

## Chapter – 17 Reviews and Investigations

### Introduction

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

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

Depending on the complexity and severity, reviews and investigations may be conducted at the agency, regional, or national level.

### Multi-Agency Cooperation

Many reviews and investigations involve cooperation between federal, state, county, and municipal agencies. To comply with each agencies' authorities, policies, and responsibilities a multi-agency review or investigation may be necessary. A multi-agency DOA 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 DASHO or the agency official who signs the DOA.

### Federal Interagency Investigations

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

AA's 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. Clarifying questions should be addressed to your agency wildland fire safety program manager.

**Policy**

DOI policy requires investigation or reviews of all wildland fires with entrapments and/or fire shelter deployments, multiple injuries, fatalities, escaped prescribed fires, and property or equipment damage of more than \$250,000. The DASHO decision may warrant an investigation depending on severity or potential of accident.

**Reviews**

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

**Review Types and Requirements**

Type	When Implemented	Delegating Official
Preparedness Review	Annually, or Management Discretion	Agency/Region/ National
After Action Review	Management Discretion	
Fire and Aviation Safety Team Review	As fire activity dictates	Geographic Area Coordinating Group
Aviation Safety and Technical Assistance Team Review	As Aviation Activity Dictates	Agency/Regional Aviation Manager or MACG
Large Fire Cost Review	Refer to NWCG Memorandum #003-2009	BIA Fire Director
Individual Fire Review	Management Discretion	Agency/Region/ National

Lessons Learned Review	Management Discretion	Agency/Region/ National
Prescribed Fire Review	Refer to Prescribed Fire Review Criteria Listed	Agency/Region/ National
Declared Wildfire Review	Refer to Interagency Prescribed Fire Guide	Agency/Region/ National

### Preparedness Reviews

Fire Preparedness reviews assess fire programs for compliance with established fire policies and procedures as outlined in the current *Wildland Fire and Aviation Program Management and Operations Guide* and other pertinent policy documents. Reviews identify organizational, operational, procedural, personnel or equipment deficiencies, and recommend specific corrective actions. Interagency Preparedness Review Checklists can be found at: [http://www.nifc.gov/policies/pol\\_ref\\_intgncy\\_prepcheck.html](http://www.nifc.gov/policies/pol_ref_intgncy_prepcheck.html).

### After Action Review (AAR)

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

- What was planned?
- What actually happened?
- Why it happened?
- What can be done the next time?

An AAR is a tool that leaders and units can use to get maximum benefit from the experience gained on any incident or project. When possible, the leader of the incident or project should facilitate the AAR process. However, the leader may choose to have another person facilitate the AAR as needed and appropriate. AAR's may be conducted at any organizational level. However, all AAR's follow the same format, involve the exchange of ideas and observations, and focus on improving proficiency.

The AAR should not be utilized as an investigational review. The format can be found in the *Interagency Response Pocket Guide* (IRPG), PMS #461, NFES #1077. Additional AAR information is available at <http://wildfirelessons.net/AAR.aspx>.

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

Fire and Aviation Safety Teams assist AA's during periods of high fire activity by assessing policy, rules, regulations, and management oversight relating to operational issues. FAST can also do the following:

- Provide guidance to ensure fire and aviation programs are conducted safely;
- Assist with providing immediate corrective actions;
- Review compliance with OSHA abatement plan(s), reports, reviews and evaluations; and
- Review compliance with *Wildland Fire and Aviation Program Management and Operations Guide*.

FAST reviews can be requested through GACC's to conduct reviews at the state/regional and local level. If a more comprehensive review is required, a national FAST can be ordered through the NICC.

FAST's include a Team Leader, who is either an AA or fire program lead with previous experience as a FAST member, a safety and health manager, and other individuals with a mix of skills from fire and aviation management.

FAST's will be chartered by their respective GACG with a delegation of authority, and report back to the GACG.

FAST reports includes an executive summary, purpose, objectives, methods/procedures, findings, recommendations, follow-up actions (immediate, long-term, national issues), and a letter delegating authority for the review. As follow-up, the team will gather and review all reports prior to the end of the calendar year to ensure identified corrective actions have been taken. FAST reports should be submitted to the geographic area with a copy to the FFAST within 30 days.

**Aviation Safety and Technical Assistance Team Review (ASTAT)**

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

- Aviation Safety Manager;
- Operations Specialist (helicopter and/or fixed wing);
- Pilot Inspector;
- Maintenance Inspector (optional); and
- Avionics Inspector (optional).

**Large Fire Cost Reviews**

An interagency large Fire Cost Review will be conducted when an incident (single or complex) meets or exceeds federal combined expenditure of \$10 million.

A review may also be conducted when an incident (single or complex) meets or is expected to meet one or more of the following criteria:

- The predicted time to achieve the fire management objective exceeds 21 days;
- There are significant political, social natural resources, or policy concerns;
- There are complicated cost-share or multi-jurisdictional issues; and
- The affected agency requests a review.

It is the responsibility of the AA to monitor large fire costs and advise the appropriate individuals(s) within the BIA of the need for a Large Fire Cost Review.

The AA will provide a DOA to the Cost Review Team authorizing the implementation of a review. The *Large Fire Cost Review Guidebook* and DOA information can be found at <http://www.nwcg.gov/general/memos/nwcg-003-2009.html>.

### **Individual Fire Review**

Individual fire reviews examine all or part of the operations on an individual fire. The fire may be ongoing or controlled. These reviews may be agency, regional, or national. These reviews evaluate decisions and strategies, correct deficiencies, identify new or improved procedures, techniques or tactics, determine cost-effectiveness and compile and develop information to improve agency, regional or national fire management programs.

### **Lessons Learned Review (LLR)**

The purpose of a LLR is to focus on the near miss event or condition in order to prevent a potential serious incident in the future. In order to continue to learn from our near misses and our successes it is imperative to conduct a LLR in an open and non-punitive manner.

LLR's are intended to provide educational opportunities that foster open and honest dialog and assist the wildland fire community in sharing lessons learned information. LLR's provide an outside prospective with appropriate technical experts assisting involved personnel in identifying conditions that led to the unexpected outcome and sharing findings and recommendations

A LLR should be tailored to the event being reviewed. The scope of the review should be commensurate with the severity of the incident. A LLR will not be used in lieu of a SAI/AI when criteria for the SAI/AI have been met, but may be used as a supplement to a SAI or AI.

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

The LLR facilitator will convene the participants and:

- Obtain a DOA from appropriate agency level;
- Identify facts of the event (sand tables maybe helpful in the process) and develop a chronological narrative of the event;
- Identify underlying reasons for success or unintended outcomes;
- Identify what individuals learned and what they would do differently in the future;
- Identify any recommendations that would prevent future similar occurrences;
- 24 and 72 hour reports may be produced, but are not required;
- Provide a final written report including the above items to the pertinent AA(s) within two weeks of event occurrence unless otherwise negotiated. Names of involved personnel should not be included in this report (reference them by position).

A copy of the final report will be submitted to the Wildland Fire Safety Specialist at the NIFC who will provide a copy to the WFLLC.

### **Prescribed Fire Review**

The goal of a Prescribed Fire Review is to provide recommendations, identify deficiencies and specific corrective actions. Reviews do not have to be associated with a specific incident.

Any Prescribed Fire related incident that has resource or property damage that may result in a claim for compensation shall initiate a review.

The review team and their expertise should be commensurate with the scope, and focus of the review. Interagency participation is encouraged with team selection.

**Declared Wildfire Review**

A Declared Wildfire Review shall be initiated by the AA on all escaped prescribed fires that have been converted or declared a wildfire.

The goal of the Declared Wildfire Review is to guide future program actions by preventing escapes from occurring by gathering knowledge, and insight for incorporation into future resource management and prescribed fire planning.

Escaped prescribed fire review direction can be found in the following documents:

- *Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide (August 2008)\** ;
- *Guidance for Implementation of Federal Wildland Fire Management Policy (February 2009)*; and
- *Bureau of Indian Affairs Fuels Management Program Guide (December 2008)*.

\* An updated *Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide* will be available in summer/fall 2013

**Investigation Types and Requirements**

	<b>Investigation Type</b>	<b>Notification Requirement</b>	<b>Management level that determines review type and authorizes review</b>
Serious Wildland Fire Accident	Serious Accident Investigation (SAI)	National	National
Wildland Fire Accident	Accident Investigation (AI)	National	Agency Region National
Entrapment	SAI, AI, LLR, depending on severity	National	National

Fire Shelter Deployment	SAI, AI, LLR, depending on severity	National	National
Near-miss	LLR, AAR	Management Discretion	Agency Region National
Prescribed Fire	SAI, AI, LLR, depending on severity	Region National	Agency Region National
Fire Trespass	Fire Cause Determination & Trespass Investigation	Local	Local

In the event that a wildland fire entrapment or fatality occurs, immediate notification to NICC is required. A *Wildland Fire Entrapment/Fatality Initial Report* (PMS 405-1) should be completed and mailed to NICC electronically or by fax machine within 24 hours. Submit this report even if some data is missing. The PMS 405-1 is located at the following web site:

**[http://www.nifc.gov/nicc/logistics/coord\\_forms.htm](http://www.nifc.gov/nicc/logistics/coord_forms.htm)**

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

**Investigations**

Investigations are detailed and methodical efforts to collect and interpret facts related to an incident or accident, identify causes (organizational factors, local workplace factors, unsafe acts), and develop control measures to prevent recurrence. Distinct types of wildland fire incidents and accidents have specific investigation requirements.

The following provides guidance and establishes procedures for incident/accident investigations, and should be used as a guide for this procedure. Investigations for the following categories are required, and must be conducted by a trained Team Leader and Chief Investigator. Initial notification to the National Office of Forestry and Fire Management is mandatory. All investigations will follow the policy outlined in the DOI Departmental Manual, Part 485, Chapter 7 (485 DM 7).

## **Wildland Fire Incident/Accident Types and Definitions**

### **Serious Accident Investigation (SAI)**

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

- One or more fatalities;
- Three or more personnel who are inpatient hospitalized as a direct result of or in support of wildland fire operations;
- Property or equipment damage of \$250,000 or more; and
- Consequences that the DASHO judges to warrant a Serious Accident Investigation.

### **Accident Investigation (AI)**

An unplanned event or series of events that resulted in injury, occupational illness, or damage to or loss of equipment or property to a lesser degree than defined in "Serious Wildland Fire Accident".

### **Entrapment**

A situation where personnel are unexpectedly caught in a fire behavior-related, life-threatening position where planned escape routes or safety zones are absent, inadequate, or compromised. Entrapment may or may not include deployment of a fire shelter for its intended purpose. Entrapment may result in a serious wildland fire accident, a wildland fire accident, or a near-miss.

### **Fire Shelter Deployment**

The removing of a fire shelter from its case and using it as protection against fire. Fire shelter deployment may or may not be associated with entrapment. Fire shelter deployment may result in a serious wildland fire accident, a wildland fire accident, or a near-miss.

**Incidents with Potential (Near Miss) and/or Non-Serious Injury**

Include wildland fire-related incidents/accidents that result in serious or non-serious injuries involving single/multiple personnel, near accidents (which would have resulted in a serious injury or fatality), substantial loss of property (less than \$250,000), or are so complex and fraught with operational discrepancies that it has the potential to produce an accident, serious injury or fatality given a similar environment or set of circumstances that existed at the time of the incident.

**Processes Common to all Wildland Fire Investigations****Site Protection**

The site of the incident should be secured immediately and nothing moved or disturbed until the area is photographed and visually reviewed by the investigation team. Exact locations of injured personnel, entrapments, injuries, fatalities, and the condition and location of personal protective equipment, property, and other equipment must be documented.

**Management of Involved Personnel**

Treatment, transport, and follow-up care must be immediately arranged for injured and involved personnel. The Agency Administrator or delegate should develop a roster of involved personnel and supervisors and ensure they are available for interviews by the investigation team. The Agency Administrator should consider relieving involved supervisors from fireline duty until the preliminary investigation has been completed. Attempt to collect initial statements from the involved individuals prior to a CISM session.

**Delegation of Authority (DOA)**

A DOA shall be issued to the investigation team leader. The DOA will outline roles, responsibilities, and expected deliverables. Delegation of Authority templates are available at [http://www.nifc.gov/safety/safety\\_reprtsInvest.html](http://www.nifc.gov/safety/safety_reprtsInvest.html).

### **Critical Incident Stress Management (CISM)**

CISM is the responsibility of local Agency Administrators, who should have individuals pre-identified for critical incident stress debriefings. Also refer to the *Agency Administrator's Guide to Critical Incident Management* (PMS 926), available at <http://www.nwcg.gov/pms/pubs/pubs.htm>. Individuals or teams may be available through EAP or GACC.

### **SAI 24 and 72 Hour Reports**

Final 24 and 72 hour reports will be approved by the SAI delegating official and then sent to the agency fire safety/risk management lead for national distribution, which may include posting through the NWCG Safety Alert System.

#### **24-Hour Preliminary Report**

This report contains known basic facts about the accident. It will be completed and forwarded by the responsible AA to the SAI delegating official. Names of injured personnel will not be included in this report. Personnel may be referenced by position.

#### **72-Hour Expanded Report**

This report provides additional factual information, if available. The information may include the number of victims and severity of injuries. The focus should be on information that may have immediate impact on future accident prevention. This report will be completed and forwarded by the SAI team to the SAI delegating official. Names of injured personnel will not be included in this report. Personnel may be referenced by position.

### **Serious Accident Investigation (SAI) Process**

Immediately following an incident or accident identified in any of the preceding categories, the following groups and individuals should be notified:

- Agency Superintendent/Regional Director;
- BIA Director, Branch of Fire Management;
- BIA National Wildland Fire and Aviation Safety Specialist (will follow Emergency Notification Protocol calling tree);
- Tribal/Local law enforcement; and
- Regional FMO.

**Director, Branch of Wildland Fire Management**

The Fire Director or designee(s) will:

- Notify the agency safety manager and DASHO;
- Immediately appoint, authorize, (through DOA) and deploy an accident investigation team;
- Provide resources and procedures adequate to meet the team's needs;
- Receive the Factual and Management Evaluation Reports and take action to accept or reject recommendations;
- Forward investigation findings, recommendations, and corrective action plan to the DASHO (the agency safety office is the "office of record" for reports).;
- Convene a board of review (if deemed necessary) to evaluate the adequacy of the Factual and Management Evaluation Reports and suggests corrective actions;
- Ensure a corrective action plan is developed, incorporating management initiatives established to address accident causal factors; and
- Ensure SAI's remain independent of other investigations.

**Agency Administrator (AA)**

- Develop local preparedness plans to guide emergency response;
- Identify agencies with jurisdictional responsibilities for the accident;
- Provide for and emphasize treatment and care of survivors;
- Ensure the IC secures the accident site;
- Conduct an in-briefing to the investigation team;
- Facilitate and support the investigation as requested;
- Implement CISM as necessary;
- Notify home Tribal leadership or affected agency; and
- Prepare and issue required 24 hour report.

**Notification**

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

- Agency Administrator;
- Public affairs;
- Agency Law Enforcement;
- Safety personnel;
- County sheriff or local law enforcement as appropriate to jurisdiction;
- NICC through the local dispatch center and GACC. Provide a *Wildland Fire Entrapment/Fatality Initial Report* (PMS 405-1) directly to NICC within 24 hours;
- Agency headquarters; and
- OSHA (within 8 hours if the accident resulted in one or more fatalities or if three or more personnel are inpatient hospitalized).

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

**Designating the Investigation Team Lead**

The 1995 MOU between DOI and the USDA, states that serious wildland fire-related accidents will be investigated by interagency investigation teams. Following initial notification of a serious accident, the National Fire Director(s) or their designee(s) will designate a SAI Team Lead(s) and provide that person(s) with a written DOA to conduct the investigation and the means to form and deploy an investigation team.

Accidents involving more than one agency will require a collaboratively developed DOA that is signed by each of the respective agencies.

## **Serious Accident Investigation Team Composition**

### **Team Leader (Core Team Member)**

A senior BIA management official, at the equivalent Agency Superintendent level. The team leader receives a DOA from the Regional Director, and then acts to direct the investigation and serve as the point of contact with the BIA safety office and Bureau DASHO.

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

A qualified accident investigation specialist responsible for the direct management of all investigation activities. The Chief Investigator reports to the Team Leader.

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

An experienced safety and occupational health specialist or manager who acts as an advisor to the team leader to ensure that the investigation focus remains on safety and health issues. The accident investigation advisor also works to ensure that strategic management issues are examined. Delegating Officials or their designee may, at their discretion, fill this position with a trained and qualified NWCG Safety Officer, Line (SOF<sub>R</sub>), Safety Officer, Type 2 (SOF<sub>2</sub>), or Safety Officer, Type 1 (SOF<sub>1</sub>).

### **Interagency Representative**

An interagency representative will be assigned to every fire-related SAI Team to assist the Team Leader with outside agency perspectives. They will assist as assigned by the Team Leader and will provide a perspective from outside the agency.

### **Technical Specialists**

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

### **Public Affairs Officer (PAO)**

For investigations with high public visibility and significant media interest, a PAO should be considered to part of the team. The PAO generally should not be affiliated with the home unit. Duties for the PAO would include a communications plan for the team, point of contact for news media, and other external communications.

Qualifications for PAO should be at the Type 1 or 2 Public Information Officer level as determined by the IQCS and be familiar with SAI team organization and functions.

**Documentation Specialist/Writer Editor**

Works directly for the Chief Investigator to provide document management support and assists the team in preparation of the Factual and Management Evaluation Reports (MER).

Core SAI Team members are required to take the Interagency Serious Accident Investigation Course 1112-05 prior to serious accident investigation assignment. This training is also required every five (5) years for recurrency.

**SAI Format****Executive Summary**

A brief narrative of the facts involving the accident including dates, locations, times, name of incident, jurisdiction(s), number of individuals involved, etc. Names of injured personnel or personnel involved in the accident are not to be included in this report (reference them by position).

**Narrative**

A detailed chronological narrative of events leading up to and including the accident, as well as rescue and medical actions taken after the accident. This section will contain who, what, and where.

**Investigation Process**

A brief narrative of actions taken by the investigation team. This narrative should include investigation team membership, DOA information (from whom and contents, include a copy as an appendix), investigative actions and timeline (when the team conducted interviews, inspections, site visits, etc.), and if other sources were consulted (i.e. professional accident reconstruction experts, equipment manufacturers, etc.). This section should also address if environmental, equipment, material, procedural, and human factors were present, and state how findings/recommendations were developed.

### Findings/Recommendations

- **Findings** are developed from the factual information. Each finding is a single event or condition. Each finding is an essential step in the accident sequence, but each finding is not necessarily causal or contributing. Findings should only include information necessary to explain the specific event or condition. Findings must be substantiated by the factual data. Findings should not include opinion or speculation.
- **Discussion** provides explanation or information pertinent to a specific finding.
- **Recommendations** are proposed actions intended to prevent similar accidents. Recommendations should be directly related to findings, should not contain opinion or speculation, and should identify the specific individual responsible for completing the recommended action. Recommendations will be evaluated and may be incorporated into future operational direction through established processes.
- **Conclusions and Observations:** Investigation team's opinions and inferences, and "lessons learned" may be captured in the section. This section is not required.

### Reference Materials

- **Maps/Photographs/Illustrations** - Graphic information used to document and visually portray facts.
- **Appendices** - Reference materials (e.g., fire behavior analysis, equipment maintenance reports, agreements, Delegation of Authority).
- **Records** - Factual data and documents used to substantiate facts involving the accident.

### SAI Final Report

Within 45 days of the incident, a final report consisting of a FR and a MER will be produced by the investigation team to document facts, findings, and recommendations and forward to the DASHO through the BIA Fire Director. The FR AND MER format can be found at: [http://www.nifc.gov/safety/safety\\_reprtsInvest.html](http://www.nifc.gov/safety/safety_reprtsInvest.html).

## **Factual Report (FR)**

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

Factual Reports will be submitted to WFLLC by the BIA National Wildland Fire and Aviation Safety Specialist, and posted at: <http://www.wildfirelessons.net/Reviews.aspx>.

## **Management Evaluation Report (MER)**

The MER is intended for internal use only and explores management policies, practices, procedures, and personnel performance related to the accident. The MER categorizes findings identified in the factual report and provides recommendations to prevent or reduce the risk of similar accidents.

### **The MER includes the following sections:**

#### **Executive Summary**

A brief narrative of the facts involving the accident. Keep this section short. Readers can refer to the Factual Report if they want more detail.

#### **Findings**

Summarized from the FR.

#### **Recommendations**

Recommendations are prevention measures management may take to prevent similar accidents. The recommendations must be reasonable, feasible, relate to the cause(s) of the accident, and allow for definitive closure. Depending upon the scope of impact, recommendations can be implemented by an Agency, Regional Office or at the National level. The team should specify who should implement the recommendations.

**Enclosures**

Information not contained in the FR, but which the team feels necessary to support their recommendations. Since this report can be obtained by the public under certain circumstances, do not include anything that is not needed to substantiate recommendations.

**Accident Investigation (AI) Process**

Accident investigations and reports should be commensurate with the complexity and/or severity of the accident. Investigations and reports may range from large investigation teams producing in-depth reports to first-level supervisors initiating investigations and reporting injury/property damage in agency reporting systems.

**Notification**

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

- Local dispatch center;
- Unit Fire Management Officer; and
- Agency Administrator.

**Investigation Team Membership**

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

**Investigation Methodology**

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

- Visual inspection of involved site, equipment, or material;

- Detailed analysis of equipment or material, as necessary;
- Interviews with involved personnel, witnesses, managers, and other pertinent persons;
- Collection and review of written statements; Review of records, archives, plans, policies, procedures, and other pertinent documents;
- Consideration of environmental, equipment, material, procedural, and human factors as they related to the incident; and
- Development of specific findings and related recommendations for the AI report.

### **AI Final Report**

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

The Final Report (minus names of employees- they should be referenced by position) will be submitted to Wildland Fire Lessons Learned Center (LLC) by the respective agency's National Fire Safety Leads.

### **Accident Investigation Format**

#### **Executive Summary**

A brief narrative of the facts involving the accident including dates, locations, times, name of incident, jurisdiction(s), number of individuals involved, etc. Names of injured personnel or personnel involved in the accident are not to be included in this report (reference them by position).

#### **Narrative**

A detailed chronological narrative of events leading up to and including the accident, as well as rescue and medical actions taken after the accident. This section will contain who, what, and where.

### Investigation Process

A brief narrative of actions taken by the investigation team. This narrative should include investigation team membership, DOA information (from who and contents, include a copy as an appendix), investigative actions and timeline (when the team conducted interviews, inspections, site visits, etc.), and if other sources were consulted (i.e. professional accident reconstruction experts, equipment manufacturers, etc.). This section should also address if environmental, equipment, material, procedural, and human factors were present, and state how findings/recommendations were developed.

### Findings/Recommendations

- **Findings** are developed from the factual information. Each finding is a single event or condition. Each finding is an essential step in the accident sequence, but each finding is not necessarily causal or contributing. Findings should only include information necessary to explain the specific event or condition. Findings must be substantiated by the factual data. Findings should not include opinion or speculation.
- **Discussion** provides explanation or information pertinent to a specific finding.
- **Recommendations** are proposed actions intended to prevent similar accidents. Recommendations should be directly related to findings, should not contain opinion or speculation, and should identify the specific individual responsible for completing the recommended action. Recommendations will be evaluated and may be incorporated into future operational direction through established processes.
- **Conclusions and Observations:** Investigation team's opinions and inferences, and "lessons learned" may be captured in the section. This section is not required.

### Reference Materials

- **Maps/Photographs/Illustrations** - Graphic information used to document and visually portray facts.
- **Appendices** - Reference materials (e.g., fire behavior analysis, equipment maintenance reports, agreements, Delegation of Authority).
- **Records** - Factual data and documents used to substantiate facts involving the accident.

An AI DOI template, AI report template and examples of AI reports can be found at the NIFC Safety website: [http://www.nifc.gov/safety/safety\\_reptsInvest.html](http://www.nifc.gov/safety/safety_reptsInvest.html).

### **Wildland Fire Trespass**

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

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

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

### **Policy**

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

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

The determination whether to proceed with trespass action must be made on "incident facts," not on "cost or ability to pay." Trespass collection is both a cost recovery and a deterrent to prevent future damage to public, federal, and Tribal land. It is prudent to pursue collection of costs, no matter how small. This determination must be documented and filed in the unit office's official fire report file.

The Agency Administrator has the responsibility to bill for the total cost of the fire and authority to accept only full payment. On the recommendation of the Agency Administrator/Regional Director, the Solicitor/Office of General Counsel may compromise claims of the United States, up to the monetary limits (\$100,000) established by law 31 U.S.C. 3711[a], 4 CFR 103-104, and 205 DM 7.1 and 7.2. The Solicitor/Office of General Counsel will refer suspension or termination of the amount, in excess of \$100,000, exclusive of interest, penalties, or administrative charges, to the Department of Justice.

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

Each agency's role in fire trespass billing and collection must be specifically defined in the relevant Cooperative Fire Protection Agreement. The billing and collection process for federal agencies is: For example, a federal agency fire occurs on another federal agency's land and is determined to be a trespass fire. BIA provides assistance, and supplies costs of that assistance to the federal agency with jurisdictional responsibility for trespass billing. The responsible federal agency bills and collects trespass, and BIA then bills the federal agency and is reimbursed for its share of the collection.

For example, where BIA administered land is protected by a state agency, the billing and collection process is:

The state bills BIA for their suppression costs. The BIA will pursue trespass action for all costs, suppression, rehabilitation, and damages, and deposits the collection per BLM's trespass guidance.

All fires must be thoroughly investigated to determine cause. Initiation of cause determination must be started with notification of an incident. The initial attack Incident Commander and the initial attack forces are responsible for initiating fire cause determination and documenting observations starting with their travel to the fire. If probable cause indicates human involvement, an individual trained in fire cause determination should be dispatched to the fire.

Agency references:

- **BLM** - 9238-1
- **FWS** - *Fire Management Handbook*
- **NPS** - *RM-18, Chapter 8 and RM-9*
- **FS** - *FSM 5130 and FSM 5300*
- **BIA**-53 IAM 7-H

**Agency Specific Policy Documents:** These documents provide specific direction related to incident and accident investigations.

	<b>Safety</b>	<b>Prescribed Fire</b>
<b>DOI</b>	485 DM Chapter 7	
<b>BLM</b>	Manual 1112-2, 1112-1	
<b>FWS</b>	Service Manual 095	
<b>NPS</b>	DO/RM-50B, RM-18 Chapter 3	RM-18, Chapter 7
<b>FS</b>	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 <i>Accident Investigation Guide</i> , for specific guidance.	
<b>Inter-agency</b>	Information on accident investigations may be found at: <a href="http://www.nifc.gov/safety/accident_resources.htm">http://www.nifc.gov/safety/accident_resources.htm</a> .  For reporting use <i>PMS 405-1, Wildland Fire Fatality and Entrapment Initial Report</i> , : <a href="http://www.nwcg.gov/pms/forms_otr/pms405-1.pdf">http://www.nwcg.gov/pms/forms_otr/pms405-1.pdf</a> .	

**Professional Liability Insurance**

Public Law 110-161 provides for reimbursement for up to one half of the cost incurred for professional liability insurance (including any administrative processing cost charged by the insurance company) for temporary fireline managers, management officials and law enforcement officers.

To qualify for reimbursement, "temporary fireline managers" must meet one the following three criteria:

- Provide temporary supervision or management of personnel engaged in wildland fire activities;
- Provide analysis or information that affects a supervisor's or manager's decision about a wildland fire;
- Direct the deployment of equipment for a wildland fire, such as a base camp manager, equipment manager, helicopter coordinator, or initial attack dispatcher.