“Our national pastime of baseball differs from the society that spawned it in one crucial way: The box score of every baseball game, from the Little League to the Major League, consists of three tallies: runs, hits, and errors. Errors are not desirable, of course, but everyone understands that they are unavoidable. Errors are inherent in baseball, as they are in medicine, business, science, law, love, and life. In the final analysis, the test of a nation’s character, and of an individual’s integrity, does not depend on being error free. It depends on what we do after making the error.”

Carol Tavris and Elliot Aronson

“Any safety system depends crucially on the willing participation of the workforce, the people in direct contact with the hazards. To achieve this, it is necessary to engineer a reporting culture—an organizational climate in which people are prepared to report their errors . . . An effective reporting culture depends, in turn, on how the organization handles blame and punishment . . . What is needed is a just culture . . .”

J. T. Reason

This guide is intended for use by any organization wishing to foster organizational learning as the response to unexpected outcomes.

“I got behind the safety shelter; then in a little bit, I heard a voice say, Get in This Truck!” 2011, Salt Fire Entrapment and Shelter Deployment FLA. (http://www.wildfirelessons.net/viewdocument/?DocumentKey=b3897dd4-9928-4e6a-957a-3964acfae1c6

U.S. Forest Service Photo by Tony DeMasters
# TABLE OF CONTENTS

Part 1 – Background, Purpose and Need: ................................................................................................................................. 6

Considerations for the Agency Administrator ................................................................................................................................. 6
A. The Benefits of Learning From Unintended Outcomes .................................................................................................................. 6
B. Which tool should I use for what just happened? An Expandable Process: From AAR to Learning Review ........................................ 7
C. Critical Considerations for the Agency Administrator ................................................................................................................. 10
D. Learning product/Review Requirements ................................................................................................................................... 11
E. How We Got Here ........................................................................................................................................................................... 12
F. Learning Beyond Accidents .............................................................................................................................................................. 12

Part 2 - Essential Principles of the Facilitated Learning Analysis Process ........................................................................................... 14
A. The role of accountability in learning and prevention ........................................................................................................................ 14
B. Administrative Assurance of No Punitive Actions .......................................................................................................................... 16
   Handout A: Understanding The Work Under a Just Culture ................................................................................................................ 18

Part 3 - Initiating the FLA: Before the FLA Team Arrives ........................................................................................................... 19
A. Priority Agency Administrator Actions ........................................................................................................................................ 19
B. Forming the FLA Team .................................................................................................................................................................... 20
C. Clear Mutual Objectives .................................................................................................................................................................. 24
D. Trust ................................................................................................................................................................................................. 24
E. Cooperation with Other Investigations ......................................................................................................................................... 25
F. Recommendations – Reserved for a Learning Review .................................................................................................................. 26
G. Human Performance Expertise ......................................................................................................................................................... 26
H. Suggested FLA Report Outlines: Complex and Basic .................................................................................................................. 28

Part 4 – The FLA Process ..................................................................................................................................................................... 29
A. Setting the Stage ................................................................................................................................................................................ 29
B. Interviewing ...................................................................................................................................................................................... 30
   Handout B: Interview Questions ....................................................................................................................................................... 32
   Handout C: FLA “Watch Outs” .......................................................................................................................................................... 34
C. The Heart of the FLA Process: The Facilitated Group Dialogue ................................................................................................... 36
   Principles and Agreements for All Involved in the Facilitation ...................................................................................................... 36
D. The Group Dialogue Session ........................................................................................................................................................... 37
   Participants ......................................................................................................................................................................................... 37
   Agenda for the Dialogue Session ........................................................................................................................................................ 37
   Suggestions to FLA Facilitator for the Group Dialogue Session ....................................................................................................... 38
   Sand Tables and Google Earth ........................................................................................................................................................... 40
   Handout D: Two Suggestions for Dialogue Focus Questions ........................................................................................................ 41
E. Event/Accident Reconstruction ........................................................................................................................................................... 42
F. Final FLA Considerations ................................................................................................................................................................ 42
G. Terminating A Review ..................................................................................................................................................................... 44
   Serious Crimes or Reckless and Willful Disregard for Human Safety ............................................................................................ 44
   Learning product Completion ............................................................................................................................................................ 46
H. Improving the Process .................................................................................................................................................................. 46

Part 5 – Additional Steps for a Complex FLA ................................................................................................................................... 47
A. Process for Conducting the Lessons Learned Analysis .................................................................................................................. 47
B. The Five How’s – Sensemaking ....................................................................................................................................................... 48
C. Steps for Lessons Learned Analysis .............................................................................................................................................. 50
2020 Update

The U.S. Forest Service has been on a journey to become a “learning organization” for more than a decade. The first steps began with the development of the Facilitated Learning Analysis (FLA) process as a means to learn from unintended outcomes. These steps then continued with the adoption of the Learning Review process for Chief’s-level accidents.

The next phase of this journey is marked by the unification of two processes into one single guide. The new guide utilizes the 2017 FLA Guide as its base, adding and blending in the elements unique to the Learning Review process.

Thus, what you have now in your hands encompasses the full continuum of learning tools available to delegated authorities. This guide now provides a single reference point for learning from unintended outcomes.

The range of tools outlined in this guide offers a scalable platform that can be used to learn from events as simple as a rolled ankle to the worst-case scenario, fatalities.

The learning tools can be grouped into three basic categories:

- Within the first category are the AAR, RLS, and simple FLA. These tools are designed to foster localized learning from relatively non-complex events.
- The second category includes the Complex FLA which provides a deep dive into complex events with an expanded team.
- The third category, the Learning Review, is initiated following the completion of an FLA and provides a broader dive into events aimed at developing organizational recommendations and learning products.
“I consider learning from events to be a Forest Service core value, both equally fundamental to prevention and critical to your safety.”

Tom Tidwell
Former Chief of the US Forest Service

“The way leadership responds to a bad outcome is enormously important. It will vector us either towards, or away from, a just and learning culture.”

Harv Forsgren
Former Regional Forester, Intermountain Region

PART 1 – BACKGROUND, PURPOSE AND NEED: CONSIDERATIONS FOR THE AGENCY ADMINISTRATOR

A. THE BENEFITS OF LEARNING FROM UNINTENDED OUTCOMES

A key element to understanding the risks we face in our work is developing a “Just and Learning Culture.” The end-state is a culture that sees unintended outcomes as a valued learning opportunity and a means to reducing the uncertainty of future outcomes. We’ve learned the hard way that how an agency responds to an accident has tremendous impact. If the leader assumes the accident happened because someone failed to do something right, then the natural response is to determine what rules or protocols were broken. This leads to identifying (or blaming) the rule breaker and then the assumption is that we’ve returned the system to safety. Following this logic, all that’s needed are better rules or better compliance. And that’s the end of story—until the next accident. History has shown us that this approach is not only ineffective for improving safety related to a specific accident but is also damaging to the overall learning culture.

Alternatively, leaders can see that while accidents* are very rare, risk is ever-present. Employees make mistakes, but most of the time (almost continuously) they are actually creating safety. Research has shown us it is impossible to predict all the potential situations that will arise in complex systems, and people are relied upon to make sense of these emerging conditions, learn in the moment, and innovate and adapt solutions to fit the situation.

It is important to recognize that these adaptations and innovations are common and almost always result in successful outcomes. Employees regularly and systematically adapt and make judgments to handle emerging risks, and these adaptations will never be perfect. Errors, mistakes, and lapses are inherent in the human condition. So is irrational optimism and fatalism. So is taking shortcuts to save money, time, and effort. So is under and overestimating risk. Indeed, human performance variability is not only normal, it’s the rule! If leaders recognize that this variability will always be a part of the overall organization, they can treat accidents and other unintended outcomes as precious opportunities to look deeply into the operation to better understand how employees perceive and manage risk. This view enables profound learning and with it, an accident can become a valuable opportunity for those involved to share their story.

* The term “unintended outcome” can be used interchangeably with “accident” throughout this guide.
B. WHICH TOOL SHOULD I USE FOR WHAT JUST HAPPENED? AN EXPANDABLE PROCESS: FROM AAR TO LEARNING REVIEW

<table>
<thead>
<tr>
<th>AAR</th>
<th>Rapid Lesson Sharing</th>
<th>Basic FLA</th>
<th>Complex FLA</th>
<th>Learning Review</th>
</tr>
</thead>
</table>

There are many different ways to respond to various types of outcomes, unintended as well as intended. Briefly, After Action Reviews (AAR) are intended for local learning. The Rapid Lesson Sharing (RLS) product is intended for simple events but provides a means to communicate information to the greater organization, promptly. The RLS can be used to meet the intent of a Safety Review (as described in FSM 6731.3). The Basic FLA is intended for more complicated situations. The Complex FLA is intended to be used when there is a large gap between work as imagined (by leadership) and work as performed (by the people on the ground). If the delegating official expects formal recommendations at the conclusion of the FLA, a Learning Review is initiated.

For more serious incidents, the Chief of the Forest Service may identify a need for a Learning Review immediately after an incident occurs. The Chief may also activate the Coordinated Response Protocol (CRP), an oversight process used to manage and coordinate the internal and external response to a serious accident, including the FLA and Learning Review processes. The intent is to minimize the impact of the information collection process on all those involved. For similar incidents, Department of the Interior (DOI) agencies activate the Serious Accident Investigation (SAI) process. The SAI is fundamentally different than the FLA/Learning Review process and has an associated guide (https://www.nifc.gov/safety/safety_documents/SAI_Guide.pdf) of its own.

Each of the identified processes are designed to be flexible and expandable depending upon the need, much like the Incident Command System (ICS). For example, an AAR would be like a **Type 5 incident**. AARs are relatively simple, inexpensive, and not time-consuming. The AAR is a powerful tool to capture immediate local learning. The involved group then moves on, goes back to work, while learning from mistakes and building on successes. AARs are predominantly closed, personal, and confidential, enabling participants to speak freely about mistakes. Consequently, the learning that occurs from an AAR typically is at the individual level, local in nature, not shared beyond the work unit (crew or team) and does not affect the organization as a whole. AARs have several different formats.
One example is provided in the Incident Response Pocket Guide (IRPG) and focuses on four main questions: What was planned? What actually happened? What went well? What can be improved?

The Rapid Lesson Sharing (RLS) concept expands on the AAR by producing a simple learning product—focused on a near-miss or accident, or a new tool, technique, process or protocol—that can be shared with anyone who might benefit from the experience and lessons of a particular event or idea.

Continuing with our wildland fire analogy, the RLS would be like a **Type 4 fire**. When an AAR uncovers a lesson deemed to be beneficial to the broader community, a RLS can be initiated. This learning product usually takes the form of a one or two-page narrative document that shares concrete, actionable lessons, descriptive photographs, and may include links to additional resources, reports or video clips. The lesson can be a success, a way of doing things in a safer more efficient way, a close call, or any other lesson related to your work environment.

For fire-related lessons, the Wildland Fire Lessons Learned Center (LLC) hosts an [RLS submission tool](http://bit.ly/SubmitFireRLS) that allows folks in the field to submit their lessons (anonymously if they wish) to be posted on the **LLC website** (www.wildfirelessons.net). A key benefit of this learning product is its emphasis on “Rapid”. The typical turnaround time from receipt of the RLS submission to its posting on the website is usually one or two days.

A more complex event often warrants a more vigorous learning response, one that can bring benefits beyond the local group. After an accident, the response should also fulfill the agency’s requirement to complete an accident investigation required by internal policy and the Occupational Safety and Health Administration (OSHA). One big difference between a Basic FLA and an RLS is that an FLA shall have a delegation of authority from an appropriate line officer, assuring participants that there shall be no punitive actions.

A Basic FLA has been referred to as an “After Action Review on Steroids.” The Basic FLA can be led by as few as just a couple of people. The Basic FLA consists of bringing in outside perspectives provided by members of a team who were not directly involved in the event.

This tool should be considered when the circumstances leading to the outcome and/or the outcome have associations for a broader audience and are rich with organizational learning opportunities. The learning product could take the form of a report that may be only a few pages in length. With a larger FLA Team, and given more time, the FLA Team can produce a more powerful learning tool, telling the story of the incident and displaying lessons learned for the greater organization. In our analogy with wildland fire, a **Basic FLA is like a Type 3 Incident**.
In our wildland fire analogy, a Complex FLA is like a Type 2 Incident. A Complex FLA will search much deeper. It is the most robust process to make sense of an unintended outcome and develop lessons learned for the broader organization without recommendations. A Complex FLA will contain an accurate and compelling accident story. The story will share the context and conditions that lead to the “sensemaking” which occurred.

Using a story format, rather simply displaying the facts, findings and conclusions, is a deliberate effort aimed at making the FLA a tool for organizational learning. Typically, a Complex FLA Team will include human performance expertise to provide insight on the nature of the accident in the context in which it occurred.

A Complex FLA may involve a team of 5 to 15 people (including subject-matter experts and specialists), who may work weeks or months to develop their analysis and craft their learning product.

 Completing our wildland fire analogy, the Learning Review (LR) is the equivalent to a Type 1 incident. In the U.S. Forest Service, the Learning Review follows the Complex FLA process and incorporates additional agency efforts such as the community of practice who provide input through focus groups, outside academics, or other subject-matter experts. The key difference between a Complex FLA and an LR is that the delegating authority for a LR has requested recommendations as an output of the review process.

A Learning Review builds upon the FLA learning product to explore how the agency needs to change in response to the event. It begins after the FLA has been completed. The Learning Review team works with members of the FLA Team to dig deeper into the conditions surrounding the event. This process utilizes focus groups comprised of people with varying areas of expertise to propose recommendations that will be submitted to a Learning Review Board chaired by the delegating authority (or designee). The focus groups (and where appropriate, academic specialists) effectively vet the recommendations and conduct a change analysis to ensure the recommendation will have a positive impact on the agency.

What is Organizational Learning?
Organizations learn in many ways. At the grass-roots community level, organizations learn as the people within them share stories and learn from each other’s experiences.

FLAs promote this type of learning through compelling storytelling. Many in the wildland fire community learned from the experience of the Mann Gulch tragedy by reading Norman Maclean’s Young Men and Fire. A well-written narrative places the reader on the scene, in the moment, and provides the reader a valuable insight into the participants’ experience.

Organizations also learn as leaders review the common elements of multiple events and adapt equipment, policy, and training in response. The Ten Standard Firefighting Orders, the fire shelter, and the Incident Command System all represent organizational learning at this level.

Complex FLAs and Learning Reviews include explicit Lessons Learned Analyses. As agencies build libraries of these reports in repositories such as the Wildland Fire Lessons Learned Center, leaders, safety professionals and policy analysts can review multiple documents and target policy change.
C. CRITICAL CONSIDERATIONS FOR THE AGENCY ADMINISTRATOR

Before the review team is formed, the Agency Administrator (in consultation with safety and technical specialists) should consider which process is applicable to the situation and what they would like to get out of having a team. **How thorough and detailed should the analysis and the learning product be? What does the administrator base this decision on?**

These are important questions for which there is no simple answer.

Every incident is unique. Unfortunately, the natural tendency is to base the size and complexity of the review team upon the severity of the outcome. Often, the more "serious the accident," the more resources are put toward the review team. This tendency may prevent or diminish potential stellar learning opportunities.

To illustrate, an FLA was done on a tree-cutting accident in which a firefighter was hit by a glancing blow from a tree that was cut by a fellow firefighter. The injured firefighter was knocked unconscious, treated, and released the same day. He has recovered completely. Based solely on the outcome, this wasn’t considered a “significant” accident.

But was it really not significant? Perhaps it wasn’t significant according to our reporting system. But to the firefighter and his coworkers, friends, and family, this incident was very significant. In fact, had the tree fallen one or two inches to the left, the firefighter would have been killed or at least seriously and probably permanently injured. Had the tree fallen two inches to the right, the worst outcome would have been a startled and perhaps angry firefighter.

Should a chance occurrence of two inches be the determining factor for organizational learning? The best guidance available to the agency administrator to decide on a Complex versus a Basic FLA is this (see next page):

---

**The GAP: Advice to Agency Administrators**

Human performance experts refer to the difference between what administrators think is going on and what is really going on in the field as “The Gap.”

The most intriguing part of this “Gap” is the difference between how much risk employees are taking in getting their work done—compared to how much risk administrators would say is acceptable.

A large gap—indicated by shock and awe when it is revealed (usually in the wake of an accident)—is illustrated by this quote from Dr. David Woods: “The future seems implausible before an accident. . . But after the accident, the past seems incredible.”

**Advice from the experts:** The greater the gap between the level of risk acceptance by employees and risk acceptability by managers, the more resources, time, and effort should be put into the FLA. The level of shock after the event is a good indicator of gap size.
Questions to Consider When Deciding to Mobilize a Review Team

- How “deep” will you look?
  - Is the learning going to focus on the specific set of events or will it capture deeper organizational opportunities?
- Is there enough trust here to support such an analysis?
- How might we exploit this event to make an impact on organizational safety?
- What kinds of specialized subject-matter experts might be needed to conduct the kind of analysis we want?
- How long should this take? How much time and money should we be willing to spend on this analysis?
- Are there conflicting stories surrounding the event? If so, it may take time and skill to work through them.
- Regardless of the outcome, do people close to the accident believe it could have been much more severe?
- What could be the cost of not choosing a “complex” FLA in terms of opportunities lost?
- How close are you to the incident? How much do you own the decisions?
- Are recommendations going to be an essential part of this report (necessitating a Learning Review)?
- What other jurisdictions or agencies are involved? Do you need to consult an interagency agreement on accident investigations to determine team composition?

D. LEARNING PRODUCT/REVIEW REQUIREMENTS

The object of the selected process is to fulfill the agency’s responsibility to learn from an event.

Implementing an FLA or LR does not change the accident reporting requirements (Reference FSM 6732 and local policies if applicable). If the accident involves personnel from more than one agency, consult your Occupational Safety & Health Advisors for the appropriate protocols. The DOI and the Forest Service (for example) have signed an MOU agreeing on the team composition and protocols to be used on serious accidents that involve both DOI and FS employees (see Appendix F).

Complex FLAs and Learning Reviews Meet All “Accident Investigation” Requirements

A Complex FLA and Learning Review meets the serious accident investigation procedural and documentation requirements of the Occupational Safety and Health Administration’s (OSHA) Executive Order 12196, Public Law 107302, Title 5, USC 7902 as well as the accident investigation regulations (29 CFR 1960.29, 29 CFR 1904.2, 41 CFR 101-37 and 49 CFR 830 NTSB) and internal policies of the U.S. Forest Service including FSM 6730.
E. HOW WE GOT HERE

By the end of 2004, the U.S. Forest Service fire community was stunned and disoriented by a string of administrative decisions and legal actions against firefighters involved in accidents. To many firefighters and Agency Administrators, the word “accountability” had become synonymous with “punitive actions.” Owning mistakes and sharing lessons learned from an accident were seen to be career-ending decisions. Any learning that was occurring from bad outcomes was local and had to stay local or go underground.

Against this background, fire leaders—concerned with the obvious safety implications—called for a shift to “principle-centered management” or “doctrine.” The “Pulaski Conference” soon followed. In 2005, two members from the U.S Risk Management Council pushed the limits of policy by conducting a learning-focused serious accident investigation on the I-90 Tarkio Fire Entrapment. “Just Culture” (see Our Definition of Just Culture on page 14) became the Risk Management Council’s mantra for a higher standard of accountability.

Building upon the popular support of the “Just Culture” doctrine and learning-focused accident investigations—and with an eye toward internal disputes over how accidents should be investigated—in 2006, the Risk Management Council put forth the briefing paper titled Peer Review—Purpose and Process. Based on continuous improvement and fair and just accountability, this paper was a call for a new paradigm in accident investigations.

In 2006, the Risk Management Council developed a Peer Review guide for a Just Culture-based accident investigation process. The Risk Management Council promoted this guide and conducted training and national workshops on this process. Over the years, this process—initially known as a “Peer Review”—has evolved, grown, shrunk, and is now refined as the Facilitated Learning Analysis. The FLA and the Learning Review Process was formally adopted as policy by the Forest Service in July 2013. The difference between a Complex FLA and a Learning Review is simply that a Learning Review adds the process of developing and vetting recommendations and will generally be approved by a Learning Review Board.

This guide is continually refined to reflect evolving expertise in human performance and user experiences. See Appendix B: Lessons and Advice from Years of FLA Experiences for lessons and advice from previous FLA Teams. Your comments and feedback on this guide are welcome! Please send them to: FLA.GUIDE.IMPROVEMENTS@GMAIL.COM.

F. LEARNING BEYOND ACCIDENTS

The AAR, RLS, FLA and LR processes were designed to be tools for accident investigation and learning from accident-like unintended outcomes. We should use the applicable process to review events that surprise us to make sense of the events and try to learn from them. However, these are also tools that have been used successfully to learn from events that were not accidents—including close call/near-miss events and events that weren’t necessarily negative but had outcomes surprising to administrators.
“Most employees involved in a serious accident genuinely want to share what they believe really happened. They feel everyone knows the outcome but not why the decisions and actions made sense at the time. Generally, employees want to own their decisions and almost all want to turn the accident into something positive. Unfortunately, we have provided our employees with powerful incentives to not openly or frankly share their story of events. Our history justifies the belief that if our employees disclose their decisions and actions they will be disciplined, embarrassed, or otherwise blamed for the accident.”

Ted Moore, Risk Management Officer
U.S. Forest Service, Rocky Mountain Region

Sometimes we’ve used these tools because we wanted an answer to the question: Why were we surprised by this event? Recent examples of FLAs used on non-accidents include:

- Retardant Avoidance FLA (http://www.wildfirelessons.net/orphans/viewincident/?DocumentKey=548da86c-01d8-4a95-906b-b0ec30068935)
- Bear Meadows Stop Work FLA (http://www.wildfirelessons.net/viewdocument/?DocumentKey=aae73a4c-5fbe-43c7-880e-27a14b411486)
- Intermountain Regional FLA: Controversial Issues Management FLA How Do We Honor the Fallen? (http://www.wildfirelessons.net/viewdocument/?DocumentKey=f9007aa5-5496-44a6-aec0-dce62a604026)

Agency Administrators and users of this guide are encouraged not to let the word “accident” (as used throughout this guide) dissuade them from using this process as a tool to examine non-accidents or surprise outcomes.

**Considering an FLA for a Success Story?**

Sometimes incidents go right despite things going wrong. One challenge of doing an FLA on a success story is the tendency to focus solely on all of the reasons why something went right and forgetting about those seemingly little things that didn’t.

In doing so, teams may miss out on learning opportunities that could have been improved upon. For events that turned out as/or better than expected, this can lead to overestimating the degree to which our actions affected the outcome. How does a team tease apart those specific initiatives which contributed to its success and those that were simply luck?

We offer a bit of caution here but are also interested in what you come up with. Your team could certainly try this, and if you do, send us feedback and let us know how it went:

FLA.GUIDE.IMPROVEMENTS@GMAIL.COM
PART 2 - ESSENTIAL PRINCIPLES OF THE FACILITATED LEARNING ANALYSIS PROCESS

A. THE ROLE OF ACCOUNTABILITY IN LEARNING AND PREVENTION

FLA Teams must have a good grasp of our “Just Culture” in the workplace. In the FLA process, we avoid blame, shame and, of course, any form of punishment. The intent of the FLA process is to emphasize everyone’s responsibility to give their account of what happened. A simple definition of “Just Culture” is provided here. This definition is a culmination of the stories, processes and studies that went into the development of the FLA process. This Just Culture is focused on forward-looking accountability. It is concerned with sharing accounts of people involved in unintended outcomes to highlight the weaknesses and strengths in the system; to help us learn ways to improve ourselves. It is concerned with preventing the next accident, not focused on correcting history.

“Trust is built in drops and lost in buckets.”

Kevin A. Plank

Our Definition of ‘Just Culture’

A “Just Culture” is a workplace where employees at all levels are accountable for their participation and their commitment to the organization’s safety culture. Accountability is a principle focus. The “just” part of Just Culture, is the essential and fundamental recognition that workers are inheritors of the tools, trainings, procedures, the production incentives and the safety-vs.-production values of the workplace. In this culture, management holds itself accountable for how it manages these artifacts, especially the safety-vs.-production values of the workplace.

A mature Just Culture is characterized by openness and trust. Every review is seen as an opportunity to invest in trust and transparency. Management deliberately and purposefully learns from workers how work gets done and how the risks workers face are perceived, negotiated and managed. It is understood that this learning is almost impossible unless employees involved in an unintended outcome trust management (and each other) to respond in a way that is in the employees’ best interest.

In a Just Culture there is consensus among all employees that information (learning) is the lifeblood of safety. Consequently, all employees openly share unsafe conditions, individual mistakes, errors, close calls and risky decisions. Most importantly, employees and administrators openly share stories of how they balance the tradeoffs between safety and production, and between efficiency and thoroughness. This sharing is enabled because of trust. Management understands preserving the trust of employees is paramount to learning.

A final component of Just Culture is ‘restorative justice’ but not in the criminal justice sense. After a serious accident, employees are often emotionally harmed, and relationships can be strained or broken. With its focus on transparency and rejection of blame, the FLA seeks to restore victims to wholeness. An FLA is Moral Engagement when management accepts appropriate responsibility for the incident and takes responsibility to make things right again. (See Restorative Justice Checklist, Appendix I.)
“The [accident] review information will not be used as a basis for disciplinary action, or to place blame on employees. I cannot stress this enough. An accident review is about learning, it is about understanding what happened so, if possible, we can make changes to produce a different outcome in the future.”

Former Chief Tom Tidwell

In the criminal justice arena accountability means punishments and correction. In a Just Culture accountability means creating the space for each person involved to provide an account of what happened from his or her perspective. The agency is then held accountable to learn about the conditions that influenced the outcome and make improvements to the overall system.

Post incident/accident, accountability means that we hold ourselves and each other accountable to learn from the event. When mistakes are made, this recognition may result in the discovery of “hard truths.” To learn, we must all be prepared to challenge our assumptions and welcome hard truths as an opportunity to learn.

“You’ve Got Nothing to Fear If You’ve Done Nothing Wrong”

Punishing or blaming employees involved in an accident is the surest way to kill a learning culture. The attitude expressed in the quote above is a threat and has no place in an FLA.

“Holding people accountable and blaming people are two quite different things. Blaming people may in fact make them less accountable: they will tell fewer accounts, they may feel less compelled to have their voice heard, to participate in improvement efforts. Blame-free or no-fault systems are not accountability-free systems. On the contrary: such systems want to open up the ability for people to hold their account, so that everybody can respond and take responsibility for doing something about the problem. This also has different implications for what we mean by accountability. If we see an act as a crime, then accountability means blaming and punishing somebody for it. Accountability in that case is backward-looking, retributive. If, instead, we see the act as an indication of an organizational, operational, technical, educational, or political issue, then accountability can become forward-looking (Sharpe2003). The question becomes what should we do about the problem and who should bear responsibility for implementing those changes.”

Just Culture: Who Gets to Draw the Line?
B. ADMINISTRATIVE ASSURANCE OF NO PUNITIVE ACTIONS

It is critical to maintain a solid firewall between the FLA and any potential administrative actions that may be taken against the employee. Information is the lifeblood of safety. We must cherish it and protect it. Of course, supervisors need to use the tool of discipline from time to time. But accidents are rare opportunities to examine how the system is not working. And discipline after an accident is counterproductive to our intent to become a learning organization.

After an accident, everyone is surprised—especially those directly involved. In the interest of a learning culture, we exploit this opportunity. With a FLA we are telling employees “we trust you did not intend for this to happen. We trust that you are good, competent employees. And, we believe that what happened to you could happen to other good, competent employees. Now, please trust management that our only goal is to learn everything we can about this accident.”

“In a just culture, management can balance the tension between needing to know what is going on, and needing to correct what is going on.”
Sydney Dekker

If we can agree that information is the lifeblood of safety, we should do all that we can to encourage and protect it. We need to begin by believing that our employees were well-intended and acted based on their knowledge of the environment. Our employees always face conflicting goals and tensions between production and efficiency. We need to know about these pressures.

Blaming employees prevents us from learning. Blaming employees can be a form of the Fundamental Attribution Error (see Handout C “Watch Outs” on page 34). It is essential that we gain a more complete understanding of the conditions of influence so that we can learn as an organization how to recognize, change, or even eliminate those conditions to set up a more favorable probability for success.

Often times, the reason for conducting the FLA turns out to be fairly simple. The response to the accident becomes the focus of the Lessons Learned, as was the case in the Wenatchee Complex Faller Fatality FLA, 2012. (http://www.wildfirelessons.net/viewdocument/?DocumentKey=e3cbf757-9021-4ec5-bc3e-f3e604a942ef)
Therefore, all FLAs must have a signed delegation from the Agency Administrator giving their employees assurance that nothing discovered or revealed by the FLA Team will result in administrative actions. Administrative actions include any type of disciplinary action and other adverse actions such as forced retraining, removal from an incident, or reduction in planned overtime. This promise has never been broken in the history of the FLA implementation in the Forest Service; a promise kept on literally hundreds of FLAs across the country! Employees should be cautioned that the Agency Administrator cannot offer immunity or protection from legal actions arising from law enforcement agencies, or civil suits.

**What is All This Talk About ‘Conditions’?**

Understanding conditions of influence is extremely important to the FLA process. These conditions often form the basis of the “Analysis” part of the FLA process. When you say the word “conditions” to employees, they often assume you mean environmental conditions such as, weather conditions, or topography. While these conditions may be helpful in understanding what happened, they are only a small subset of the conditions we are looking for. An FLA seeks to understand the organizational, social, cultural, and other conditions that were present when the event happened. Having a better understanding of conditions of influence can help us get a better grasp of the pressures, goal conflicts, and other factors that affected the pertinent decisions and actions that took place during the event. Having a grasp of these conditions will aid in making systemic improvements to improve the way we engage in “every day” normal work.

One way to recognize conditions of influence is presented by Erik Hollnagel when he describes the efficiency/thoroughness trade-off in his book *The ETTO Principle: Why Things That Go Right Sometimes Go Wrong*. He argues that trade-offs between thoroughness and efficiency are made in almost every situation in almost all environments, almost continuously. This short book is recommended reading for those interested in FLAs.
ALIGNING THE TEAM: NORMAL WORK, RISK, SAFETY AND JUST CULTURE

- Risk is inherent in everything we do. Short of never doing anything, there is no way to avoid all risk or ever to be 100% safe. This is why it is imperative to create the most robust and resilient system possible in which to conduct the work that we do.

- How employees (at any level) perceive, anticipate, interpret, and react to risk is systematically connected to conditions associated with the design, systems, features, and culture of the workplace. Capturing these elements is a primary focus of the FLA process.

- “Risk does not exist ‘out there,’ independent of our minds and culture, waiting to be measured. Human beings have invented the concept of ‘risk’ to help them understand and cope with the dangers and uncertainties of life. Although these dangers are real, there is no such thing as a ‘real risk’ or ‘objective risk.’”* 

- The best definition of “safety” is: the reasonableness of risk. It is a feeling. It is not an absolute. It is personal and contextual and will vary between people, even within identical situations.

- While safety is an essential business practice, our agency does not exist to be safe or to protect our employees. We exist to accomplish a taxpayer-funded mission as efficiently as possible—knowing that many activities we choose to perform are inherently hazardous (for example, firefighting, driving, flying in helicopters, horseback riding, tree cutting, and even walking through a forest).

- Mistakes, errors, and lapses are normal and inevitable human behaviors. So are optimism and fatalism. So are taking shortcuts to save time and effort. So are under and overestimating risk. In spite of this, our work systems are generally designed for the optimal worker, not the normal one.

- Essentially, every risk mitigation (every safety precaution) carries some level of “cost” to production or compromise to efficiency. One of the most obvious is the cost of training. Employees at all levels (administrators, safety advisors, system designers, and front-line employees) are continuously—and often subconsciously—estimating, balancing, optimizing, managing, and accepting these subtle and nuanced tradeoffs between safety and production.

- All successful systems, organizations, and individuals will trend toward efficiency over thoroughness (production over protection) over time until something happens (usually an accident or a close call) that changes the perception of risk. This creativity and drive for efficiency is what makes people, businesses and agencies successful.

- Our natural intuition (our common sense) is to let outcomes draw the line between success and failure and to base safety programs on outcomes. This is shortsighted and eventually dangerous. Using the science of risk management is more potent and robust. Importantly, “Risk Management” is wholly concerned with managing risks, not outcomes. “Risk Management” is counterintuitive.

* Paul Slovic, as quoted in Daniel Kahneman, Thinking Fast and Slow (Farrar, Straus and Giroux, 2011), p141.
PART 3 - INITIATING THE FLA: BEFORE THE FLA TEAM ARRIVES

A. PRIORITY AGENCY ADMINISTRATOR ACTIONS

1. A critical incident may overwhelm an individual’s or an organization’s normal coping mechanisms. Following a critical incident involving a near-miss, serious injury or death, it is the responsibility of the Agency Administrator to ensure that the appropriate physical and counseling support needs are provided for the employee, their families and coworkers. Pre-incident planning is crucial in becoming familiar with resources within the Administrator’s community. At the agency level, Critical Incident Peer Support (CIPS)* is a resource providing professional and peer-support by specially trained individuals in stress management. These types of early peer support interventions may mitigate negative long-term effects of a critical incident. The Employee Assistance Program may or may not have adequate resources to provide a response.

2. Provide employees with a trusted liaison who will explain the FLA process and who will be available to support employees until the FLA is completed. In complex events, it can take days before the FLA Team is assembled. Employees will have questions and concerns about what is happening. In most cases, the liaison will need the authority to authorize overtime, travel, meals, etc. On wildland fire incidents, this liaison needs to ensure that critical employees or contractors are not demobilized before the FLA Team is ready for them to leave. When personnel are held at a location post-accident, they can have high levels of anxiety about what is going to happen next. It will be very important to provide them with real-time information and answer their questions. This employee liaison can also help the FLA Team with logistics, travel, and other tasks.

3. Once the employees, families, and coworkers are cared for, the liaison could ask those involved to separately take a moment to jot down notes of what they remember as significant events, observations, decisions, etc. Personal notetaking should occur as soon as possible after the event—if possible before employees discuss the accident with other employees. The purpose is to capture their thoughts and perceptions as close as possible to the time when the event occurred. Memories will change as “sensemaking” evolves. Ask employees to write their notes in brief “bulleted” form. Ask employees to try the best they can to refrain from building a story or make sense of what happened. Assure them that they will get a chance to tell their story later. What is needed now are bullet statements of memories—that might get lost later. Remind employees that these notes are their own property and will not be collected or read by anyone else.

* Information about Critical Incident Stress Management (CISM) or Critical Incident Peer Support (CIPS) can be found here: https://gacc.nifc.gov/cism/cipskit.html.
B. FORMING THE FLA TEAM

The Agency Administrator should form the FLA Team in consultation with their safety advisors. Again, the general rule is that the more surprised the supervisors and agency leaders are in the outcome and/or the risks employees were accepting, the richer the potential harvest of learning can be by opting for a Complex (instead of a Basic) FLA Team.

Regardless of whether a Complex or Basic FLA Team is formed, the team MUST meet the following minimum attributes:

1. A basic understanding of Just Culture.
2. A basic understanding of the FLA process (Team Leaders and facilitators should be formally trained in the process or have experience under a trainer).
3. A solid reputation for dealing with confidential matters.
4. Generally, team members should not be from the local unit or have any strong social ties with anyone directly involved in the event.
5. Team Leaders and facilitators should not be from the hosting unit.

POTENTIAL FLA TEAM MEMBERS AND ROLES

FLA Teams, much like the Incident Command System, are comprised of a changeable, scalable response organization providing a set of roles and responsibilities to enable people to work together effectively. Depending upon the situation, one or two people can manage the responsibilities of all the roles listed below. Conversely, as the situation elevates in complexity, it becomes necessary to expand the team and delegate roles to individual people. The key to successfully managing and developing a team is to stay flexible and accommodate the team’s needs as they develop by expanding or merging roles as needed.

- FLA Process Coach
  The FLA Process Coach is someone who is well-versed in the FLA process and has extensive experience with FLA Teams. The FLA Process Coach is available as a sounding board and second opinion on controversial or complex issues and serves as a resource concerning procedure. This person may also help the FLA Team locate appropriate subject-matter experts or other team members as needed.

- Team Leader
  The Team Leader is typically (but not necessarily) at the same level of seniority as the supervisor or line officer of the unit where the incident occurred. The Team Leader ensures that the team stays on task and meets deadlines. The Team Leader also is the mediator between the delegating official and the FLA Team. The Delegation of Authority is issued to the Team Leader, who is ultimately the responsible official accountable for the quality and content of the FLA.
This position is needed on all FLAs, basic and complex. On most FLAs, the Lead Facilitator is the team’s “FLA process expert.” This position is analogous to “Chief Investigator” on a Serious Accident Investigation Team. A primary duty of the Lead Facilitator is to flesh out the conditions or influences that led to decisions and actions. Lead Facilitators utilize inquiry to identify systemic weaknesses. A Basic FLA does not demand the same skill level as a Complex FLA. On a Basic FLA, the Lead Facilitator needs to be a good listener and have solid facilitation skills. The more complex the FLA, the more the Lead Facilitator needs experience and competence in reflective listening, interviewing techniques, and accident sequence re-creation. Most importantly, the Complex FLA Lead Facilitator should have a solid understanding of the Lessons Learned Analysis process. (See Process for Conducting the Lessons Learned Analysis on page 47.)

This position can handle the learning product writing. A Complex FLA may involve a lot of documentation, a lengthy report and/or technically involved learning products. In these instances, bringing in a writer-editor/documentation specialist is a good idea. Also, if there is private property damage or personal injuries involved in the accident, then litigation or claims against the government may arise months or years later. In such cases, the FLA document may be the government’s only official accident investigation report. As a general rule, if the accident involves significant private property damage or personal injuries, a separate claims investigation should occur. For a variety of reasons, this doesn’t always happen. Therefore, a critical position that involves potential claims or litigation is the documentation specialist who will track and catalog important claims-related documents.

The most effective way to share the learning throughout the organization is with a powerful story. If the FLA will feature an accident story (or a story about an intended outcome), it is generally recommended to bring in a person with this unique skillset. While there are talented storytellers in our agency, this is a rare skill. This position must have the ability to create the story of the accident and to write it accurately, clearly, and compellingly in such a way as to take maximum advantage of its learning potential for the greater organization. The focus needs to be on honoring all of the different perspectives, not consolidating them into one cohesive narrative. Analogies and meaningful parables are an effective way to communicate the perspectives of participants. (See special section Storytelling Basics: Tips for Creative Nonfiction Storytellers on page 53.)

Individuals directly involved in the accident should be represented by an FLA Team member with intimate knowledge of the duties and skills necessary to serve in a similar position/job title. For example, if the accident is an engine rollover, a member of an engine crew should be on the FLA Team. The peer can also function as the facilitator.
Subject-Matter Experts
The more complex an FLA, the more the team will be looking for lessons learned for the larger organization. Therefore, it is important to have an FLA Team member with expertise in the activity surrounding the accident. For example, if the accident occurred on a prescribed fire, the team should have a member with expert knowledge of prescribed burning operations, planning, coordination, and execution. Another example would be if the incident required expert knowledge of heavy equipment or specialized tools (aviation, artillery, etc.) the team may look for a Heavy Equipment Operator, Helicopter Manager or Demolitions expert. In many cases, the peer and subject-matter expert may be the same person. For extremely complex situations that involve the Learning Review process, outside specialists are brought in to provide a fresh perspective and/or academic expertise in a field related to the incident.

Subject-matter experts from the National Technology Development Program (telephone: 406.329.3900) must be consulted to analyze the performance of PPE, particularly if the event involved a burnover or fire shelter deployment. If escape routes or safety zones are a critical component of an entrapment, contact the Missoula Fire Lab @ 406.329.4801.

Forest Service units with a tree falling or chainsaw related accident must notify the National Chainsaw Program Manager.

Technical Specialists
Human performance specialists can add great value and competency to a Complex FLA. Other specialists such as videographers or graphic designers can provide quality graphics, maps, video, and even animation. If the learning product can easily be turned into a training exercise because of the way it is designed, the impact of the learning can be much enhanced.

Union Representative
The National Federation of Federal Employees (NFFE) have been a strong supporter of Just Culture and the FLA process. The Union Representative provides guidance to the FLA Team Leader and the team regarding labor and employee representation issues, ensures access to a union representative for all those involved in the review. Upon request, a Union Representative will sit with employees during all interviews, liaise with local union representatives and, if needed, will in-brief with OSHA as a labor representative. On Complex FLAs, if employees on the unit are represented by a union, having a Union Representative is often valuable as a full team member. As with all other members, the

Open, Frequent Communication
Regularly scheduled conversations should occur between the FLA Team Leader and the agency official who authorized the FLA. The purpose of these discussions is two-fold:

- To keep the agency official updated on the FLA Team’s progress, and
- To ensure that the FLA is meeting the needs of the sponsoring official.

These conversations are not an opportunity for the Agency Administrator to “steer” the analysis in a particular direction. Rather, they are opportunities to ensure that the needs of the administrator are being met and that the FLA Team is answering all of the “how” and “why” questions that initially triggered the review.
union representative must meet the minimum team member attributes and will be selected by the Union.

- **Interagency Participation**
  If the event involved employees from other agencies, consider involving these agencies by having a representative on the FLA Team. This person could serve as the peer, subject-matter expert, or other role. For further guidance, see the selection table for DOI USFS Serious Accident Investigation Type based on the 1995 Interagency MOU (available on the web).

- **Learning Review Process Coach**
  If the delegating official has determined that the FLA is going to transition to a Learning Review, at the time of transition the team will be assigned a Learning Review Process Coach. This Team Leader may be the FLA Process Coach, or someone appointed by the regional level safety/risk specialist in conjunction with the Rocky Mountain Research Station Human Performance & Innovation and Organizational Learning Research, Development, and Application (HP&IOL), and is included in all Learning Review process phases. This person is available as a sounding board and second opinion on controversial or complex issues and serves as a resource concerning procedure. This person also helps the FLA Team locate appropriate subject-matter experts and serves as a co-lead with the FLA Team Leader once the Learning Review Process begins. The Learning Review Team Lead may recruit other SMEs as needed for the Learning Review Process. (See “Part 8 – Learning Review” (on page 62.)
C. CLEAR MUTUAL OBJECTIVES:

The In-Briefing

When arriving at the host unit, the FLA Team should in-brief with the Agency Administrator and then with individuals involved in the accident. This is an opportunity to establish common expectations of what will happen over the next days or weeks and to discuss what the outcome of the review will look like. Always be wary of host unit expectations for a “quick wrap-up”. Together the Agency Administrator and the FLA Team should review the delegation of authority and each item in APPENDIX E: TICKLER LIST OF IN-BRIEFING DISCUSSION ITEMS.

It is critical that everyone involved in this process have a basic understanding of the purpose and intent of an FLA and how it differs from other types of investigations. Everyone should be assured that no administrative punitive actions will result from information gathered by the FLA Team. This assurance of no agency-imposed administrative actions must be clearly stated in the delegation to the FLA Team Leader.

All participants must understand that this assurance of no administrative action does not protect employees against actions taken by the Department of Justice, Office of Inspector General, or other authorities that are outside the control of your federal agency.

If the FLA Team learns someone involved in the accident acted with a willful and reckless disregard for human safety (that is, they expected their actions would result in harm), the FLA Team Leader will likely terminate the FLA and advise the delegating authority that an administrative review is a more appropriate tool.

The FLA Team Leader must not disclose any details to the Agency Administrator other than a recommendation to pursue an administrative or law enforcement investigation.

D. TRUST

The use of the FLA process is growing every year in land management agencies because employees and administrators are beginning to trust the process and trust the teams that are implementing it. All FLA Team members must guard this trust and never betray the confidentiality of the employees involved or
divulge any information not contained in the learning product to anyone outside the team. The only exception to this promise of confidentiality would be because of judicial order outside of agency control.

E. COOPERATION WITH OTHER INVESTIGATIONS

Sometimes other investigations must proceed alongside an FLA. FLAs are independent of other investigations or reviews that may be occurring. Communications with the people involved in the incident, internal team deliberations, and draft learning products will be held confidential to the extent possible.

If other investigations are occurring concurrently with an FLA, the Agency Administrator must ensure that the FLA process is insulated from these other activities. For example, if compliance officers from OSHA or investigators from the Office of Inspector General (OIG) wish to conduct an accident or a criminal investigation, they should be supported by the Agency Administrator but kept separate from the FLA process and team members. (See 29 CFR 1960.29 for OSHA guidance on accident investigations.)

Material items that are evidentiary in nature such as photographs, transcripts of dispatch logs, law enforcement reports, personal protective equipment, etc., must be shared with OSHA, OIG, and other investigative authorities when requested. Requests for this type of information should be directed to the Agency Administrator and the FLA Team response should go back through the Agency Administrator. Interaction directly between the FLA Team and OSHA, agency law enforcement, or any other investigative authority is generally inappropriate and should be minimized.

An effort should be made to introduce the different review or investigation teams to those involved in the accident. A way to do this that has been successful in the past is to conduct a “Morning Briefing” where the leaders of each of the investigation teams get up in front of the group of interviewees and explains/describes their respective objectives. Feedback from participants indicated that they liked being able to put a name with a face and hear straight from each respective agency or investigation team regarding what their objectives are.
F. **RECOMMENDATIONS – RESERVED FOR A LEARNING REVIEW**

Our traditional safety paradigm has been that we prevent accidents by investigating them, discovering their cause, and then fixing the cause to prevent a repeat of the accident. Causal statements, however, are typically problematic and highly subjective. They are always outcome dependent. FLAs must avoid causal statements. Recommendations can also be trouble when they play into this narrative. Managers used to the “causal” model may jump straight to the “Recommendations” section of the learning product, develop an action plan, and believe they’ve solved the problem. Readers may look to recommendations for security: “If I’m following these recommendations, then I must be safe.” In both cases, our cultural baggage around recommendations may make learning more difficult. Remember that an accident represents a single data point with a single outcome.

Often, the best outcome of an accident investigation or an FLA is simply learning how we make sense of risk and the tensions between efficiency and thoroughness. Effective learning can increase dialogue, change behaviors, change how we understand risk, change how we go about accomplishing work, and change how we make difficult trade-off decisions between efficiency and thoroughness. In many circumstances, recommendations actually interfere with learning. Often times, recommendations—when implemented—add complexity to the workplace, which has the paradoxical effect of increasing risk. Instead of recommendations, consider ways to make the FLA learning product an effective and compelling learning tool.

In lieu of written recommendations in the learning product, the Team Leader can discuss recommendations informally with the Agency Administrator. On occasion, providing recommendations on technical fixes may be appropriate. For instance, if a chainsaw specialist came up with a way to avoid chainsaw fuel geysers, it would be appropriate to include that as a recommendation in the FLA learning product, or this could be broken out in a stand-alone technical report.

If the delegating official insists on having recommendations, then the official must also authorize a Learning Review. With the Learning Review recommendations will be vetted with the communities of practice and a Safety Action Plan can be developed that outlines who is responsible to carry them out and by what date.

G. **HUMAN PERFORMANCE EXPERTISE**

One positive attribute of Basic FLAs is that they are relatively quick, and the sharing of lessons learned across the agency is rapid (at least in governmental terms). In some cases, however, the effort to keep the FLA at the basic level comes at a high cost in terms of lost opportunity to involve specialists, particularly human performance experts. There are numerous FLA coaches and Human Performance experts available, including in the Forest Service’s Office of Human Performance & Innovation and Organizational Learning (IOL), to help an Agency Administrator decide if it would be worthwhile to bring in a Human Performance expert to leverage the event for its full safety and learning value.
“The Forest Service concentrated on compliance as a means to achieve safety for decades but never improved its fatality and accident/injury rates until it embraced a very different approach focused on learning everything possible from unintended outcomes. Then, within a single decade, rates dropped tenfold.”

Steve Schlientz
Director of Occupational Safety & Health,
U.S. Forest Service

When Do We Transition from a Basic FLA to a Complex FLA or to a Learning Review?

At the outset, the FLA Team and the Agency Administrator should agree (at least in principle) on the bounds of the FLA. That is, how long it will take, the complexity of the analysis, how the report will appear, etc. How these various aspects could change should also be discussed.

Usually, this first assessment of the size and complexity of the FLA Team is correct. Often, additional time is needed but it is rare for additional team members to be required.

Occasionally, an FLA Team will uncover a surprise, a rich vein of learning opportunities. Doing so may require technical experts, including a human performance expert. This will add cost, complexity, and time.

The report may also be ripe for a good storyteller to help turn the event into a powerful organizational learning experience. Of course, this will add more cost, time, and complexity. The FLA Team and the Agency Administrator may need to modify the Delegation of Authority to explore more fully a gap that has been revealed.

To shift from a “basic” or “moderately” Complex FLA to a much more thorough and complex analysis is difficult but can be absolutely necessary. For instance, team members who committed to a week may have to spend a month. A unit that budgeted a few thousand dollars for an FLA may have to come up with tens of thousands.

There is no easy answer to these issues. Frequent, open communication will make them easier to deal with.

Leader’s Intent for a Basic FLA

A Basic FLA is successful if it simply captures the information about an event with enough detail to provide a picture of the incident so that the reader (or listener) can determine (on their own) why the actions made sense.

In its purest form, this is the intent of a Basic FLA.

The process does not require analysis or judgment; rather, it presents information like a documentary. An FLA is somewhat like a staff ride. Observations and recollections do not have to agree; in fact, the process should capture the fog of war.
## H. Suggested FLA Report Outlines: Complex and Basic

<table>
<thead>
<tr>
<th>Complex FLA</th>
<th>Basic FLA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Executive Summary</strong></td>
<td><strong>1. Summary</strong></td>
</tr>
<tr>
<td>A one- to two-page summary of the accident with highlights of lessons learned.</td>
<td>A one- or two-paragraph summary of the accident.</td>
</tr>
<tr>
<td><strong>2. Introduction</strong></td>
<td><strong>2. Narrative or Chronology or Story</strong></td>
</tr>
<tr>
<td>An overview of the accident, the setting, and background information on conditions.</td>
<td>A brief summary of what happened. This can be told in the form of a timeline, a narrative, story or a first-hand account.</td>
</tr>
<tr>
<td><strong>3. The Accident Story</strong></td>
<td><strong>3. Lessons Learned by Those Involved</strong></td>
</tr>
<tr>
<td>A Complex narrative that is a factual story of the accident using the techniques of nonfiction storytelling.</td>
<td>A listing or creative display of the views expressed by those involved in the accident related to what they learned and what they believe the organization should learn from their experience. Alternatively stated as: “What would I do differently next time, knowing what I know now?”</td>
</tr>
<tr>
<td><strong>4. Lessons Learned by Those Involved</strong></td>
<td><strong>4. Summary</strong></td>
</tr>
<tr>
<td>A listing or creative display of the views expressed by those involved in the accident related to what they learned and what they believe the organization should learn from their experience.</td>
<td>If requested by the Delegating Official, a brief summary or wrapup of what was leaned by the agency and those involved</td>
</tr>
<tr>
<td><strong>5. Lessons Learned Analysis</strong></td>
<td><strong>6. Summary</strong></td>
</tr>
<tr>
<td>An analysis of the relevant workplace conditions to explain the nature of the accident. The relevance (to the accident) of a given condition is a subjective determination made by the FLA Team and, where feasible, originates from the lessons learned by the peers. Highlight conditions that were key to the accident and that may be setting the organization up for a subsequent accident.</td>
<td>A brief summary of the Lessons Learned Analysis. Performance-shaping factors or workplace conditions that pose an unnecessary risk to future operations.</td>
</tr>
<tr>
<td><strong>7. Appendices</strong></td>
<td></td>
</tr>
<tr>
<td>The appendices feature information such as a Human Performance Analysis/Human Factors report, fire shelter performance report, engineer’s structural analysis, fire behavior analysis report, etc.</td>
<td></td>
</tr>
</tbody>
</table>
“Hindsight bias is the chief saboteur of any accident investigation. Interviewers should remember their highest objective, to be able to describe how interviewees (the people they are interviewing) developed their understanding of the situation—and then made sense of their choices at the time, and in context.”

Joe Harris – Office of Innovation & Learning
U.S. Forest Service

PART 4 – THE FLA PROCESS

A. SETTING THE STAGE

Throughout the FLA process, team members should be prepared to explain the history of FLA and its major underpinnings, such as the degree of confidentiality, Just Culture and The Gap. A frank discussion of the delegation can be useful, too, to frame the conversation and to give assurance about the Agency Administrator’s stance on punitive action. Agency Administrators and FLA participants may not be familiar with the process. There is also a tendency after an incident for participants to worry that this time the “investigators” are out to get them. Explaining the process can help put these people at ease and make them more responsive through the process.

The heart of the FLA process is dialogue with the participants. It’s important to use both group discussion and individual interviews. Important learning can happen from both. It may not be essential to do individual interviews in every case, but you should always conduct a facilitated dialogue with those involved with the incident. The Learning Review process goes a step further by bringing in outside perspectives and expertise to help uncover biases and tacit assumptions. Focus groups are utilized that include both the community of practice inside of the agency, and outside professionals who have a fresh perspective and may be better positioned to see things that insiders are blind to.

For both individual and group dialogue sessions, the FLA Team should attempt to

No Signed Witness Statements: An FLA Commitment

Very often people involved in a traumatic event remember things that never actually happened and cannot recall key events that they were directly involved with. This is what happens to normal and honest people. We expect and intend for participants involved in the event to learn what actually happened along with the FLA Team.

The facilitated dialogue session is when the participants and witness all share their contrasting memories together with other information gathered by the FLA Team. This session is often punctuated by moments of shock and surprise as participants compare their memories with others.

Written, signed witness statements and recorded interviews may interfere with recreating the best account of what happened. Consequently, FLA Teams never collect written witness statements or record interviews. We don’t want participants to feel like they have to maintain or defend early perspectives of what they think happened.
control the environment by making it as comfortable for the participants and conducive to the planned conversation as possible. Do everything in your power to discourage the impression of an interrogation.

Facilitated Learning Analysis Teams NEVER collect or request written “witness statements.”

B. INTERVIEWING

For a Basic FLA, the facilitator may have enough background information to go right to the dialogue. The FLA Team may not need to conduct individual interviews. Most often, however, key people involved in the accident should be interviewed before the dialogue session. These interviews will help the facilitator frame the dialogue and ensure key events and conditions are brought forth. For Complex FLAs, extensive interviewing is often necessary and should not be hurried to meet an arbitrary date. Conducting interviews appropriately is crucial to the FLA process.

The FLA Team Leader should select interviewers based on their experience, skills in empathic listening, interviewing, and interpersonal communication. Interviews should occur as soon after the accident as possible, especially for accident victims who demonstrate a strong emotional response to the event.

For key accident participants or witnesses, the Team Leader should consider using a team of two interviewers. Please note: because using two interviewers can sometimes be intimidating to the interviewee, this approach should be used with appropriate caution and understanding. Participants who are more tangential to the accident may be interviewed in groups of two to four at a time.

All interviewers will battle hindsight bias (see HANDOUT C “WATCH OUTS” on page 34). Interviewers must strive to focus on their objective to be able to describe how the people involved developed their understanding of the situation and made sense of their choices at the time and in context.

Before interviews begin, the FLA facilitator should coach interviewers on

Often the best place to conduct interviews is at the accident site, as was the case with the Little Venus Entrapment, 2006. (http://www.wildfirelessons.net/viewdocument/?DocumentKey=e7f0e80b-05fc-4f58-9e88-0f4960e9106c)
Learning from Unintended Outcomes   January  2020

using the interview process guidance outlined in this chapter. The FLA facilitator should also remind the interviewers to collect quotes from the interviewees.

A few words of caution when conducting interviews with employees that just lived through an unexpected outcome or tragedy: If possible, talk with the supervisor and ask if they see or hear of any employees who are having a hard time with what just occurred. Be mindful of what information is needed for the FLA Team’s purposes of learning and what might be damaging to recall that won’t significantly add to the learning or sensemaking. For example, if an employee witnessed a coworker die, do you really need to know the length of time the coworker was trapped in the engine on fire before the witness stopped hearing the person scream? Also, don’t deliberately take the interview into deeper recall experiences (leave that to the mental health professionals). However, sometimes as people are telling you what they saw and experienced, they may take you there anyway. If the person takes the interview to a difficult point of recall don’t leave them there mentally. Be prepared with a few deflection questions to mentally “walk the person away” from these vivid memories they are sharing with you. The following scenario is an example:

**Interviewer:** …Thank you for sharing what you saw from the road after the engine went over the side… I know that was difficult to see… As I am going through this in my mind, take me back to that morning when you guys were at the engine bay, what time did your duty day start? What’s a normal day look like for you guys?

or

**Interviewer:** …Take me back to the day before when you first arrived on the fire, what Division were you assigned on that day? How did the day go as fire activity picked up?

or

**Interviewer:** …What did you envision doing today before we scheduled this interview? Can you envision yourself doing that now?

Deflection questions use inquiry to ask the witness about something that went right or something they know very well and are comfortable talking about. It helps pull their recall memory away from the site of the tragedy as they talk about this new line of inquiry. The deflection question is information often learned by the interviewer at the beginning of the interview and illustrates the importance of getting to know who you are talking with.

Finally, it is important that people understand they can have access to mental health professionals. Make sure they have the information they need to contact them. This includes the members of the FLA Team themselves.

Control the interview environment. Find a location that’s comfortable, private, and appropriate
1. An interview is like sitting down to chat with someone but with the intense purpose to listen.

2. Start with easy, friendly questions and work your way up to more difficult or sensitive information.

3. Remain neutral. Try not to agree or disagree with statements made, including when critical junctures are discussed in their story.

4. Listen. Listen. Listen. Do not go into the interview with any objective or intent other than to listen. Preconceived notions or ideas can cause you to steer the conversation and can have negative impacts on your interview.

5. Gather quotes to add authenticity to the story.

6. If someone is talking about an unhappy or painful experience, show them that you understand how they feel. If they don’t want to talk about something, do not push the issue.

7. **Never ask WHY. Rather, ask HOW or WHAT.**

   Never ask why the interviewee made a key decision or action. Rather, ask how they came to make such and such a decision, or how they thought taking such and such an action would improve the outcome. The “Why” question puts witnesses immediately on the defensive.

8. As you listen to their story, other questions will come to mind. Asking follow-up questions will help you get more information.

9. If someone is remembering a painful memory or sharing a difficult story, be mindful of their mental status. Make sure that you conclude the interview with a discussion about casual things or more recent events to bring them back out of the moment. If needed, make sure the appropriate mental health professionals are available.

Before beginning the interviews, the FLA Team should consider referring to the next two pages and discussing the following tools to mitigate any bias. A team dialogue session may be needed to ensure that all members are comfortable with these concepts.

**HANDOUT B: INTERVIEW QUESTIONS**

*Copy this page for interviewers.*
Beginning an Interview

Introduce yourself and any other FLA Team members. If this involves an injury of any sort, ask them how they are doing. Ask them if they have ever heard of an FLA and provide a brief overview of the process. If using a note taker, explain their role in the interview and assure them they can read any of the notes. Start with some casual questions like the ones listed below:

- How was your fire season?
- How has your summer/fall/winter/spring been?
- How are things going lately?

During the Interview

Remember to give this person the space to talk, and provide room for silence. Think about what you have heard and give them time to reflect. The following are some questions to help gather information if you need ideas:

- What are you able to tell me about your experience?
- If you were sitting around with family (kids, buddies, etc.) what would you have told them?
- What was your gut telling you?
- What surprised you the most?
- What do you feel you learned from this event? What do you think the agency needs to learn?

Concluding the Interview

When the person you are interviewing has told their story and doesn’t have much more to add, you can begin to conclude the interview. If they are interested, share any notes or quotes you might have captured. Remind them you will go back and write out their story and they will be able to review what was written before it goes up the chain of command. In case they might think of anything else, provide them your contact information so they can share these details with you. Get their contact information in case you don’t already have it. Before you leave, remember to make sure that they are mentally in a good place.

Pictures Are Precious

FLA Teams need to be proactive, even assertive, in asking for pictures or video. Often times, employees won’t admit in public that they were taking pictures on an assignment—but they may do so in private.

Not only do pictures add much visual appeal to FLA reports, they also contain valuable information, like time stamps, GPS coordinates, and other important metadata.

The specific details of interviews and deliberations must never be shared with anyone outside of the FLA Team, including the Agency Administrator.
Like it or not, we all have biases. Pretending that they don’t exist leaves us with a huge blind spot in understanding how we react to things. It is much easier to spot biases in other people than to spot them in ourselves. That means it is a good idea to understand different biases, discuss them within your FLA Team, and explicitly give everyone on the team permission to call out any biases they see. Many categories of cognitive biases have been identified. The link below provides a long list of known biases, and provides links that may be useful in learning more about the topic of bias:

List of cognitive biases

While there are many biases that can have an effect on FLA Teams, four biases and a way of thinking seem especially pertinent:

**Confirmation Bias:** The human tendency to pay selective attention to things that confirm what they believe (following an accident this can be seen when people look for evidence to support what they think happened), and to ignore or undervalue things that contradict what they believe.

**Fundamental Attribution Error:** People have an extremely hard time noticing the influence of context. It feels much more natural to focus on people’s personalities to account for their behavior rather than on influencing conditions. An example of this is when someone bumps into you on the sidewalk and you automatically assume he or she is an inconsiderate jerk. It may not even enter your mind that they might have a very legitimate reason for bumping into you, and if you were in their shoes—you probably would have behaved the same way.

**Hindsight Bias:** Also known as the “knew-it-all-along” effect. When looking back on an event from the past, people tend to believe the event was easier to predict than it really was. The FLA Team should reason together to explain how the exact same decisions could have led to the outcome that had been expected by the participants; and, conversely, how the accident participants could have undertaken a different set of initiatives that might have resulted in the same unexpected outcome.

**Outcome Bias:** People tend to evaluate a decision or action based on the outcome rather than on what conditions influenced the decision or action. This often leads to judgment of actions and decisions as good or bad, right or wrong, etc.

**Counterfactual thinking:** Counterfactual means “contrary to the facts.” Whenever you invent an alternate outcome, you are thinking counterfactually (“This wouldn’t have happened if...”). Engaging in counterfactual thinking presumes that you can predict the future. People have a tendency to use counterfactual thinking without a thorough understanding of the situation, which all-too-often leads to damaging results. What FLA Team members may think should have happened are the most seductive counterfactuals and they will blind the team from understanding the event in context. Examples include: “If only the firefighter had . . .” “The crew leader failed to . . .” “The supervisor should have . . .” Providing recommendations in an FLA learning product can become counterfactual if we are not careful. Any recommendations provided should be well-vetted and viewed from multiple perspectives (including the perspective of those who are closest to the work).
We often argue against providing recommendations in FLAs because an FLA represents just one data point. The FLA Team is strongly encouraged to share lessons learned not recommendations. While well-thought-out recommendations can improve the overall system, recommendations created on a whim can cause great damage. However, if there are systemic issues that emerge during an FLA, be sure to pass that information on to your assigned Process Coach to aid in organizational improvement.

Gaining a firm understanding of the above biases will serve you well as you attempt to understand an accident or incident. Remember, if the person involved in the accident had known what the results would be, they probably would have taken a different action. But the future hadn’t happened yet, and they couldn’t have known the outcome. The bottom line is that the human being sitting in front of the interviewer simply did not take the counterfactual action at that time and it is unknowable what would have happened if they had.

Interviewers should appreciate that the accident participants are also affected by many biases including hindsight bias. Human memory connects images and facts to build a coherent mental story that makes sense in the light of the now known outcome. This is not a conscious process. “Sensemaking” does not stop after the accident.

It is common to interview a firefighter involved in an accident and discover their language packed with things they wished they had done differently. Then, in the subsequent weeks, this person’s language changes to the certainty of what other people should have done. A recommended solution is to interview those involved in the accident as soon as possible and help keep them focused on telling the story solely from their perspective. That is, how they saw, felt or sensed events happening.
C. THE HEART OF THE FLA PROCESS: THE FACILITATED GROUP DIALOGUE

The heart of the FLA process is a dialogue session with those directly involved with the event. This generally includes one facilitator helping a group of people think together about the incident and talk their way through what happened and what they can learn from it. The following pages provide a flexible structure for adapting to any audience, event, organization, and facilitator.

**PRINCIPLES AND AGREEMENTS FOR ALL INVOLVED IN THE FACILITATION**

1. We have clear agreement with the Agency Administrator that no administrative actions, (that is, disciplinary actions such as letters of caution, stand-downs, and forced re-trainings) may result from anything learned through the FLA process. If there is any question about this, stop and clear up confusion.

2. Respectful discussion is the rule; it can be emotional, but it must remain respectful.

3. Learning for future events is more important than assessing past blame.

4. We all make mistakes—it’s inevitable; it’s the human condition. It’s okay to openly discuss these occurrences.

5. Almost all human actions and decisions are intuitive responses to circumstances largely based on past experiences. It is extremely rare that our people are actually careless—meaning that they didn’t care if the outcome was or was not as intended.

6. Accidents are almost always the result of rare combinations of normal performance variability and chance combinations of unlikely events.

7. Safety is never an absolute.

8. Within this dialogue, safety should be thought of, and referred to, as the reasonableness of risk. It is a feeling about which two experienced, competent professionals can disagree—and both be right!

**Strongly Recommended Reading for all FLA Facilitators:**
*Dialogue and the Art of Thinking Together* by William Isaacs
“In skillful discussion, we inquire into the reasons behind someone’s position and the thinking and the evidence to support it. As this kind of discussion progresses, it can lead to a dialectic, the productive antagonism of two points of view. A dialectic pits different ideas against one another and then makes space for new views to emerge out of both.”

William Isaacs
From Dialogue and the Art of Thinking Together

D. **The Group Dialogue Session**

**Participants**

Who is involved in the dialogue session? It depends. An experienced FLA facilitator is one most qualified to know who should and shouldn’t be present. Typically, participants include everyone directly involved in the event including permittees, outfitters, cooperators, etc.

Depending upon the situation, consider including:

- Supporting FLA Team members
- Supervisors of people involved
- Project Planners
- Project leaders
- Trainee Facilitators
- When project leaders, supervisors, and agency administrators are involved in the dialogue, the discussions often become broader in scope with organizational and interdepartmental topics included. In some cases, it may be more productive to conduct the discussion without these high-level members present. As a general rule, supervisors should not be present unless they were directly involved in the event. The Team Leader and facilitator should confer about, and control, who is present based on what they learned from the interviews. Don’t be afraid to ask the participants themselves who should be involved.

*Do* interview project leaders, supervisors, agency administrators because they are participants in the decision. Their perspective on risk and how it may differ from participants is important for the FLA Team to explore. [See the shaded box “Are You the Elephant in the Room?” on page 24.]

**Agenda for the Dialogue Session**

Only a general agenda is necessary. It should not constrain the flow of the discussion. Experienced facilitators have learned to ensure there is more than enough time available; dialogues often go for several hours or longer. Occasionally a dialogue session opens a rich vein
of sharing and understanding that you will not want to shortcut. Plan for the amount of time you think you’ll need, then make contingency plans in case the dialogue needs to go twice as long.

Make sure to take a few minutes to explain the FLA process and discuss the principles and agreements above. Also, discuss the nature of the learning product that will document the learning.

**SUGGESTIONS TO FLA FACILITATOR FOR THE GROUP DIALOGUE SESSION**

- **Location, location, location.** The setting is extremely important. It is basically the “stage” for the FLA performance. The best location is almost always the field where the incident occurred. If going to the field is not an option, don’t just accept the “available conference room.” Get a location where the workers directly involved in the incident feel most comfortable. If the FLA involves a fire engine accident, the best location might be their engine bay, using their sand table. If the FLA involved a wilderness crew, the best location might be the horse stable with a projector and screen set up to show Google Earth images.

- **Willingness to be vulnerable.** Give strong assurance of two things: First, that we are not here to find who “caused” the accident. We are here only to share what each individual has learned from the incident and then see if we can turn that into collective learning. The FLA Team is not here to “fix” a problem. This is only about taking advantage of an opportunity to learn. Second, that nobody will be disciplined or “stood down” because of anything learned here. For this, we have the Agency Administrator’s assurance. Moreover, this dialogue will be respectful. If anyone would rather use this session to prove someone else was wrong, they are invited to leave.

- **You are not your point-of-view!** Give the participants an introductory story or an example of a situation where a smart person was absolutely convinced things were one way when, in fact, the person turned out to be completely wrong. (A personal story from your past is often the best type of story). The goal is to get people to feel that they don’t have to defend their perspective. There will be differences of opinions on history; there always are. People have the right to change their opinions through the course of the dialogue. Get an agreement with your audience upfront that nobody’s credibility is on the line.

- **Incite uncertainty.** Our workplace culture has trained us to be very careful about what we say in meetings. Consequently, when others are talking, we tend to barely listen. Rather, we are thinking about what we are going to say next. Dare people to suspend any certainty they have in what happened and challenge them to anticipate (and even imagine) that over the next hour or
two, they will be surprised by what they didn’t know. They need to listen deeply to each person, seeking clues and insights into this new understanding.

- The facilitated dialogue serves as an opportunity for group members to locate and exploit *points of departure* in their understanding of the unintended outcome. “Points of departure” refers to the moments of inconsistency that occur in our accounts of the event that reflect the different perspectives that members hold. The idea is not to validate one story over the other but to reveal when these discrepancies occur so that all involved have a chance to see from another’s perspective.

- One of the difficulties associated with facilitation stems from the fact that it closely resembles a group interview. The goal of the interviews is to obtain some kind of information from participants. The goal of the group dialogue session is to achieve a better understanding of the multiple perspectives of the participants by inviting them into a dialogue with one another.

- Come prepared with a few stock strategies. If you ask a participant to draw a timeline, or map, or other related images, remember to *do something with the contribution and be ready to move on if the dialogue moves on*. If a participant draws a timeline, ask others where they have other details in their timeline or different timeframes, etc. You might consider asking people to complete this by themselves and then draw them together. You’ll start to see if differences emerge because of a different perception in how people experienced time (to the best of their memories).

- Sometimes a thoughtful question is being answered with thoughtful answers that may fall flat because there isn’t a clear way for the next participant to enter the dialogue. Consider asking the other participants: *Could you see this happening to you or does this resonate with you?*

- If you are “capturing” thoughts or questions on a flipchart or whiteboard, be sure to do something with the list. Sometimes the best you can do with the list is thank them for contributing to it and note that it reveals a diversity of thought concerning the event and their experiences. If that list includes recommendations, you might ask: “If we implemented all of these suggestions, could we prevent the same event from happening?” This may help us become more reluctant to simplify. You could also ask: “What are our blind spots?”

- *Fear the fusion. Not the confusion.* When everyone is in agreement, you either didn’t need to lead the facilitated group analysis (everyone is in agreement) or you haven’t revealed points of departure, or they don’t want to talk about it.

- Consider capturing/using powerful quotes as a way to create discussion prompts.
❖ Have an exit strategy. You may not need to convey anything much more summative than “together we’ve unearthed opportunities to reflect on how we are contributing to creating a safety culture by listening to multiple perspectives.”

❖ When “we just need more training” comes up. Try to dig deeper. Sometimes, that is the answer, but sometimes it’s not. If you don’t have on your PPE because you can’t do your job properly and wear it, it’s a bigger issue than training.

❖ **Listen for the silent voice.** Many people, even some extroverts, do not feel comfortable speaking up in a group of peers. Some great thinkers don’t feel confident in their ability to think on their feet, developing coherent arguments while talking at the same time. The facilitator needs be attentive to these quiet participants and work them into the dialogue. Don’t allow a self-directed dialogue to continue very long unless everyone is participating.

**SAND TABLES AND GOOGLE EARTH**

If you can’t physically go to the site where an event occurred, you can utilize a computer, a projector, and Google Earth. People skilled with Google Earth can set up and animate a display that adds a bird’s eye view and various features that often help participants see a larger perspective.

Using an informal, interactive sand table approach to present what happened during an event can also be particularly helpful. The very act of setting up the sand table using the people involved in the event can reveal different understandings of what the different participants viewed as “reality.”

Either Google Earth or a sand table presentation can illustrate how well-intentioned people acted when confronted with difficult situations. Via the re-creation of the event, you can share what people perceived, what they were thinking, how they performed, and—now—what they might think about differently in the future.
This page contains questions modeled after the After Action Review and the hallmarks of High Reliability Organizing (HRO), two discussion tools that participants may be familiar with.

**AFTER ACTION REVIEW-TYPE QUESTIONS**

Dialogue facilitators most commonly use the well-known After Action Review questions. These questions are designed to evoke discussion and escort participants to share their perspectives. By discussing the answers to these questions, a better “picture” of the event can be formed that further explores the decisions and behaviors involved in the event. Notes from the Dialogue session will be very helpful when writing the FLA story and developing a learning product.

1. What was planned? What was your leader’s intent?
2. What information were you provided? What did you feel was missing? Why couldn’t you get this?
3. What was the situation? What did you see? What were you aware of that you couldn’t see?
4. What did you do? Why did you do it? What didn’t you do? Why didn’t you do it?
5. What was routine? What surprised you?
6. What did you learn? What might you do differently next time? What can we learn as an organization? What might we do differently?

**ORGANIZING FOR HIGH RELIABILITY-TYPE QUESTIONS**

The five hallmarks of High Reliability Organizations (HRO) can also be used to help structure or frame a facilitated dialogue. Generally, these questions should be reserved for cases in which the people involved with the incident are already familiar with the HRO traits and understand the principles. To base the dialogue on HRO traits, ask each participant what happened before the incident and what was learned about the organization after the accident, with regard to each of the traits. The core of the dialogue is getting an answer to the question, “What did you (or we) learn from this event that will move us closer to actualizing each of these traits?” Example questions include:

1. What were we sure that we do not want to misestimate? How well did we do? Did we do a pre-mortem? What were our trigger points and how effective were they?
2. Where was our attention? How did we identify what was going on?
3. What cues were we paying attention to in the environment? Where did we contain small errors before they had big consequences? What surprised us?
4. Who did we listen to? Who did we not listen to?
5. Was this a “brutal audit”? What did we learn about our system, including brittle points where small errors had big consequences? Where do we need to build in more redundancy or more slack? How easily can we bounce back? What does this incident tell us about the environment we work in now?
“Self-reporting of process and rule violations is one of the most important features of an FLA. This is the chief reason why we offer the assurance of ‘no administrative actions.’ When this reporting occurs we know we are approaching the level of trust with our employees necessary to sustain a learning culture.”

Steve Holdsambeck
Branch Chief for Risk Management,
U.S. Forest Service & Chair of the Risk Management Council

---

When Intentional Rule Violation is Not Reckless and Willful Disregard for Human Safety

The FLA Team must remain aware that an intentional violation of a rule or procedure does not equate to reckless or willful disregard for human safety. Most often, a procedural rule violation falls within the category of normal, if not predictable, human performance.

Frequently, when we probe into why a person intentionally violated a rule, we find that the rule was interfering with experienced safe practices. Most often, rule violations are the byproduct of workplace pressures or incentives on employees to increase efficiency. For instance, a firefighter talking to a duty officer on a cell phone while driving to a fire is a commonplace example of an employee knowingly violating a rule in order to achieve an additional measure of efficiency and productivity.

It is our best and brightest employees who learn how and where to be efficient in ways the rule makers never imagined. The gap between procedures and practice should be respected as the evolution of expertise.

From a safety perspective, we must react to knowledge of intentional rule violations with careful appreciation. Information such as this is the lifeblood of safety. Anything that is done to impede the flow of this information will result in less upward reporting.

Understanding the expectation of the employee is critical to discriminate between a normal procedural rule violation on the one hand, and reckless and willful disregard for human safety, on the other. Admissions of procedural rule violations or at-risk behavior must be protected, and even cherished, throughout the FLA process.

---

E. EVENT/ACCIDENT RECONSTRUCTION

The exact process of reconstructing the incident (generally by chronology and key events) will vary. No set procedure is prescribed. The final incident story (or chronology, or narrative) need not be completed until the very end of the process. For the sake of efficiency, however, the FLA Team should build a timeline of events as they go and post all the known times of significant events. It may also be helpful to post a series of flipchart pages together and construct a chronology or timeline of events. Timestamps from photographs and dispatch logs are also helpful for verifying critical times.

F. FINAL FLA CONSIDERATIONS

1. Sensitivity to Admitting Mistakes

The credibility of the FLA depends on open and honest discussion regarding the events, actions, and decisions surrounding the incident. However, when creating the learning product, the FLA Team must make decisions about which details to include. Keep in mind that the purpose of the learning product is organizational learning.
to individuals, leaders, and organizations (including cooperators). Why would people choose to participate if they thought it would result in professional embarrassment?

In addition to making selections about what to include in the public learning product, pay close attention to how those details and ideas are presented. Admitting or “owning” mistakes can be presented in a way that is quite admirable.

2. **Characterize the Accident by Conditions and Chance Conjunctions, not “Causal Factors”**

There is a deliberate effort in the FLA process to avoid labeling human errors, omissions, or other actions (or non-actions) as “causal.” Labeling these findings as “cause” impedes our ability to explain or understand what was experienced in context before the accident. Constructing causal statements inevitably degrades our ability to understand the complex nature of accidents, the role of chance, and the nature of human performance functioning in dynamic environments.

Causal statements inevitably lack context because, for one, context is too complex; and two, because once context is explained you’ll find cause becomes a conclusion that no longer follows from the premise (a non sequitur). Cause isn’t something investigators “find” or “discover.” Cause is always something we create by recreating the event, showing how certain anomalies led to the accident. This leads to the simplistic (and therefore wrong) conclusion that if the people who were dealing directly with the risks just complied with the rules (or complied better), or just paid attention to the right things, the unintended outcome would not have happened.

In reality, however, most of those discrete omissions or actions occur during the course of normal work continuously. They are not anomalies at all. Indeed, those same omissions and actions typically lead directly to successful outcomes and even avert disasters. A chance conjunction of events is almost always the difference between normal success and the rare accident.

Finally, causal statements tend to imply that safety is the responsibility of the people on the front lines facing the risks (“the driver was speeding,” “the faller’s face-cut was too shallow,” “the firefighter lost situational awareness,” etc.). This impedes learning because it faults only one part of the system. However, safety is in the entire system. Practitioners at the “sharp-end” (those workers who directly

---

**If the Delegation Requires You to Determine “Cause”**

If the delegation requires the FLA Team to find cause, determine cause, or identify causal factors in the report, the team should define the word “cause” within the report as “The team’s judgment of the conditions that describe the nature of the accident” including:

- Conditions that create tension between production and protection; and,
- Conditions that collectively permit the chance conjunctions of local triggers and active failures to breach all the barriers and safeguards.

*Adapted from The Human Condition by James Reason*
confront the risks of the workplace) are inheritors of policies, training programs, tools, culture, incentives, etc., that are the responsibility of those managers and administrators at the “blunt-end.”

The FLA learning product should explain the nature of the accident. The key commitment of the FLA Team is that accidents are not caused by anomalous, blundering, or deviant behavior. Accidents are more accurately understood as unexpected combinations of normal performance variability\(^5\) (both human and system performance variability).

3. **Avoid Counterfactual Arguments**

FLA Teams must guard against making counterfactual arguments such as: “If this person had done X, then the outcome would have been Y and the accident would not have occurred.” The FLA is only useful when it learns why people did what they actually did (why it made sense to them at the time), rather than why they did not do something that—in hindsight—others might think they should have. (See Handout C “Watch Outs” on page 34.)

4. **Display Misalignments Between Administrators’ and Employees’ Perspectives**

Many unsafe behaviors are well tolerated and even valued—until there is an accident. Indeed, one of the values of experience is that it teaches us what rules and procedures are important and which ones can be shortcut to increase efficiency or effectiveness.

Once the FLA Team understands how the accident participants made sense of their environment, the team should contrast this understanding with how administrators thought employees would (or should) make sense of the environment. Illuminating the gap between work as imagined by administrators and work as actually accomplished will illuminate substantial and critical organizational vulnerabilities.

Deficiencies in physical ability, knowledge, skill, or leadership competencies may also be uncovered and considered key conditions or risk factors. Once again, in these situations, the focus of the FLA Team is not on the *individual* but on the *system* (the organizational conditions) that enabled people who were underqualified or under-capable to be placed in critical or difficult situations.

G. **TERMINATING A REVIEW**

**SERIOUS CRIMES OR RECKLESS AND WILLFUL DISREGARD FOR HUMAN SAFETY**

During the course of the FLA process, though highly unlikely, it could be discovered that an agency employee acted with a reckless and willful disregard for human safety or committed a serious criminal

---

\(^4\) “Sharp end” refers to the field practitioners who are in direct contact with operational risks. They are the actualizers of a work program designed and organized by those at the “blunt end.” Practitioners at the sharp end are those who make real-time, operational risk management decisions. Those at the blunt end are the supervisors and administrators who are engaged in strategic risk management.

act. For example, say it was discovered that the accident victim was drunk or on illegal drugs at the time of the event, or one employee involved in the accident intentionally tried to hurt another. If such a discovery is made, then the event may no longer be appropriate for a “safety investigation” (FLA). Why? Because the event is no longer considered an “accident.” It’s not that we couldn’t learn from an FLA approach here (What was it in the management climate that allowed the employees’ disagreement to escalate to the point of violence? Why did those involved feel that they had no other choice but violence?). It’s just that the agency’s interest in addressing the behavior may often outweigh the agency’s interest in an open learning approach.

The FLA Team Leader should write a memo to the delegating official stating that the FLA has been terminated and that there may be cause to initiate an administrative or law enforcement investigation. The FLA Team Leader should release all physical evidence (photographs, sketches, PPE or other physical equipment gathered by the FLA Team) to the Agency Administrator. Notes of interviews and other team products should be given to the FLA Lead Facilitator for confidential and secure storage. At this point, the FLA process has terminated and FLA Team members should take no further actions.

By choosing the FLA process, the Agency Administrator and the FLA Team members share a mutual promise to maintain separation between the FLA process and any other sort of disciplinary, administrative, or law enforcement action under agency control. While the FLA Team Leader and the Agency Administrator must have some degree of discretion and flexibility to handle unique situations, including discussions on confidential matters, there must remain a firm firewall between the FLA and any other internal (agency-controlled) process that could use information from the FLA for non-safety related purposes. (See also APPENDIX E: TICKLER LIST OF IN-BRIEFING DISCUSSION ITEMS.)

If an FLA is terminated for the above reasons, team members must not discuss anything they learned during the FLA process with anyone. This includes agency officials performing internal (agency-controlled) administrative or agency-controlled law enforcement actions. To do otherwise would violate the integrity of the process and the implicit agreement within the FLA process. However, at any time, any team member may be required to cooperate with inquiries or investigations from external authorities (not under agency control) such as civil police agencies or officials from the U.S. Department of Justice, the Office of Inspector General, and the Office of Safety and Health Administration.

Once an FLA is terminated, arrangements should be made to notify all involved. This is especially true for people who were interviewed by FLA Team members who will suspect the worst if they are not
quickly contacted to let them know the FLA was terminated. Obviously, you will not be able to discuss details. A simple statement such as “the team found it could not meet the requirements of the delegation and so they terminated the review” may be all that you can say.

**LEARNING PRODUCT COMPLETION**

As soon as practical, the FLA Team should complete a draft of the learning product and those involved in the event should review it. The recommended method for conducting this review is to read the learning product verbally (or with a projector displaying the learning product). Distributing copies of the draft is not recommended but in some cases, may be unavoidable. While the accident victims and others involved don’t have to fully agree with everything in the learning product, they need to know that they had a fair opportunity to correct any errors.

If approved by the delegating authority, the learning product should be distributed appropriately. Wildland fire-related learning products should be posted on the [Wildland Fire Lessons Learned Center](http://www.wildfirelessons.net).

**H. IMPROVING THE PROCESS**

This guide is revised and updated continuously based on lessons learned from users like you (for example, see Appendix B: Lessons and Advice from Years of FLA Experiences). It is helpful for FLA Teams to reconvene (at least with a conference call) and to conduct an After Action Review of their FLA experience. Document any suggestions for improving the process or the guide. Forward these suggestions to: FLA.GUIDE.IMPROVEMENTS@GMAIL.COM.

From your mobile device, scan this link to email suggestions for the guide:

---

**Privacy – A General Rule**

Facilitated Learning Analysis reports must avoid using people’s names and only refer to gender if it is relevant to the incident or meaningful to the story. Using position titles (such as Holding Boss) may be awkward within the story. One acceptable technique is to use fictitious, gender-neutral names such as Terry, Tracy, Lynn, Leslie, etc. If fictitious names are used, ensure the reader understands that they are fictitious—and why.

For some types of incidents such as wildland fires, it is usually appropriate to include a person’s Incident Command System (ICS) position for organizational and command issues to provide context and make sense to the reader. This can be annotated as "DIVS A" or "DIVS Smith" (where “Smith” is fictitious but the person was performing in a Division/Group Supervisor role).
“A Lessons Learned Analysis is not about explaining why those involved in the accident made their decisions. Rather, it is about understanding the conditions surrounding the event so thoroughly that team members begin to believe that they themselves would have made exactly the same decisions! This is the defining moment of clarity. The team has gained the wisdom of knowing that similar conditions in the future will again lead to similar decisions and outcomes. These are the conditions that need to be understood by others who work in similar circumstances.”

Persephone Whelan
FLA Continuous Improvement Team Lead
U.S. Forest Service

Part 5 – Additional Steps for a Complex FLA

Because of the necessary time and expertise, two components of a “Complex” or thorough FLA are generally not featured in a “Basic” FLA: the Lesson Learned Analysis and well developed accident story.

The Lessons Learned Analysis is one of the most powerful tools for mining deeper organizational issues. A Basic FLA focuses almost exclusively on the lessons learned by those involved. The Complex FLA takes this to the next step—to the organizational level—by using the Lesson Learned Analysis process. This process can take several days and requires an FLA Team that has subject-matter experts on both human performance and the specific activity surrounding the event. If no one on the FLA Team is experienced in this process, a Lessons Learned Analysis coach may also be needed.

A. Process for Conducting the Lessons Learned Analysis

The Lesson Learned Analysis begins with a closed-door confidential team dialogue. Expect that this will take at least a few hours, and perhaps a few days, to complete. The task is for the team to achieve the same level situational awareness, belief, and expectation that was held by those involved in the accident—which they had before the accident. The end-state is the insight generated from the dialogue itself. Consensus is not the goal. Tension between individual team member’s perspectives is valuable.

Pick someone on the team to facilitate the dialogue. Typically, the Lead Facilitator is best suited for this role. The facilitator will then guide the team through a discussion of the key decisions and actions running them through the “Five How’s” below. The function of the Five How’s is simply to provoke and frame the discussion on “How?”—until the team is able to reach the level of sensemaking that was shared by those people directly involved in the accident. As Dekker and Pruchnicki write: “Actions that are interpreted as ‘bad decisions’ after an adverse event are, at the same time actions that seem reasonable—or people would not have taken them”.
Through the Lessons Learned Analysis and the use of the Five How’s, the Complex FLA Team will gain the ability to identify, understand, and explain the risks of the situation and the performance-shaping factors surrounding the incident. This is very different than trying to determine the cause. Indeed, this exercise will make it obvious how the label “cause” distracts from understanding the nature of the accident. Most often, the Lessons Learned Analysis will reveal that multiple improbable events were necessary for the accident to occur. A quality Lessons Learned Analysis may conclude simply that we need to learn to think statistically if we are to enhance our odds in future endeavors. In some cases, the best that can come from reviewing an incident is to illuminate conditions where human mistakes are likely, especially where conditions can fool people into misperceiving dangerous situations.

**B. The Five How’s – Sensemaking**

For each key action or decision, the FLA Team will deliberate on the “Five How’s” below.

---

You’ll find that some of these “how’s” do not apply, and some will be redundant. Use those that are helpful and don’t waste time trying to cook-book the process. Every situation is unique.

In the write-up of the Lessons Learned Analysis, summarize the FLA Team’s insight from this dialogue session. Use whatever format for this summary that is deemed appropriate. In some cases, the title of this summary may simply be “How the Accident Happened.”

The intent of this write-up is twofold. First, to explain to the reader how and why the sensemaking occurred in that decisions and actions that seem wrong in hindsight were actually valid or at least legitimate in context at the time. Secondly, to display the FLA Team’s insight on conditions that could lead to another similar unintended outcome. This is as close to a recommendations section as the FLA process allows.

“You usually find is that our workplace systems, protocols, and rules are designed to accommodate optimal employees—not actual employees.”

Randy Draeger
Risk Management Council
U.S. Forest Service
C. STEPS FOR LESSONS LEARNED ANALYSIS

1. Gather the FLA Team members together in a secure, private meeting room.

2. Post around the room the quotes and key bits of information gathered from the interviews. Use tools like flipchart paper and sticky notes. Highlight what the participants learned from this incident for themselves and what they want management or fellow employees to also learn.

3. Discuss useful and interesting quotes. These are the ones that stand out—surprising or potentially troubling statements, or actions that you seemingly cannot empathize with.

4. Identify interesting, odd, and disturbing lessons learned. For each of these, discuss why it took this event or experience to cause this to be a “lesson learned.” Specifically, what were the:
   - Beliefs
   - Perceptions
   - Expectations, and
   - Paradigms that were held before the experience that, in hindsight, the characters now know were either wrong, inaccurate, misleading, or deceptive.

5. Identify and discuss the “key decisions” or “key actions” that the characters made because they held these beliefs, perceptions, expectations, and paradigms. These actions are especially key if the characters or others reading the story would say these decisions/actions were mistakes, errors, or otherwise “bad.”

6. Agree as a team on those key decisions or actions that seem most important. Then, for each of these, deliberate on the 5 How’s—in engaging a dialogue session.

7. From this dialogue session, the FLA Team will be able to write-up the “Lesson Learned Analyses” explaining the sensemaking that occurred before and during the event and in context, why the actions and decisions made sense.

---

Wikipedia Definition of ‘Sensemaking’

Sensemaking is “the ability or attempt to make sense of an ambiguous situation.” More precisely, “sensemaking is the process of creating situational awareness and understanding in situations of high complexity or uncertainty in order to make decisions.

It is “a motivated, continuous effort to understand connections (which can be among people, places, and events) in order to anticipate their trajectories and act effectively.”
“Humans are hardwired to communicate in stories. This is how we make sense of facts. A factual story is in fact more faithful to reality than lists of facts and findings. Moreover, in the FLA process we try to craft a story of the event with enough detail (feelings, smells, emotions, etc.) and context (location, environment, etc.) so that the reader can vicariously experience the event.

Rebekah Fox, PhD
Texas State University

PART 6 – CAPTURING AND SHARING THE STORY

A central feature of the FLA is the “story” of the accident. Effective storytelling is the most powerful teaching tool we have to convey the wisdom and experience gained from living through an incident. The dictionary defines “wisdom” as the ability to think and act utilizing knowledge, experience, understanding, common sense and insight. To effectively impart wisdom, we must share mishaps as well as mastery. Through storytelling, we strive to share the knowledge and wisdom that the participants of the unintended outcome experienced. In this way, storytelling moves Lessons Learned into the vicarious experience of Lessons Lived.

A. FLA STORYTELLING

In an FLA, “the story” should not be confused with fiction or enhancement of facts. An FLA’s story is a factual description of what occurred. The story can be in narrative form or told in first person as if an accident victim was just asked, “tell us what happened.”

Cognitive scientists have shown that humans make sense of, and remember, “facts” by attaching them to narratives (i.e., stories) that give them context and a sensory or emotional association. If given a listing of findings with no story as context, our minds are prone to give these findings relevance by either creating a story or by associating them with a story that is already within our memory. In other words, the lack of the story behind the “facts” will actually lead to a distortion of the facts within our minds. Giving the reader/listener the facts within the context of a memorable story that is true to what actually happened, is the best way to communicate

CRRRAAACK! The unmistakable sound of a tree’s holding wood popping ricocheted off the steep canyon walls early that July 5th afternoon. Shannon instantly recognized the sound. She knew a tree was falling, but where?

Opening lines from the Meadow Creek APA (a Complex FLA).
the meaning and the lessons from the event. Indeed, storytelling is widely recognized by educators as the most effective tool for experiential teaching and leading cultural change within an organization.

Effective FLA stories include sensory details gleaned from interviews and dialogue with the participants to enhance the reader’s vicarious experience. That the characters in the story were hot, thirsty, confused, or angry gives readers anchors upon which to attach themselves emotionally to the event and provides for experiential learning. The emotions and sensory observations of those who lived the event are the sinews holding narrative and facts together—and they make the lessons learned real.

The participants did not expect the outcome that occurred. Persons reading (or hearing) the story should be able to feel (or at least respect) the sense of surprise felt by the participants at the time, and understand why they were expecting something very different. Master storytellers say the most effective stories for learning are told where the ending feels like it is discovered only after it happens.

After a draft of the story is developed, read it aloud to the FLA Team and a few guests (people who have no firsthand knowledge of the event). The setting for this reading should be casual, private, and relaxed. After the reading, each team member and guest should be able to relate a sense of what the accident participants were feeling at the time.

While storytelling is a common talent, story-writing is unnatural for most people accustomed to writing linear narratives. If the FLA Team is struggling on this task, consider bringing in a skilled nonfiction storyteller.

B. DIFFERENT PERSPECTIVES

The story should strive to enable its readers to “walk in the shoes” of the accident’s key players. At a minimum, the story should show how the decisions of the people who were there made sense to them within their social and cultural context, based on information known to them at the time.

It is inevitable in any complex event that the people involved in the accident will have different perspectives and memories of what happened, and how, and why. Often times, the facilitated dialog session will reconcile disparate stories. Occasionally, however, there will remain very different accounts of what happened. Don’t see this as somebody being right and somebody being wrong. Instead, "...respect otherness, difference in accounts about..."
what happened as a value in itself. Diversity of narrative can be seen as an enormous source of resilience in complex systems, not as weakness. The more angles the more there can be to learn.”

Multiple stories are not only acceptable but can add meaning and humanity to the learning product. The task of the FLA Team is not to “figure out what really happened,” but to describe the event from the standpoint of each of the participants.

In the Pole Creek Bucket Extraction FLA, the perspectives of the pilot and the firefighter on the ground were different because what they could see was different, but also because their roles, training and experience led them to interpret what they saw differently. In a way, each participant experienced a different event leading up to the extraction. One of the challenges for the FLA Team was to avoid trying to conclude whose experience and judgment was “right.” Both participants acted according to their experience, training, observations, and perspective.

C. STORYTELLING BASICS: TIPS FOR CREATIVE NONFICTION STORYTELLERS

Most good stories begin with a hook to bring the reader in. Once you give them a reason to turn the page, begin introducing or setting up two elements:

1. **Set up the main character(s) in the story.** Do so without using actual identifying information (not as difficult as it seems). Tell us about the characters. Tell us who these people are: their experiences and backgrounds, and even limited personal family backgrounds and physical traits. Give us enough information so we as readers can relate to (or affiliate ourselves with) the character(s). Be mindful of when and how to get this information out to the reader. Doing a typical written experience “dump” in your final learning product will give your story a traditional, factual learning product feel.

2. **Set up the place.** Give us a good description of the environment where the action will take place. The fact that it was hot or cold, steep, or flat, dusty or damp, may have no relevance to the actual event but these sensory details are necessary if we are to vicariously join the characters in their experience.

The body of a good story generally contains four elements:

1. **Connect the main characters with ‘the place.’** Give the readers the backstory of the event, the setting, how the event has been evolving, etc. If the event was a wildland fire, for example, describe the fire. Tell us how long the fire has been going, how big it is, how many firefighters are working it, how many houses lost, etc. The storyteller needs to give enough information about the environment so the reader can visualize it and meet the characters in that place. The storyteller also needs to share how the characters specifically came to that place. For example, if an accident occurred on Interstate 90, the character shouldn’t just appear driving on an interstate highway. A driver must first decide they need to get work, so he gets into his 1978 Dekker, Cilliers, Hofmeyr. *The Complexity of Failure: Implications of Complexity Theory for Safety Investigations.* Safety Science 49 (2011) p. 944
blue mustang convertible, leaves the top up because it feels chilly this morning, takes the drive-through at McDonalds, gets a coffee—spilling a little bit on the seat—negotiates heavy city traffic and then merges onto Interstate 90 near exit 287, where the traffic is unusually heavy.

The storyteller’s objective here is to anchor the characters to the real world, “the place” that is important to the event.

2. Share the character’s internal voice. What do they want to achieve and why? If present, details like the following are important to capture: What is motivating them to do what they have set out to do? How committed are they? Are they flexible or ambivalent? Are there any differences between their personal goals and their public/outer goals? Are there any differences between what the characters want to do and what they are expected to do?

3. Challenges and obstacles or conflict. With this element, the storyteller completes the portrait of the conditions that influenced the characters’ behaviors. This element builds on the previous two elements to set up the context for sensemaking and decision making. Providing the reader the full context is extraordinarily important. Context is why decisions make sense. The storyteller is providing this to ensure that the reader understands the challenges and obstacles the characters are up against. Also, in all endeavors there are trade-offs between efficiency and thoroughness; there are always goal conflicts. Tell the reader what these are. Let the reader know about time constraints, distances needed to travel, radio problems, interpersonal tensions, shortcuts available, etc. What conditions are capturing most of the characters’ attention?

4. Sensemaking and decision making. The characters have shared with the FLA Team, either in interviews or in the facilitation session, how they came to understand the conditions they faced and then made the decisions they made. This evolution of understanding and perspective needs to be faithfully retold. In this element, the storyteller relates how the decisions made sense within the context of the event. This can be tricky. Remember to never qualify the decisions as good or bad or unfortunate, etc., even though the characters themselves may tell you their decisions were “bad” or “stupid.” These decisions must have seemed reasonable at the time given the conditions the character understood at the time. This does not mean that the storyteller is defending the decisions. Rather, they are only relating how decisions made sense at the time. If the storyteller is having difficulty relating how the decisions made sense in context, have the FLA Team run through the Lessons Learned Analysis exercise as discussed on page 47-50. It is most important to expose what the characters believe is true contrasted with what is actually true.

5. Completing the story. This is the easy part of storytelling: just tell what happened. A really memorable story will make the reader feel the same sense of surprise felt by the characters as
the event unfolded. Include descriptions of the character’s fear, anxiety, confusion, bewilderment, etc., that they have shared with the FLA Team. One tool that has been used many times successfully is to switch the narrative from past to present-tense as the unintended outcome is unfolding. Then, after the unintended outcome occurs and the characters react, the storyteller can go back to past-tense to relate how the characters recovered.

**ONE FINAL NOTE:** there may be a trap here. When we sit down to write, we bring along all the writing tenets we have learned and developed from grade school through college. We are asking you to hold in check those traditional mental models of writing and instead consider the tenets regarding a written story as described in this section. The trap here is you will need to put down your old mental models, utilize the tools outlined in this section, and begin writing. Do not let any structures hinder individual creativity when you start.

The intent of these tips are for you to use them as a quality check against what you have already written. Once you have a solid start, return to this section and review the key elements of basic storytelling and continue to build, polish and strengthen the story. Many successful storytellers just start writing what happened and then they add layers by continuing to develop the story with fact checks, performing read-backs, adding sensory information, checking grammar and spelling, etc.

**D. THE READBACK – STORY VALIDATION**

All of the key individuals involved with the accident should have an opportunity to hear the finalized FLA learning product’s story read out loud by the FLA Team. They should be requested to correct or clarify important details and ensure that their lessons learned are captured correctly. Remember this is their story, not yours. There is high value in participants seeing their thoughts and inputs captured in the learning product. Even emotional or controversial comments can be powerful points of learning—providing they are captured appropriately in the context in which they were offered.

If significant discrepancies surface, there are two different ways to respond. Sometimes the discrepancies can be resolved through further follow-up interviews if the discrepancies are a mistake made by the FLA Team. However, some discrepancies develop due to multiple perspectives, different memories, etc. These discrepancies will need to be captured in the learning product to respect all the
participants’ viewpoints. A word of caution when writing: be very cognizant of the language used to describe these discrepancies and make sure it does not sound judgmental or utilize hindsight bias.

The validation should occur in two phases: first, to those directly involved in the incident; and secondly, to the other participants, supervisors, and administrators. If people are shown a hard copy of the learning product, all copies should be collected afterward to prevent contradictory copies from being circulated.

In some situations, it may be appropriate to bring all persons involved in the incident together for story validation in a facilitated group setting. Use caution with this approach, as strong supervisors may suppress the voices of those who have different perspectives. It is usually preferable to read the story to those directly involved first, then to supervisors and administrators. After corrections are made to the story from both readings, it can then be read to all, led by a strong facilitator in a group setting.
COLLECTING GOOD INFORMATION DURING INTERVIEWS AND SITE VISITS

- Look and listen. Write down sounds, colors and smells when in interviews or site visits. Get personal background information on the main player(s). You’ll need to share some of this in the story to build a relationship between your reader and the characters involved.

- Take photos generously so that you can incorporate them as the story unfolds. Take photos of the scene and also visual reminders that might not be obviously important at the time. Don’t try to preplan which ones you will need ahead of time. You will inevitably miss the ones that are most valuable.

- In interviews or group discussions, ask clarifying questions to ensure that you are tracking their thoughts and feelings accurately. Generally, it’s best to have one person to do most of the asking and then let the other interviewers ask follow-up questions toward the end. This tends to set a flow that helps round out the story by not skipping from one topic to the next.

- Directly after an interview or group discussion, reflect with the FLA Team and highlight key information, themes, and quotes. This will help everyone listen for themes in proceeding interviews.

- Seek out storytelling critical elements (empathy pathways) that you’ll need to weave into the story:\8
  - The difference between what the main player(s) believes is true and what is actually true.
  - The difference between what the main player(s) wants to do and what she/he is expected to do.
  - The difference between the main player(s) inner goals and his/her external goals.

Working with an FLA Team

- Have one person write the story; don’t divide it up between team members. This gives the writer space and the freedom to choose a voice, be creative, and to use common themes or visualizations throughout the story. Give them time to write without micromanaging.

- Be careful about the pitfalls of editing as a group. The team should be consulted for major decisions like scope, character development, and tone—but be wary about editing at the sentence-level as a group. This can be a waste of time. Save sentence polishing for the final, final, final draft.

Writing the Story

- Start strong. The first sentence or paragraph sets the tone and either captures the audience or doesn’t.

- Describe the smells, tastes, sounds experienced. The reader must know what the main player(s) were feeling and what was causing these feelings! Use adjectives. Use a thesaurus!

- Capture quotes. Some participants are very expressive speakers. Their quotes can add a lot of flavor to a story. They can initiate metaphors or similes that can be stretched throughout a paragraph or story. Be careful, however, to not limit your perspective to just that of these expressive speakers.

- Don’t be concerned about capturing all the details. A story in an FLA is not an exhaustive learning product. Focus on events, perspectives and feelings that have the most significance.

- Read the story aloud to the team to see if it “sounds” good. Ensure you have covered the storytelling critical elements (above).

“Experience is the cruelest teacher. She gives you the exam first, then the lesson later.”
Attributed to Albert Einstein, Vern Law, and others

PART 7 - COMPLETING THE COMPLEX FLA LEARNING PRODUCT

A. THE SUMMARY

The summary section needs to be sufficiently thorough to give the reader context behind the accident. At a minimum, it should include a synopsis of the accident and an overview of the conditions that supported assumptions, expectations, and actions taken. Consider making note of the combinations of events and conditions that surprised the participants involved. Give proper attention to the foreseeability and likelihood of accident triggers in the time and space necessary for them to have their effect.

The summary section also provides an overview of the lessons learned, especially lessons that the participants believe need to be learned by the agency. Avoid summarizing the lessons learned as this will raise the question over why some lessons learned were included in the summary and some were not.

B. RECOMMENDATIONS

Recommendations are often problematic. Importantly, there is no U.S. Forest Service policy or regulatory requirement that accident investigations, or FLAs, etc., contain recommendations. As mentioned above, an accident is a single data point; be very wary of recommending systemic or organizational changes based on that single point of data. There may be no way to predict some of the unintended consequences of a particular system or organization change. In other words, how can you know whether the system or organization will be “better” or “worse” as a result of the changes you recommend?

If the Delegating Authority requests documented recommendations then a Learning Review must also be authorized. Separate “safety alert” type issuances are perfectly appropriate to give notice of a dangerous process or deficient material.

C. EXAMPLE

The following example illustrates how a Complex FLA learning product links the Lessons Learned, the Lessons Learned Analysis and the Summary. In this example, the Story section of the learning product describes a serious accident that occurred when an engine captain was driving a vehicle with an under-inflated tire that became overheated and blew out, resulting in losing control of the vehicle. With protection from administrative actions, the employee admits that, although he had been told periodically to check the tire pressure, he never takes the time to do so.
A Lesson Learned by a person directly involved in the accident:

“Under-inflated tires can be deadly! I will, from now on, regularly check the air pressure in my tires.”

A Lesson Learned for management from someone directly involved with the accident:

“Some employees do not know how dangerous it can be to drive with an under-inflated tire. I had to learn the hard way. Management should ensure that we all understand the importance of checking tire pressures.”

A Lessons Learned Analysis provided by the FLA Team:

**Key Conditions Related to Risk:**

- The unit recently began using pooled vehicles rather than assigning vehicles to individuals.

- Those interviewed reported that maintenance deficiencies (including over- and under-inflated tires, low oil levels, bad shocks, worn wiper blades, etc.) are now common among pooled vehicles.

- Unit vehicles are considered to have low reliability and unit members generally seem to have accepted this as normal.

- Rules such as requiring all unit members to perform all maintenance checks on vehicles are generally known but not enforced.

- Most of the employees on the unit believe that routine maintenance on vehicles is everyone’s responsibility—but not the responsibility of anyone in particular.

- The person actually involved in the accident rarely checks the tire pressure or performs any maintenance on fleet vehicles.

- There is no record of the tires ever being checked but it is likely the tires were last checked at the last oil change, approximately 11 months and 14,000 miles prior to the accident.

- According to the manufacturer, tires such as those on the vehicle involved in the accident can experience bead separation at 290 degrees, resulting in catastrophic failure. This temperature threshold can be reached after moderate driving at highway speeds when the cold tire pressure is less than 8 lbs.
Key Conditions Shaping Workplace Performance:

- Management and employees have become accustomed to—have normalized and accepted—driving vehicles that lack regular or standard maintenance. There is a general and pervasive sense that vehicle maintenance is nobody’s responsibility and that the related safety concerns are minimal. While the maintenance policy exists in writing, there is no administrative or social pressure to maintain vehicles.

The Summary section could state:

Through the lens of hindsight, we know that **NOT** checking tire pressure regularly is a very risky behavior. In a culture where this behavior is accepted, the risks associated with the behavior become normalized. Once normalized, the risks are no longer managed. Instead, they become routine and ignored or treated as unavoidable risks.

A key workplace condition that supported the decisions and perceptions of risk involved in this accident is that the unit has no process in place to enforce (or provide the social or administrative incentives to comply with) the existing rules requiring regular and routine maintenance of all vehicles.

D. LEARNING PRODUCT APPROVAL AND PUBLICATION

Upon final completion, the FLA learning product is presented for comments and recommendations to the delegating Agency Administrator and other officials chosen by the administrator.

The Deer Park Fire FLA (http://www.wildfirelessons.net/viewdocument/?DocumentKey=a8af6cd0-8365-4a13-ae56-c7069f52a9fc) report relays the story of a serious accident and then another accident which occurred during the rescue operation.
The FLA Team Leader, the FLA facilitator, and the Agency Administrator should work together to resolve any items of dispute pertaining to the learning product. While it is important to distribute the learning product as quickly as possible, the integrity of the process is most important.

Throughout the FLA process, the FLA Team should be communicating the key points of its analysis with the Agency Administrator in a spirit of full disclosure to prevent any “last-minute” surprises. However, in the unlikely event of an irreconcilable dispute between the Agency Administrator and the FLA Team Leader, the learning product should be withheld from publication.

Under no circumstance should the FLA learning product be changed or redacted without the explicit approval of the FLA Team Leader.

If other agencies are involved in the accident (for instance, cooperator personnel were injured or were associated with the event), coordination should occur with those agencies prior to the release of the FLA learning product.

As soon as possible, the learning product should be posted on safety and lessons learned websites. The FLA Team Leader should work with the Regional Safety Advisor or Fire Operations Risk Manager to post appropriately. Wildland fire-related learning products should be posted on the Wildland Fire Lessons Learned Center website: http://www.wildfirelessons.net/.
PART 8 – LEARNING REVIEW

There are events or outcomes that may provide occasion for a team or agency administer to want to dig deeper than the FLA process provides. A Learning Review provides that deeper look and an avenue to provide recommendations through the use of focus groups and additional perspectives.

At this point in the process, a formal briefing is scheduled with the delegating official. The purpose behind the briefing is to decide whether to publish the FLA as is, or to continue on and invest in a deeper dive utilizing the Learning Review process. The delegating official needs to understand that the Learning Review process is a significant investment and requires a willingness on the part of the delegating official to convene and chair a Learning Review Board.

If the delegating official decides they want recommendations and authorizes a Learning Review, then the Learning Review process is initiated. The official should make a request to the Branch Chief for Risk Management Council who will work in concert with the Director of Occupational Safety & Health to appoint a Learning Review Process Coach to work with the FLA team. This Process Coach will help the FLA team to capture relevant information needed to develop recommendations, brief focus groups, and develop a safety action plan.
A. THE LEARNING REVIEW

Analysis is the go-to method for gaining understanding in the western world. It involves breaking things down into components and then trying to figure out which component is broken. This has proven to be a very useful method, especially with respect to machines. It has been so successful, that we are tempted to start viewing everything as if it were a machine. For example, a computer (a type of machine) has been used as a metaphor to describe the brain on a regular and recurring basis. The problem with that analogy is that we cannot get computers to do what human brains can do—despite incredible amounts invested in the study of artificial intelligence. If you treat the brain as a machine without taking into account its non-machine-like properties, your efforts to repair it could end up killing it. You can’t just carve up the brain and separate it into component parts, examine each part, then put it back together and expect it to work again. Life is an emergent property that cannot be fully examined through analysis.

The Learning Review (LR) is less concerned about why this particular event happened and is perhaps more interested in how this one event fits in with the system of work. The LR tries to determine whether this accident was an anomaly or whether this event was spurred by conditions that have implications to the overall system of work. The LR asks questions such as: “Are our policies keeping up with a changing system of work?” “Is our organization sending mixed messages to field-going personnel?” “Do our employees face goal conflicts of which management is unaware?”

It is most efficient if the FLA team knows there will be an LR in conjunction with the FLA early on. This way, an LR Process Coach can ensure the FLA team has the skills and depth to gather the data needed by the LR in order to involve relevant specialists and focus groups. Because recommendations and a safety action plan will be a product of the LR some the conditions discovered in the FLA may need substantial analysis.

Some data from the FLA process deserves direct analysis. For example, if a failed mechanical component is found, such as an aircraft engine, the team engaged in data collection may send the component to the manufacturer for a teardown analysis. The FLA will discuss the physical problem with the part. During the LR, there could be a deeper collaboration between the manufacturer, who understands the component in depth, and agency personnel, who have knowledge of how the component was used and maintained or additional context.

The Learning Review may include the addition of academic and professional subject-matter experts as an option to support the Learning Review process. For example, humans learn and adapt and are never fully predictable. Thus, specialists in social science, ergonomics, psychology, adult learning, or any other specialty field may be needed to provide input to the Learning Review process.
B. EXAMINING MECHANICAL, ERGONOMIC AND STRUCTURAL FAILURES

The separation of the FLA from the Learning Review allows those involved to select the strategy that best fits the information obtained. The shift between information gathering and Analysis and Sensemaking should be a collaborative decision between the FLA Team Leader, the Learning Review Process Coach, the Lead Facilitator, and the FLA Process Coach.

For the purpose of this guide, “analysis” is applicable only to objective information and is conducted to assess mechanical, ergonomic, and structural failures. It follows an engineering-based model, which is dedicated to problem-solving using quantitative data. This process is based on empirical or objective data and will result in specific answers or solutions to the problems discovered during the FLA process.

This type of analysis usually results in the creation of additional barriers. Barriers may either be tangible (physical or mechanical) or intangible (rules, regulations, policies, and procedures). Barrier development is often associated with the probability of an event occurring and the potential consequence (or severity) of that event. Barriers serve two functions: to prevent the incident from occurring or to mitigate the results once the event has occurred. As an example, a seatbelt cannot prevent an accident; however, it can lessen the severity of the outcome. Barriers can also make systems and work more complex, so their development and introduction should be vetted through those closest to the work that they will affect.

Barriers have been shown to be effective in simple and complicated systems. Therefore, barriers may be appropriate in cases where analysis can successfully provide answers to problems. Complex systems are non-linear by definition, and barriers have proven to be less effective in social (complex) situations. The Learning Review process is predicated on the assumption that sensemaking and identification of influences within the system will be a much more effective means of improving accident rates.

---

Bureaucracies typically respond to accidents with barriers. Often the barriers have come about through recommendations after accidents. Many of these barriers have not been particularly effective for reducing future accidents, especially as they relate to human factors (complex systems). Barriers often have created additional, unintended outcomes in the system. Examples of such barriers are checklists, regulations, policies, and procedures—many of which only apply to the accident that just happened and have little or no relevance to future operations.

---

9 Ergonomics is an applied science concerned with designing and arranging things people use to help ensure that the people and things interact most efficiently and safely.
C. LEARNING REVIEW PROCESS

The following provides a general guide to the Learning Review process. However, it should be noted that this is not intended to be the only way that a Learning Review can be conducted. The LR Process Coach, the Director of Occupational Safety and Health and the Branch Chief for Risk Management will work together to guide the process based on a number of factors and needs. Ultimately, the data should drive the process and LR Teams should adjust/develop the LR process to meet the needs of the incident.

1. BUILDING THE LEARNING REVIEW TEAM

There are two different scenarios in which a Learning Team may be constructed. The first example is when an FLA Team is first assembled, and the Agency Administrator is confident they want recommendations. The FLA Team will be assigned a Process Coach who is familiar with the FLA and the Learning Review processes. At the conclusion of the Complex FLA, the Process Coach will take the lead facilitating the focus groups and determining the need for academics. Members of the FLA Team will be needed to assist with sensemaking for the focus groups, logistics of assembling the focus groups, note-taking, and assembling additional context for the recommendations vetted by the communities of practice.

The second scenario is when the Complex FLA has concluded, the Agency Administrator determines a need for recommendations and the Learning Review process is initiated. If the assigned FLA Process Coach is not familiar with the LR, a Learning Review Process Coach will work with the FLA Process Coach and the FLA Team to construct a team to go through the LR process. Again, team members will be needed to assist with sensemaking, logistics, note-taking and writing.

There is no exact formula for team composition for a Learning Review. Much of the positions mirror those needed for an FLA. At a minimum, the LR Team should be composed of members of the FLA Team and a Process Coach. The LR Process Coach will determine the size and make-up of the LR Team based on the complexity of the incident being reviewed.

The Process Coach is an asset for the FLA Team Leader and the FLA Lead Facilitator. The coach can help with a variety of tasks including, but not limited to, the following: organizing the academic review, establishing and facilitating focus groups, reviewing documents, compiling focus group information, writing sections of documents, and generally providing guidance and suggestions about the Learning Review process.

The LR Team will rely on focus group sessions to make sense of what was learned in the FLA. In the past we relied on investigation team members to draw conclusions based on the information they acquired during the investigation. This approach did not recognize the limitations of such a small team. The Learning Review acknowledges the limitations of small teams and understands the value of including multiple perspectives. This shares the load of learning from the event by including expertise that would otherwise go untapped. Focus groups are a recognized way of including new ideas, viewpoints, and knowledge from sources outside the team.
Once the team has been assembled and has created the Story, supplemental complex narratives and mapped the conditions; the event has been viewed from an organizational perspective; and academic specialists have provided a fresh outsider’s perspective; it is time to develop learning products, and if warranted, recommendations. Any recommendations developed by the Learning Review Team will be vetted through the communities of practice affected by the recommendation. Once the communities of practice have vetted and agreed to the recommendations, the Learning Review Team will prepare a presentation for the Learning Review Board.

2. PREPARING TO HOLD THE FIRST FOCUS GROUP

Review the narrative and the products from the FLA (e.g. the Report, Lessons Learned Analysis, Conditions of Influences Map) as a team. Determine what type of subject-matter experts (SMEs) and academic specialists might be useful in the LR process.

There is no recipe for establishing focus groups that apply to all events. Multiple focus groups may be required based on the complexity of the event and what is learned from each focus group. For example, initial SMEs may indicate the need for a focus group that represents organizational leadership, senior fire leaders, or technical specialists (e.g., Fire Behavior Analysts, Incident Meteorologists, Forest Staff Specialists, Information Technology Specialists, Fire Ecologists). Each focus group provides additional perspectives and information about the system of work.

Dialogue can be used to determine how the key decision and action points are interconnected and interrelated. This may result in the identification of additional areas of inquiry, a task that is normally assigned to the Learning Review Team. The recognition of adaptive responses or innovations and human limitations will help to identify the type of additional synthesis needed; a process that is normally conducted through focus groups. Delving into the real-world pressures, rewards, and cultural influences may seem to distract reviewers from the actual incident. However, by design, the process allows the actions and decisions made during the event to be placed in the context of the work system. Recommendations will, therefore, become relevant to the entire work system rather than limited to accident-specific conditions, which may never occur again.

3. USING ACADEMIC REVIEW

The external subject-matter experts’ participation in the dialogue will contribute to the development of a more robust image of what occurred. Just as a traditional investigation will order metallurgical tests on a failed mechanism, the Learning Review Team can request that any of these products be prepared by an outside source to support the Learning Review. Academic specialists can add yet another lens or perspective that will enhance the ability to be self-reflective as an organization and thereby learn from the event.

With the deeper picture generated by the story / complex narrative, an enhanced network of influences map will emerge that shows the relationships between people and their work environment (e.g., conditions and constraints present and people’s reactions). Providing this information to the academics selected by the LR Team will provide a more neutral (outside) view of organizational operations.
PART 9 – LEARNING REVIEW BOARD

The culmination of the Learning Review process is the Learning Review Board. A Learning Review Board will be conducted anytime the delegating official wants formal recommendations as an outcome of the accident review process.

If the Learning Review is part of a Coordinated Response Protocol (CRP) response, the Learning Review Board will follow the structure outlined in the CRP Guide. For all other Learning Reviews, the delegating official has broad latitude in creating the board. Successful Learning Review Boards encompass a broad range of experience and diverse backgrounds as a means of shedding light on potential problems with proposed recommendations. Learning Review Boards can also be viewed as a structured means of fostering conversations between the delegating official and his or her staff. If the delegating official is a District Ranger, the board would likely consist of trusted members of his or her staff. If the delegating official is a Forest Supervisor, the board would likely be composed of trusted members from his or her Forest Leadership Team. That being said, the delegating official is encouraged to bring in outside expertise (a peer from another unit or an SME) that has a strong background in an applicable field if they feel it is necessary. The board is chaired by the delegating official or their designee.

Once the FLA Story, supplemental narratives, the network of influences map, the sensemaking document, and the proposed recommendations from the Focus Groups are completed, a Learning Review Board is convened. The board is given access to the items previously identified. The board then has an opportunity to provide input and feedback on what the team has created. Once the Learning Review Board approves the learning products and recommendations, the learning products are sent to a member of the Risk Management Council to be posted, and the recommendations are organized into a Safety Action Plan that the delegating official takes ownership of and is responsible for following up on to ensure the recommendations are carried out and implemented. The Safety Action Plan describes the recommendation(s), assigns each to a person or body to be responsible for carrying it out, and provides a deadline of when each is to be accomplished.

A. LEARNING REVIEW PRODUCTS

This process recognizes the need for multiple products intentionally designed for specific audiences who may have very different needs and ways of learning from the event. Individuals within the organization face and manage risks and hazards in real time and have less influence regarding rules, regulations, policy, and procedure than senior leaders. Senior leaders have a great deal of influence and must be prepared with information so that they can exert that influence in the most productive manner. This necessitates the creation of at least two products: the Organizational Learning product (for leadership) and the Field Learning Product (for field personnel).
### Learning Review Product Summary Table

<table>
<thead>
<tr>
<th>Organizational and Field Learning Product Development</th>
<th>Organizational Learning products will be created by the LR Team. The team will create an Organizational Learning Review report designed to explore the key issues that emerged during the study and should be directed toward identifying the <strong>systemic conditions</strong> that leadership can change to reduce risk and improve the likelihood of success in the field.</th>
<th>Field Learning products will be designed to facilitate the ability of field personnel to experience the incident through any combination of scenario-based or tabletop exercises, mockups, multimedia presentations or narratives, dialogues, etc. This is designed to facilitate field learning and improved situational awareness.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommendations</td>
<td>Recommendations will be vetted through the LR Process Coach, FLA Team Leader, and especially the communities of practice affected by the recommendations (including training personnel, as appropriate). Vetting will be complete prior to submission to the Learning Review Board.</td>
<td><strong>Field Learning Products:</strong> The team will create or recommend the creation of learning product(s). These can be in any variety of formats designed to create dialogue. These products will be created in cooperation with the community of practice most closely involved in the incident or most affected by the product(s).</td>
</tr>
<tr>
<td>Organizational and Field Actions and Expectations</td>
<td>Organizational: The organization will create a Safety Action Plan designed to approve and fund recommendations emerging from the LR.</td>
<td>Field personnel: Field personnel are empowered and encouraged to learn from the event and to share how they will implement what they have learned.</td>
</tr>
<tr>
<td>Report to the Regulator (e.g., NTSB, OSHA)</td>
<td>Dependent upon the nature of the incident, the LR Process Coach will form a team to define cause to meet regulatory requirements.</td>
<td>Commonly regulatory reports are part of a public docket (e.g., the NTSB accident data base).</td>
</tr>
</tbody>
</table>
B. ORGANIZATIONAL AND FIELD LEARNING

Safety is created both by the organization, through preparation and guidance, and by the field at the point of work. It is this partnership that should be enhanced through learning products.

Organizational and field learning should be recognized as a legitimate “corrective action” following an event. Learning and understanding the complexity of the everyday work that was at play in the event is a part of creating safety, recognizing brittleness, and creating resilience in the workplace. For this reason, field-learning products may be the only recommendation required to meet the goal of prevention through learning.

C. ORGANIZATIONAL LEARNING PRODUCT

Organizational learning is traditionally presented as a written report directed to answer the specific needs of the organization in terms of understanding the organizational, structural, systemic, and cultural contributors to the event. Organizational products are designed toward audiences who are policymakers or at higher levels. Products should help these individuals to understand the gap between “work as imagined” and “work as performed.”

Organizational interventions can be accomplished by changing the conditions under which people work. For example, by reconciling regulatory conflicts, developing work improvements and sharing them with wider audiences, addressing “workarounds” that are not consistent with organizational goals or values, or by recognizing goal conflicts and resolving them where possible. Organizational interventions should avoid quick fixes or knee-jerk reactions; they should be well thought out and vetted through the community of practice before recommendations are made to the Learning Review Board.

Additional organizational learning objectives should describe systemic weaknesses that require administrative or leadership/management-level intervention. Some of these may include both the positive and negative aspects of the following:

- Understanding the differences between the organization and/or leadership’s espoused values (what we say we want) and values in practice (the perceived goals). This is often based on what the organization and leadership measure, reward, and punish.
- The value of individual performance diversity, or adaptation, and its contribution to this event. We have to understand that adaptation is necessary to meet the challenges of dynamic or complex environments. No set of guidance can fully anticipate all the potential scenarios that our workforce will face. Therefore, they will have to adapt to meet the unexpected.
- How did accountability function before the event, in terms of peer, hierarchical, upward, and self-accountability?
- Structural incongruities or inconsistencies around rules, regulations, policies and procedures. For example, did the rules make sense, could they be followed, or were they in conflict with other rules, regulations, or guidance?
- Was there confusion in roles and responsibilities?
Were there indications of practical drift (the unintentional adaptation of routine behaviors from written procedure) or cultural pressures that were inconsistent with espoused values of the organization?

Were there structural inconsistencies around communication of decisions down through the organization, feedback up through the organization, and communication across the organization?

Were communications clear? How did the message sent compare with the message received?

How did the design of the system contribute to the event (e.g., tools, equipment, tasks, work load, and capacity)?

The nature of the physical environment and how it contributed to the event (including shop/workspace design, ergonomics, weather, etc.).

a. **Field Learning Product**

Field learning is focused on the ways that safety can be improved and created by employees at the ground or field level. Products at this level are designed for employees at the district or field offices. It is critical that learning products directed toward the field present the narrative in a way that facilitates the ability of field personnel to make sense of the incident. This does not mean that the narrative should be oversimplified or presented from a single point-of-view. Our employees are very capable of understanding the complexities of our operations. They are immersed in operations almost every day. Complex interactions should be explored from all available perspectives and our personnel should be encouraged to draw their own conclusions. This is the definition of “sensemaking” and goes beyond simple causality.

Lessons should be emphasized emotively through dialogue, experientially through simulation, or by engaging the readers in personal reflection regarding their own experiences.

The team should not feel limited to conventional written reports; they should consider creative tools such as high-tech graphics and multimedia presentations. Modern methods of communication such as smartphones and iPads should also be considered in order to enhance learning opportunities and reach a larger audience.

This product should inspire rich dialogue by asking the reader/viewer to reflect and make sense of the event. This can be accomplished by asking questions related to the Learning Review narrative that can be addressed individually or in groups. These questions can be as simple as: “What part of this narrative can you relate to and how might this change the way you view this type of scenario?” or “What could you do (or do you do) to identify or prevent this kind of event from occurring where you work?”

Development of these questions should reflect the latest science related to adult learning.
b. **RECOMMENDATIONS**

Recommendations that require administrative or field action may be created as a result of a Learning Review. Some of these may be small ways to recognize how to improve work and learn on the fly, while others may be systemic improvements. These recommendations should emerge during the Learning Review process and should enhance the system in terms of prevention, resilience, or corrections/ revisions to existing rules, regulations, policies, or procedures. When recommendations are warranted, they will be created in conjunction with the field by engaging subject-matter experts. It is required that recommendations be circulated through representatives of the community of practice (commonly through focus groups), the Branch Chief for Risk Management, and the Director of Occupational Safety & Health—prior to the Learning Review Board. The result of this process should be to enhance recommendations to ensure they are reasonable and are consistent with existing research.

Recommendations will be presented to the Learning Review Board. The board will then create a Safety Action Plan (SAP). The SAP will designate who is responsible for completing the recommendation(s). Those responsible for the completion of an action item listed on the SAP should be consulted prior to committing any resource to an action item or recommendation. This is designed to avoid unnecessary requests for extensions.

c. **FREEDOM OF INFORMATION ACT REVIEW**

When the learning product is in the final draft stage, coordinate with the Director of Occupational Safety to obtain the name of the Freedom of Information Act (FOIA) representative for the FOIA review. This should be done with enough time to allow a full FOIA review prior to the Learning Review Board. The intent is that the learning product delivered to the Learning Review Board will be final and releasable once approved by the board. The goal is to create an un-redacted learning product to the Learning Review Board.

d. **REPORT TO REGULATOR**

When a causal statement is required by a regulator who has agency oversight, this causal statement will be crafted at the end of the Learning Review. The following personnel will collaborate to draft any causal statements required by regulators:

- Risk Management Council Representative (commonly an experienced Learning Review Coordinator)
- Learning Review Process Coach
- FLA Team Leader
- Regional Occupational Health and Safety Manager
- Community of Practice Representative (advisory member)
- FLA/Learning Review Team Members (as required)
- Technical/Research Specialist (academic or subject-matter specialist, as required)
PART 10 – APPENDICES

APPENDIX A: IS AN FLA THE RIGHT TOOL?

Five Questions for the Agency Administrator

Determining if an FLA is the appropriate investigative tool requires the Agency Administrator to gather sufficient information to answer the following five questions:

1. Isn’t a Serious Accident Investigation required by policy?

This is no longer the case for the U.S. Forest Service. This is now handled through the Coordinated Response Protocol. Even within the CRP process, the Chief may choose from among several processes (including the FLA process) to execute the investigation. The Chief’s Office may also choose to investigate any other type of accident (Reference FSM 6731.1 and FSH 6709.12 section 34.1). Implementing an FLA does not change the accident reporting requirements (Reference FSM 6732 and local policies if applicable).

If the accident is interagency in nature (involving personnel from more than one agency or jurisdiction), the authorizing Memorandum of Understanding between the agencies may stipulate investigative requirements. Nothing in the Interagency Standards for Fire and Aviation Operations (the “Red Book”) precludes any agency from utilizing the FLA process.

2. Is litigation against an employee or the agency likely as a result of the accident?

If the answer to this question is “Yes,” the Agency Administrator should consider a confidential administrative investigation. An FLA investigation is inappropriate under the threat of a criminal or civil action.

3. Is there evidence that an act of reckless and willful disregard for human safety directly contributed to the accident?

If the answer to this question is “Yes,” the Agency Administrator should consider an administrative or law enforcement investigation. If the FLA Team uncovers an act of reckless and willful disregard for human safety, the team may not be able to sustain the trust and confidence of other accident participants—knowing that disciplinary action is likely. (A reckless and willful disregard for human safety is conduct that is intentional, unjustifiable, and occurred with the foreknowledge that the conduct was likely to result in serious harm, death, or injury to a human. See the shaded box on page 42.) Moreover, one of the chief benefits of an FLA is to hold the agency accountable for designing safe systems and managing human reliability. If an employee harms another employee intentionally, that employee is responsible and an FLA is likely the wrong response. FLAs are for the vast majority of events in which good people, doing what they thought made sense at the time, ended up in an unexpected situation.
4. **Is the Agency Administrator committed to disseminating the lessons learned in a public report?**

   The answer to this question must be “Yes.” The learning product documents an unintended outcome. Some information in the learning product may make you feel uncomfortable. This is exactly what is needed in a learning culture. Members at all levels need to see that leaders are reflecting on their experiences and standing up to share what they learned from accidents and close calls to help prevent future accidents.

5. **Is the Agency Administrator committed to “learning” rather than “punishing”?**

   The answer to this question must be “Yes.” This “learning” concept is central to the FLA philosophy and process. If punishment is intended, in whatever form, the FLA process should be dropped. The FLA’s overriding purpose is always individual and organizational learning. Therefore, if learning is the more important goal, an FLA is the appropriate vehicle. The learning that will result from this constructive process will far outweigh any perceived benefit that might be derived from punishing individuals for making errors, mistakes, or violating rules.

The FLA process can be used in almost any type of unintended outcome, including aviation incidents such as the [Davies Creek Ridge FLA](http://www.wildfirelessons.net/viewdocument/?DocumentKey=c64e08ee-4fa2-448b-a51d-42dc2f9bfb6) in 2011.
APPENDIX B: LESSONS AND ADVICE FROM YEARS OF FLA EXPERIENCES

The following are Lessons Learned shared by teams over the past 8 years of implementing FLAs.

1. Choose the Local Liaison Wisely and Put the Liaison to Work Quickly.

The more traumatic the incident the more urgent is the need to heed this advice. In the days, hours, and seconds following an accident the people involved relive the incident over and over. They wonder what they could have done or said that would have changed the outcome and they also ponder what they might have done wrong that contributed to the outcome. As soon as practical, the FLA Team Leader needs to work with the Agency Administrator to assign a trusted FLA Team liaison(s) to the local unit.

The duty of the liaison is to meet personally with those involved and explain the FLA process, what it is that the FLA Team will do, and what is the outcome of an FLA review. Most importantly the liaison needs to explain that the FLA process is predicated on a Just Culture. The liaison should also coordinate with the FLA Team Leader to line up interviews, site visits, and other actions to make the expectations of those involved consistent with the FLA philosophy. Usually, the best liaison is someone known and trusted by the people who were directly involved in the event.

2. Build the Team and Align Team Values.

Make sure that everyone reads the FLA Guide. Once together, invest the time early on in the process to get to know each other and build team cohesion and trust. Plan for this to take at least a couple of hours. HANDOUT A: UNDERSTANDING THE WORK IN A JUST CULTURE (ON PAGE 18), has proven to be very valuable to teams when they discuss each of the points, one-by-one, in a respectful dialogue.

3. Lay Out the Road Map and Adjust as Needed.

The Lead Facilitator should lay out a schedule so everyone knows where they are in the process and what is planned next. Don’t just tell team members to “trust the process.” People want to know where they are and what is going to happen next—and know they are making progress. Obviously, the schedule needs to be flexible and might be adjusted daily.

4. Debrief with the Team Every Evening.

The Lead Facilitator should schedule a time at the end of each day to give each team member time to share what they did, what they learned, and even how they are feeling about the process. This is the time to share what was heard during interviews.

5. Stay Together.

Keep the team physically together until you have a solid draft. Letting people go home and trying to complete the learning product by emails and conference calls will inevitably add problematic delays.

6. Don’t Skimp on Peer Participation (this is CRITICAL).

Ensure that peers are part of the team. The importance of having people on the team that are “peers” to the people involved in the unintended outcome cannot be overstated. Don’t try to save money or minimize the footprint of the team by cutting these positions.
APPENDIX C: DELEGATION OF AUTHORITY FOR A BASIC FLA

Delegations of Authority should be negotiated between the team and the administrator.

File code: 6730

Route to:

Subject: Delegation of Authority

To: (Facilitated Learning Analysis Team Leader)

I have chosen to utilize the Facilitate Learning Analysis Process to fulfill my responsibility to

Choose one:

Investigate the (accident name), or,

Review the (event name).

This delegation formalizes your appointment as Team Leader for the Facilitated Learning Analysis Team.

As Team Leader, you have the full authority of my office to execute and complete an FLA. To the extent reasonable, follow the procedures displayed in the 2016 Facilitated Learning Analysis Implementation Guide. You are scheduled to in-brief with my staff and me on (date and location).

___________ will be your logistical coordinator and my liaison to you. Please contact him/her at (phone number) to discuss your logistical support needs.

___________ will be your team’s coach. I expect you to consult with her/him frequently to ensure you and your team are benefiting from the mentor’s experience in FLAs. Please contact your coach at _________ as soon as practical.

You are expected to produce the 72-hour (or Preliminary Accident Briefing) report and the final report as soon as practicable.

Based on the situation as I know it now, this event does not warrant a Complex FLA with a Lessons Learned Analysis or accident story. Therefore, I expect you will limit your team accordingly and complete this FLA promptly. Please contact me immediately if you learn of information that would warrant significantly adding to the complexity of this FLA thus changing it to a Complex FLA.

I expect you to terminate this investigation if you uncover information that leads you to believe this accident resulted from a reckless and willful disregard for human safety. I respect that the information you collect from interviews will remain confidential even in this instance. I also agree that no punitive actions will be taken by the Forest Service against any employee as a result of information provided to any member of your team. Please ensure participants understand that
actions taken by civil authorities, or other agencies, are outside of my authority. I will contact you periodically for an update on your progress.

Your authority includes, but is not limited to:

- Controlling, organizing, managing, and directing the analysis.

Add other direction as appropriate such as:

- Include a peer or other FLA Team member from the other agencies that were involved in this accident.
- Examine specific conditions and influences (cultural, organizational, systemic as well as environmental) that may have affected the outcome.
- Your examination should consider an objective look at our organization and procedures. I am willing to hear the hard truths that may result from this examination.
- Provide me your recommendation verbally at the conclusion of this FLA. If you believe it is appropriate to add a recommendation section in the report, please consult with me in advance.

- Controlling and managing the confidentiality of the process.
- Protecting and managing the integrity of evidence collected.
- Authorizing and requesting additional personnel, including technical specialists, to support the FLA Team, and releasing them upon completion of assigned duties.
- Authorizing and coordinating the expenditure funds.
- Coordinating all media releases about the investigation.
- Issuance of Safety Alerts, if warranted, in coordination with__________, the Regional Safety Manager, cell number:__________.

All travel, equipment, and salary costs related to this investigation should be charged to [job code] with an override code of____.

For additional information, please contact me at__________.

/s/ ________________________ Agency Administrator
APPENDIX D: DELEGATION OF AUTHORITY FOR A COMPLEX FLA

Delegations of Authority should be negotiated between the team and the administrator.

File code: 6730

Route to:

Subject: Delegation of Authority

To: (Facilitated Learning Analysis Team Leader)

I have chosen to utilize the Facilitate Learning Analysis Process to fulfill my responsibility to

Choose one:
Investigate the (accident name), or,
Review the (event name).

This memorandum formalizes your appointment as Team Leader for the Facilitated Learning Analysis Team.

As Team Leader, you have the full authority of my office to execute and complete a thorough Facilitated Learning Analysis. To the extent reasonable, follow the procedures displayed in the 2016 Facilitated Learning Analysis Implementation Guide. The focus is how the events leading up to this accident made sense at the time to those involved. You are scheduled to in-brief with my staff and me on (date and location). ___ will be your logistical coordinator and my liaison to you. Please contact him/her at (phone number) to discuss your logistical support needs.

___________ will be your team’s mentor and coach. I expect you to consult with her/him frequently to ensure you and your team is benefiting from his/her experience in Complex FLAs. Please contact your mentor/coach at _____ as soon as practical.

You are expected to produce the 72-hour (or Preliminary Accident Briefing) report and the final learning product as soon as practicable.

Based on the situation as I know it, I am expecting you to complete a Complex FLA learning product including a Lesson Learned Analysis and an Accident Story. Please prepare your team accordingly.

I expect you to terminate this effort if you uncover information that leads you to believe this accident resulted from a reckless and willful disregard for human safety. I respect that the information you collect from interviews will remain confidential even in this instance. I also agree that no punitive actions will be taken by the Forest Service against any employee as a result of information provided to any member of your team. Please ensure participants understand that actions taken by civil authorities, or other agencies, are outside of my authority. I will contact you periodically for an update on your progress.
I expect you to interview all participants in this event, including the Agency Administrator. Your authority includes, but is not limited to:

- Controlling, organizing, managing, and directing the analysis.

Add other direction as appropriate such as:

- Include a peer or other FLA Team member from the other agencies that were involved in this accident.
- Examine specific conditions and influences (cultural, organizational, systemic as well as environmental) that may have affected the outcome.
- Your examination should include an objective look at our organization and procedures. I am willing to hear the hard truths that may result from this examination.
- Provide me your recommendation verbally at the conclusion of this FLA. If you believe it is appropriate to add a recommendation section in the report, please consult with me in advance.

- Controlling and managing the confidentiality of the process.
- Protecting and managing the integrity of evidence collected.
- Authorizing and requesting additional personnel, including technical specialists, to support the FLA Team, and releasing them upon completion of assigned duties.
- Authorizing and coordinating the expenditure funds.
- Coordinating all media releases about the FLA.
- Issuance of Safety Alerts, if warranted, in coordination with__________, the Regional Safety Manager, cell number:__________.

All travel, equipment, and salary costs related to this investigation should be charged to [job code] with an override code of__.

For additional information, please contact me at:__________.

/s/_____________________________Agency Administrator
APPENDIX E: TICKLER LIST OF IN-BRIEFING DISCUSSION ITEMS

If the unit is represented by the union, ensure union representation is present at the in-briefing.

[Note: points in italics are generally relevant only to Complex FLAs.]

1. Why an FLA?
   a. This event was unexpected. Unexpected outcomes are disturbing to our organizational and personal security. The suffering of our employees and their families from accidents are unacceptable to us. If there is something we can change so that it never happens again, we are ethically and morally compelled to do so.
   b. We’ve learned the hard way that how we react to any accident will either shift us toward, or away from, a learning culture. The FLA process, as demonstrated and refined by years of implementation and experience, will move us toward a learning culture.
   c. We knew there was a chance of this type of accident happening. It may have been a surprise but it probably wasn’t outside of the range of what we felt could happen. The FLA learning product will show how our employees made sense of their situations and reveal the workplace systems and conditions that made such sensemaking reasonable and perhaps even inevitable. With this information, management can make system adjustments that should enhance performance and reliability in the future.
   d. All accidents are required by OSHA and by U.S. Forest Service policy to be “investigated” and all escaped prescribed burns are to be reviewed per Forest Service policy. This FLA shall constitute an investigation/review and fulfill that requirement.
   e. The FLA learning product will tell the story of the event in a way that gives others across the country a vicarious experience of the accident. It is hoped this experience will be a “portal” experience leading to a greater awareness of risks and safety. (Leader: consider discussing the meaning and value of portals.)

2. The Process the FLA will Follow
   a. The FLA Team will gather background information such as timelines, maps, dispatch records, photographs, and information from conversations with those involved. This enables the team to piece together all the “facts” and to create a timeline of the accident story and an outline of key events. Concurrently, team members will work closely with those most directly involved with the accident to understand what they believed happened and how the decisions and actions leading up to the event made sense at the time.
   b. Using the FLA’s Lessons Learned Analysis process, the FLA Team will examine and interpret the workplace conditions and other factors that led to the sensemaking that occurred before and during the accident. Lessons learned by those directly involved will be featured in this analysis, preferably in their own words.
   c. A draft of the learning product will be read in a confidential setting to the key characters involved with the incident. A vetting process will occur between the FLA Team and the key
characters until there is agreement on the factuality of the learning product and that their perspectives have been adequately captured.

d. A draft of the learning product will be then be submitted to the Agency Administrator. If requested, this draft will include recommendations that the team believes will enhance risk management in the future. Any changes to the draft document will be negotiated between the Agency Administrator, the FLA Team leader, and facilitator.

e. As soon as the FLA learning product is accepted, it will be posted on appropriate websites for widespread distribution and learning.

f. Other steps or items this particular FLA may include:

____________________________________________________________________________________
____________________________________________________________________________________

3. What the FLA Team Needs from the Agency Administrator

a. Assurance of no administrative actions against any employee involved in this FLA.
   (Leader: consider discussing what administrative actions mean from the employee’s perspective.)

b. A commitment to comment on and approve the learning product promptly.

c. Support for the FLA Team with regard to facilities, logistics, making employees available, etc. Immediate logistical needs include:

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

4. Expectations

a. FLA Team members will be absolutely confidential in all deliberations and conversations.

b. If the FLA Team discovers a willful and reckless disregard for human safety (for example, “the crew was smoking dope”), the FLA will be terminated and the team will leave. The background and details of the discovery will remain confidential. (Leader: consider discussing the meaning of a “willful and reckless disregard for human safety” or reading the text box on page 42.)

c. The draft learning product should be completed by about __/__/____.

5. The Desired End State

a. The employees and their colleagues better understand not only what happened but why the choices made leading up to the accident made sense at the time, in the context of the event.

b. Employees see that their supervisors can be trusted (at least in this incidence) to react to an accident in a way intended to build trust and a learning culture.
c. Administrators and employees have a document that will be helpful for use in future operational training, safety training, or risk management. This document may also be useful to other units for these purposes across the country.

d. The accident investigation policy requirement is completed with the acceptance of the FLA learning product. The Agency Administrator may choose to implement the recommendations— or not.

SUMMARY

“Risk Management” and even “Safety” can be somewhat obscure and indefinite goals, especially in the aftermath of an accident. A tangible goal, however, is simply to be better than we were before.

One of the traits of HROs is a preoccupation with failure. This isn’t negative thinking, it is intelligent wariness. As Karl Weick wrote, “If eternal vigilance is the price of liberty, then chronic unease is the price of safety.” We know that we cannot make our workplace free from all potential or even recognized hazards. Intentional exposure to hazards is, in fact, a hallmark of emergency response. But we can exploit the value of accidents and close calls by focusing on learning from our mistakes and continuously improving how we discern, interpret, and manage risks.
**APPENDIX F: DOI AND USFS MEMORANDUM OF UNDERSTANDING ON SERIOUS ACCIDENT PROCESS**

**Selection Table for DOI/USFS Serious Accident Investigation Type**

This table outlines how we select the type of investigation that will be used for serious accidents (fire and non-fire) involving the DOI and the USFS. In order to meet the original intent of the 1995 Interagency MOU, when either the DOI Serious Accident Investigation (SAI) or the USFS Coordinated Response Protocol (CRP) are used, the other agency will provide a representative to the SAI or CRP team.

[See definition of terms that appear in this table on next page.]

<table>
<thead>
<tr>
<th>Agency Affiliation of Victim(s)</th>
<th>Agency with Operational Control</th>
<th>Agency Jurisdiction</th>
<th>Investigation Type</th>
<th>Team Lead</th>
<th>Deputy or Representative</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOI</td>
<td>DOI</td>
<td>DOI</td>
<td>DOI SAI</td>
<td>DOI Team Lead</td>
<td>DOI Team Lead USFS Interagency Rep</td>
</tr>
<tr>
<td>USFS</td>
<td>USFS</td>
<td>USFS</td>
<td>USFS CRP</td>
<td>USFS Team Lead</td>
<td>DOI Interagency Rep</td>
</tr>
<tr>
<td>DOI</td>
<td>USFS</td>
<td>USFS</td>
<td>DOI SAI</td>
<td>DOI Team Lead</td>
<td>USFS Deputy</td>
</tr>
<tr>
<td>DOI</td>
<td>DOI</td>
<td>USFS</td>
<td>DOI SAI</td>
<td>DOI Team Lead</td>
<td>USFS Deputy</td>
</tr>
<tr>
<td>USFS</td>
<td>DOI</td>
<td>DOI</td>
<td>USFS CRP+DOI MER**</td>
<td>USFS Team Lead</td>
<td>DOI Deputy</td>
</tr>
<tr>
<td>USFS</td>
<td>USFS</td>
<td>DOI*</td>
<td>USFS CRP</td>
<td>USFS Team Lead</td>
<td>DOI Interagency Rep</td>
</tr>
<tr>
<td>Both DOI and USFS</td>
<td>DOI or USFS</td>
<td>DOI</td>
<td>DOI SAI</td>
<td>DOI Team Lead</td>
<td>USFS Deputy</td>
</tr>
<tr>
<td>Both DOI and USFS</td>
<td>DOI or USFS</td>
<td>USFS</td>
<td>USFS CRP+DOI MER**</td>
<td>USFS Team Lead</td>
<td>DOI Deputy</td>
</tr>
<tr>
<td>DOI or USFS</td>
<td>Non-federal</td>
<td>Non-federal</td>
<td>DOI SAI or USFS CRP based on agency of victim</td>
<td>DOI Lead if SAI, USFS Lead if CRP</td>
<td>Non-fed agency Rep</td>
</tr>
<tr>
<td>Non-federal</td>
<td>DOI of USFS</td>
<td>DOI of USFS</td>
<td>DOI SAI or USFS CRP based on agency jurisdiction</td>
<td>DOI lead if SAI, USFS lead if CRP</td>
<td>Non-fed agency Rep</td>
</tr>
</tbody>
</table>
*This will require DOI approval to go outside of Departmental Manual 485 with no DOI Sal response on DOI jurisdiction lands.

**DOI MER will require an expanded investigation team to ensure SAI-MER components are captured and completed.

**Definition of Terms**

**Agency Jurisdiction** – Land ownership.

**Management Evaluation Report (MER)** – The internal report from the DOI SAI process that identifies causes, recommendation, and other SAI Team conclusions and observations and from which a Corrective Action Plan (CAP) is developed.

**Operational Control** – The lead agency who has on-site operational supervision and control.

**Serious Accident** – An unplanned event or series of events that resulted in death, injury, occupational illness, or damage to or loss of equipment or property that result in:

- One or more fatalities;
- Three or more personnel who are inpatient hospitalized;
- Property or equipment damage of $250,000 or more (for DOI only); and/or
- Consequences that the Designated Agency Safety and Health Official (DASHO) judges to warrant Serious Accident Investigation.

**Note 1**: Non-federal agencies may have agency-specific processes that may require coordination for investigation process interface/integration with respective DOI or USFS delegating officials.

**Note 2**: If necessary and appropriate, joint Accident Review Boards (ARB) may be convened to review and approve accident reports.

**Note 3**: Any situation that may occur that is not covered in the selection table above will be resolved jointly by the DOI bureau DASHO and the USFS DASHO prior to issuance of the Delegation of Authority letter.
Now What?

Part 1: How to Use This Discussion Aid

- This discussion aid is intended for the Agency Administrator (AA) receiving notification of an unintended, or otherwise noteworthy, event. It assumes the AA is committed to “learning” rather than “punishing.”
- This guide is intended to be used as a discussion tool and not as a decision tree. Due to the complex and unique nature of these events, it is vital to establish and maintain communication between yourself, those directly affected by the event, your peers, leadership, and the cadre of FLA coaches available to you.
- Don’t get hung up on the names of the processes. They are waypoints along a continuum. Your learning aid will likely have elements of more than one. For detailed descriptions of each process, see the most recent FLA Guide and/or Learning Review Guide.
- Utilize the following questions to guide a discussion. In Part 3, mark your answers to the questions along the spectrums provided. Use this information to help determine the most appropriate learning method to utilize, as well as to guide the development of the delegation that may be required (FLA/LR).

Part 2: Responding to the Initial Notification

1. How are you doing?
   Upon receiving notification, your first priority is to inquire about the wellbeing of those involved and the potential of the situation to continue to produce harm. This includes questions such as:
   - Is anyone hurt?
   - Are people out of harm’s way now?
   - Give me a sense of what happened?
   - What else do I need to know?
   - What do you suggest as a next step?
   - Are they being attended to and do they need my help? (FULL STOP IF THEY DO.)

2. What Happened?
   Beginning the learning process requires you to build an initial understanding of what happened. We emphasize initial, because your understanding will change as data comes in. You should revisit this guide to reassess how best to learn from the event as new information comes in and matures.
   Utilize the following questions to initiate discussion:
   - Give me a sense of what happened?
   - What else do I need to know?

Now, take what you have learned from these discussions and apply it to the mapping aid on the next page. Again, this should be a discussion between you, those directly involved, your peers, your leadership, process coaches, and others.
## Part 3: Use the Following Questions to Guide Discussion

<table>
<thead>
<tr>
<th>AAR</th>
<th>Rapid Lesson Sharing</th>
<th>Basic FLA</th>
<th>Complex FLA</th>
<th>Learning Review</th>
</tr>
</thead>
</table>

1. **At what level should the Delegation of Authority be signed?**
   - The closer the inquiry gets to the AA the tougher it is for hard truths to surface and remain in the learning product.

2. **How surprising was the event?**
   - Notice: We are NOT asking how serious the outcome was. Serious outcomes can yield little learning and close calls can be treasures of learning. Outcome is NOT a reliable indicator of the potential learning.

3. **Will bringing in outsiders for a fresh perspective aid in learning from this event?**
   - An outsider is more apt to find and present *hard truths* that insiders can’t/won’t see.
   - Many FLAs uncover high levels of *complexity* that off-unit teams can help negotiate.

4. **Will we require Subject-Matter Experts (SMEs) to learn from this event?**
   - SMEs provide valuable insight into the many highly specialized jobs we do (i.e. blasting, tree felling, etc.).

5. **What is the potential to learn from this event and how widely applicable is the learning?**

6. **Given the answers to the above questions, what level of resources (time, money and people) are you willing to commit to learning from this event?**

   - **Time**
     - None
     - Hours
     - Days
     - Weeks
     - Months
     - As Long as it Takes

   - **People and Money**
     - None
     - As Many/Much as it Takes
<table>
<thead>
<tr>
<th><strong>Part 4: What Can I Expect Out of Each Learning Aid?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AFTER ACTION REVIEW (AAR)</strong></td>
</tr>
<tr>
<td><strong>OBJECTIVE</strong></td>
</tr>
<tr>
<td>- Rapid reflection performed by those involved.</td>
</tr>
<tr>
<td>- Focus on sustaining strengths and improving weaknesses.</td>
</tr>
<tr>
<td><strong>OUTPUTS</strong></td>
</tr>
<tr>
<td>- Discussion among those involved.</td>
</tr>
<tr>
<td>- Typically unwritten.</td>
</tr>
<tr>
<td>- May be shared verbally.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>RAPID LESSON SHARING (RLS) / eSAFETY STORY/SAFETY REVIEW</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
</tr>
<tr>
<td>- Rapid reflection performed by those involved to highlight learning that can be shared.</td>
</tr>
<tr>
<td><strong>OUTPUTS</strong></td>
</tr>
<tr>
<td>- Brief written learning product or other communication medium (e.g. video, etc.).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>BASIC FLA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
</tr>
<tr>
<td>- To simply capture the information about an event with enough detail to provide a picture of the incident so that the reader (or listener) can determine (on their own) why the actions made sense.</td>
</tr>
<tr>
<td><strong>OUTPUTS</strong></td>
</tr>
<tr>
<td>- A written report: summary, narrative or chronology, lessons learned by those involved, recommendations optional.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>COMPLEX FLA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
</tr>
<tr>
<td>- To describe what happened and show how the decisions and choices made by the people involved made sense. The story must make the accident make sense, so that the reader can vicariously learn the lessons others had to learn the hard way.</td>
</tr>
<tr>
<td>- To daylight the important workplace and human performance conditions that were influential in sensemaking at the time. It should also show the perception “Gap” between work as imagined and work as enacted.</td>
</tr>
<tr>
<td><strong>OUTPUTS</strong></td>
</tr>
<tr>
<td>- The product (report or video, etc.) should be in a format conducive to widespread agency learning. Contents: executive summary, accident story, lessons learned by those involved, lessons learned analysis, summary, appendices, recommendations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>LEARNING REVIEW</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
</tr>
<tr>
<td>- To develop an understanding of what influenced the decisions and actions made in the field, which could reveal “hard truths”.</td>
</tr>
<tr>
<td>- Conditions shape decisions and actions. Revealing these conditions will aid the agency and agency personnel in understanding how to recognize, change and react to conditional pressures.</td>
</tr>
<tr>
<td>- To reduce bias. While bias will never be completely removed from any review, every effort should be made to reduce it.</td>
</tr>
<tr>
<td><strong>OUTPUTS</strong></td>
</tr>
<tr>
<td>- Multiple products intentionally designed for specific audiences (field/individual and organizational at the least) who may have very different needs and ways of learning from the event.</td>
</tr>
<tr>
<td>- Presentation mediums should be carefully selected to ensure they are the most compatible format for the expected audience.</td>
</tr>
</tbody>
</table>
APPENDIX H: RECOMMENDED DATA COLLECTION AND REPORTING STANDARDS FOR ENTRAPMENTS THAT INVOLVE A BURNOVER

The following table is derived from Joint Fire Science Program Project 18-S-01-1. This report was an assessment of research needs related to wildland firefighter safety published in April 2019 by Jolly, Butler, Freeborn and Page through the Missoula Fire Sciences Laboratory. This table is the recommended data collection and reporting standards for the relevant fire environment variables associated with firefighter entrapments that involve a burnover. It is suggested that the measurements be made at or immediately adjacent to the burnover location.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fuels</strong></td>
<td></td>
</tr>
<tr>
<td>Fuel type</td>
<td>Fuel type should be reported based on the 6 broad categories described by Scott and Burgan (2005). If live fuels are involved, provide a brief description of the species and any unique characteristics (e.g. dead material in crown or fuel age).</td>
</tr>
<tr>
<td>Fuel height</td>
<td>Estimated height of vegetation that was burning in or immediately adjacent to the entrapment area.</td>
</tr>
<tr>
<td>Dead fuel moisture</td>
<td>Estimated or measured moisture content of dead surface fuels, preferably reported as % of oven-dry weight. Include estimates for all applicable size classes (i.e. fine fuels or larger).</td>
</tr>
<tr>
<td>Live fuel moisture</td>
<td>Estimated or measured live fuel moisture, preferably reported as % of oven-dry weight.</td>
</tr>
<tr>
<td>How fuel variables were assessed</td>
<td>Description of methods used to estimate or measure the reported fuel characteristics.</td>
</tr>
<tr>
<td><strong>Weather</strong></td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>Estimated or recorded air temperature at/near entrapment site prior to the burnover. The value should reflect the air temperature that is not influenced by the fire and should be reported at a time that is as close to the entrapment time as feasible.</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>Estimated or recorded relative humidity at/near entrapment site prior to the burnover. The value should reflect the relative humidity that is not influenced by the fire and should be reported at a time that is as close to the entrapment time as feasible.</td>
</tr>
<tr>
<td>Wind speed</td>
<td>Temporally averaged wind speed that was recorded or estimated at/near entrapment site prior to burnover. Include averaging period (i.e. 5 or 10 min.) and applicable</td>
</tr>
<tr>
<td>Factor</td>
<td>Comments</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>reference height and exposure (e.g. in-stand eye-level or 6 m open). Measurement should be free of influence from the fire. See Andrews (2012) for an in-depth discussion.</td>
<td>Wind direction Temporally averaged wind direction that was recorded or estimated at/near entrapment site prior to burnover. Include averaging period (i.e. 5 or 10 min.) and applicable reference height and exposure (i.e. eye-level or 6 m). Measurement should be free of influence from the fire. See Andrews (2012) for an in-depth discussion.</td>
</tr>
<tr>
<td>Description of methods used to estimate or measure the weather characteristics, including models or websites used and weather station location and name.</td>
<td>Measurement source/quality</td>
</tr>
<tr>
<td>Topography</td>
<td></td>
</tr>
<tr>
<td>Slope steepness</td>
<td>Slope steepness at the entrapment site and measurement method. Consider reporting slope steepness measured upwind from the entrapment site if it is significantly different.</td>
</tr>
<tr>
<td>Terrain description</td>
<td>Provide brief description of the dominate terrain characteristics around the entrapment location, including descriptions of terrain shape (e.g. canyons).</td>
</tr>
<tr>
<td>Refuge Area</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Provide latitude and longitude of entrapment location(s) as reported by a Global Positioning System.</td>
</tr>
<tr>
<td>Physical dimensions</td>
<td>Include a sketch or diagram of the entrapment area that contains locations of personnel and equipment as well as distances.</td>
</tr>
<tr>
<td>Separation distance between firefighters and flame zone</td>
<td>Distance between firefighters and flame zone during the burnover.</td>
</tr>
<tr>
<td>Escape Route(s)</td>
<td></td>
</tr>
<tr>
<td>Travel route(s) of firefighters</td>
<td>Travel route followed by firefighters from work area to entrapment area. Preferably shown on a map or as a GPS track with photos of trail quality.</td>
</tr>
<tr>
<td>Factor</td>
<td>Comments</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Fire Behavior</strong></td>
<td></td>
</tr>
<tr>
<td>Rate of spread</td>
<td>Observed or estimated spread rate of fire at the time of the entrapment.</td>
</tr>
<tr>
<td>Flame length / height</td>
<td>Observed or estimated flame characteristics at the time of the entrapment.</td>
</tr>
<tr>
<td>How estimates were obtained</td>
<td>Details associated with how fire behavior estimates were either measured or modelled. If fire behavior was measured, include appropriate details.</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
</tr>
<tr>
<td>Approximate date and time of burnover</td>
<td>Date and time that the entrapment occurred, including time zone.</td>
</tr>
<tr>
<td>Equipment involved</td>
<td>Description of any equipment involved and their location within the entrapment area. Include details associated with the use of the equipment as a shield or accessories such as fire curtains.</td>
</tr>
<tr>
<td>Photographic evidence</td>
<td>Photographs of entrapment location. Consider the use of high resolution ground or aerial-based laser ranging (LIDAR) equipment to capture 3-D point clouds of entrapment location and surrounding area. See Loudermilk et al. (2009) for examples.</td>
</tr>
</tbody>
</table>
### APPENDIX I: RESTORATIVE JUSTICE CHECKLIST

**RESTORATIVE JUST CULTURE CHECKLIST**

Restorative Just Culture aims to repair trust and relationships damaged after an incident. It allows all parties to discuss how they have been affected, and collaboratively decide what should be done to repair the harm.

#### WHO IS HURT?

<table>
<thead>
<tr>
<th>Acknowledged:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
</tr>
</tbody>
</table>

- **Have you acknowledged how the following parties have been hurt:**
  - **First victim(s)** — patients, passengers, colleagues, consumers, clients
  - **Second victim(s)** — the practitioner(s) involved in the incident
  - **Organization(s)** — may have suffered reputational or other harm
  - **Community** — who witnessed or were affected by the incident
  - **Others** — please specify: ................................................

#### WHAT DO THEY NEED?

<table>
<thead>
<tr>
<th>Explored:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
</tr>
</tbody>
</table>

- **Have you collaboratively explored the needs arising from harms done:**
  - **First victim(s)** — information, access, restitution, reassurance of prevention
  - **Second victim(s)** — psychological first aid, compassion, reinstatement
  - **Organization(s)** — information, leverage for change, reputational repair
  - **Community** — information about incident and aftermath, reassurance
  - **Others** — please specify: ................................................

#### WHOSE OBLIGATION IS IT TO MEET THE NEED?

<table>
<thead>
<tr>
<th>Identified:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
</tr>
</tbody>
</table>

- **Have you explored the needs arising from the harms above:**
  - **First victim(s)** — tell their story and willing to participate in restorative process
  - **Second victim(s)** — willing to tell truth, express remorse, contribute to learning
  - **Organization(s)** — willing to participate, offered help, explored systemic fixes
  - **Community** — willing to participate in restorative process and forgiveness
  - **Others** — please specify: ................................................

#### READY TO FORGIVE?

- **Forgiveness is not a simple act, but a process between people:**
  - **Confession** — telling the truth of what happened and disclosing own role in it
  - **Remorse** — expressing regret for harms caused and how to put things right
  - **Forgiveness** — moving beyond event, reinvesting in trust and future together

#### ACHIEVED GOALS OF RESTORATIVE JUSTICE?

<table>
<thead>
<tr>
<th>Achieved:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
</tr>
</tbody>
</table>

- **Your response is restorative if you have:**
  - **Moral engagement** — engaged parties in considering the right thing to do now
  - **Emotional healing** — helped cope with guilt, humiliation; offered empathy
  - **Reintegrating practitioner** — done what is needed to get person back in job
  - **Organizational learning** — explored and addressed systemic causes of harm

---

Public Domain. By Professor Sidney Dekker—Griffith University, Delft University and Art of Work. sidneydekker.com
BACKGROUND OF RESTORATIVE JUSTICE

**Restorative Just Culture asks:**
- Who is hurt?
- What do they need?
- Whose obligation is that?

Accountability is forward-looking. Together, you explore what needs to be done and who should do it. An account is something you tell and learn from.

**Retributive Just Culture asks:**
- What rule is broken?
- How bad is the breach?
- What should consequences be?

Accountability is backward-looking, finding the person to blame and imposing proportional sanctions. An account is something you settle or pay.

WHY AVOID RETRIBUTIVE JUST CULTURE?

A retributive just culture can turn into a blunt HR or managerial instrument to get rid of people. It plays out between ‘offender’ and employer—excluding voices of first victims, colleagues, community. A retributive just culture is linked with hiding incidents and an unwillingness to report and learn. The more powerful people are in an organization, the more ‘just’ they find their retributive just culture. A retributive response doesn’t identify systemic contributions to the incident, thus inviting repetition.

GUIDANCE FOR USE OF RESTORATIVE JUST CULTURE CHECKLIST

On the checklist, mark where you think you are, like so:

| X | or so: |

HURTS, NEEDS AND OBLIGATIONS

An incident causes (potential) hurts or harms. This creates needs in the parties harmed. These needs produce obligations for the (other) parties involved. Restorative justice allows parties to discuss their hurts, their needs and the resulting obligations together. Incidents don’t just harm their (first) victim(s). They also (potentially) harm the second victim, supervisors, the organization, colleagues, bystanders, families, regulatory relationships and the surrounding community. All these parties have different needs arising from the harms caused to them. The checklist allows you to trace the harmed parties, their needs, and the obligations on them/others.

FORGIVENESS

 Forgiveness is not a simple act of one person to another. Forgiveness is a relational process that involves truth-telling, repentance and the repair of trust. It takes time. Trust is easy to break and hard to fix. Some first victims may be unwilling or unable to forgive. Second victims can also have difficulty forgiving themselves. Parties need to have patience and compassion, and may end up going separate ways.

GOALS OF RESTORATIVE JUSTICE

- **Moral engagement** can mean accepting appropriate responsibility for what happened, recognizing the seriousness of harms caused, and humanizing the people involved. Incidents can overwhelm an organization (e.g., a legal, reputational, financial, managerial issue). It is easy to forget that it is also a moral issue: What is the right thing to do?
- **Emotional healing** aims to deal with feelings such as grief, resentment, humiliation, guilt and shame. It is a basis for repairing trust and relationships.
- **Reintegrating** the practitioner expresses the trust and confidence that the incident is about more than just the individual. Expensive lessons can disappear from the organization if the practitioner is not helped back into the job, and letting them go tends to obstruct the three other goals. If you fire someone, what have you fixed?
- Restorative justice is better geared toward **addressing the causes** of harm because it goes beyond the individual practitioner and invites a range of stories and voices. Forward-looking accountability is about avoiding blame, and instead fixing things.

Public Domain. By Professor Sidney Dekker—Griffith University, Delft University and Art of Work. sidneydekker.com
APPENDIX J: REFERENCE MATERIALS FOR TEAM MEMBERS

JUST CULTURE


ACCIDENT, SAFETY AND HUMAN PERFORMANCE


Neal J. Roese and Kathleen D. Vohs, “Hindsight Bias,” *Perspectives on Psychological Science* 7 no. 5 (September 2012), 411-426. Available at: http://pps.sagepub.com/content/7/5/411.abstract


ORGANIZATIONAL LEARNING AND LEARNING CULTURE


RISK MANAGEMENT


DATA COLLECTION AND REPORTING STANDARDS
