.pdf)
 17 [h_wildfire_investigations_hb_final_signed_5.16.22_w.footer_508.pdf](https://www.bia.gov/sites/default/files/dup/assets/public/raca/handbook/pdf/90_iam_6-h_wildfire_investigations_hb_final_signed_5.16.22_w.footer_508.pdf).
- 18 • **BIA** – For guidance regarding fire trespass and damage to Indian forest
 19 products on lands under the jurisdiction of the Bureau of Indian Affairs, see
 20 53 IAM, chapter 7-H, *Indian Forest Management Handbook – Forest*
 21 *Trespass*, available at
 22 [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)
 23 [022535.pdf](https://www.bia.gov/sites/bia.gov/files/assets/bia/ots/dfwfm/pdf/idc-022535.pdf) and <https://www.bia.gov/policy-forms/handbooks>.

24 **Related Policy Documents**

25 These documents provide specific direction related to incident and accident
 26 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	
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”

	Safety	Prescribed Fire
Interagency	Information on accident investigations may be found at https://www.nps.gov/subjects/fire/upload/interagency-serious-accident-investigation-guide.pdf . For reporting use <i>Wildland Fire Fatality and Entrapment Initial Report</i> (PMS 405-1), https://www.nwcg.gov/sites/default/files/publications/PMS%20405-1.pdf	Same as “Safety”

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