Taking Steps Toward Change

Follow-Up to Initial Diagnostic Memo to US Forest Service

June 30, 2008

A. Executive Summary

I. Transforming Cultural DNA

In April 2007 Dialogos presented to the National Leadership Team an analysis of the ways a set of deeper cultural dynamics impacted safety within the Agency. The Diagnostic Memo stressed the need to address safety not only as a problem in itself but also as a symptom of unsafe management practices. We identified several critical, interconnected factors that led to this conclusion. We found that the center had ceded too much power to the Line, leaving unclarity about direction and mission and creating a lack of alignment among leadership. We described the way the organization maintains a "family-based" culture that leads to suppressing openness and a lack of straight talk in the face of difficulty, and we outlined how people tend to respond to pressure by working even harder, instead of by working smarter – that is, not slowing down in order to surface, rethink and transform underlying causes. Finally, we observed that the tendency to proliferate initiatives, while intended to resolve problems, actually tended to fragment attention, limit learning, and dilute focus because of their uncoordinated creation and dissemination.

The deeper problem we identified is embedded in established ways of working—the underlying culture of the organization. This "cultural DNA" consists of a set of shared tacit assumptions about how the world is and ought to be, and determines how people perceive, think, feel and to some degree, act.[1] We believe the Agency has now embarked on a process of cultural transformation, one that is already bearing some fruit, but that requires deliberate and disciplined efforts throughout the organization if it is to be successful and sustainable.

This follow-up to the initial Diagnostic Memo has three purposes: First, it provides an update on the actions that the Agency has taken as a result of the initial findings. These actions aim at transforming the "cultural DNA" that allows for unsafe practices. Second, it outlines what it takes for an organization to successfully transform its culture, and it assesses to what extent these conditions are present in the Agency. Third, it reexamines several deep assumptions about safety. Surfacing and transforming taken-for-granted assumptions are at the core of cultural change, because our thinking and acting is based on them. Some assumptions are so ingrained that they have a mythical quality: they are powerful, yet not necessarily true. We discuss six critical myths about safety, illustrating them with stories from inside and outside of the Forest Service, to help point the way toward the kinds of changes that are required.

[1] See for example, Schein, E. H. (1992) Organizational Culture and Leadership, 2d Ed.. San Francisco: Jossey-Bass.

II. Update on Actions

The Chief, the Executive Leadership Team (ELT), and now the National Leadership Team (NLT) have initiated a series of activities:

First, senior leadership is undertaking a track of work that has aims to produce a shift in the **core leadership alignment** of the Agency. Leadership alignment is an absolutely essential element in any change process, and is a critical first step. Three streams of activities are being pursued:

1. ELT Leadership Development—to improve the quality and level of alignment, communication, and strategic thinking in the ELT itself
2. NLT Restructuring—to create a refocused and smaller deliberative body that is charged with decision-making and that focuses on key strategic issues
3. Extending Leadership Alignment—to improve the quality of communication, reflection, and strategic alignment among Stations and Regional Leadership Teams.

Second is a focus on shifting the **quality of execution and coordinated action**, particularly as it relates to safety. One of the most important ways in which safety is impacted by effective execution (or the lack of it) is in the relationship between the Fire organization and Line leadership when managing a wildland fire. Within this are four streams of activity:

1. Forming a Core Group Leaders – of senior line and fire leaders to provide guidance and coordination around issues of operations, budget, and safety.
2. Mapping Behavioral Dynamics— to understand successes and failures in the interaction between Fire and Aviation Management (F&AM) and Line Officers
3. Building Simulation Practice Fields—to jointly train Fire and Line personnel in a new form of interactive "simulation laboratory"
4. Creating a Common Strategic Approach—to redesign the interaction between F&AM and Line Officers before, during and after wildland fires

III. What Does It Take to Produce Cultural Change?

There are three key conditions for producing cultural change: commitment to operating in a new way; perseverance and learning in the face of difficulty; and distributed responsibility, in which people at every level and location assume responsibility to act in new ways. It is clear that there is deep and widespread commitment in the Agency to address the issues raised in the Diagnostic Memo, and the Agency leadership has begun to follow through with the actions outlined above. However, difficulties persist, as in the implementation of the HR system and in the Transformation effort. This has raised concerns and skepticism. To overcome obstacles that inevitably arise, cultural change requires perseverance. People tend to underestimate the time it takes to change and are therefore disappointed when their initial hopes are not quickly fulfilled. But cultural change becomes visible in the way people think and act—and changing habits and behaviors is no small deed. When everyday action becomes the measure of success, everyone, not just the "leaders," have to take responsibility for changing. One of the tendencies in organizations is to look up to senior leadership to provide direction. This of course is valid, because leadership's backing of the cultural change effort is critical. But

no amount of enthusiastic support by leadership can make the difference if there is not a corresponding shift in everyone.

IV. Resetting the Agency's Safety Culture: Reexamining Myths

Changing culture requires reexamining deeply held assumptions and beliefs—beliefs that have often become elevated to the level of "myth." While these myths tend to have a "ring of truth," they hold up in few cases if at all. Reexamining myths around safety is, therefore, a key step towards improving safety. We identified six safety myths relevant in the Forest Service context:

1. *"People at the top will take care of it"*— People use this myth to distance themselves from responsibility, particularly when there are difficult safety issues afoot. Leaders must lead, but this does not mean silence or abdication is acceptable.
2. *"We don't have enough (or the right) standards to prevent accidents"*— Clarifying and implementing standards is one of the most common reactions to accidents in particular. What matters, however, are using *safe practices* in potentially unsafe situations, and not letting externally generated standards be used to punish, but more to foster learning and commitment to higher performance.
3. *"Large causes are at the root of accidents"*—This myth says it is possible to eliminate accidents by eliminating "major risk" factors. In fact, research shows that it is many small causes that produce accidents. Habituation causes particularly experienced people to overlook these minor deviations.
4. *"Experts have the knowledge we need"*—People often wrongly assume that experts know better. Knowledge is, however, embodied in every employee.
5. *"Things can get continuously better if we work harder to improve*."—People hope that their investment in upgrades will pay off immediately. However, cultural change is a "worse before better" phenomenon where improvements come after a period of patient focus, and so requiring the setting of realistic expectations.
6. *"Only physical safety matters"*—This myth measures success by the number of incidents, not by numbers of people speaking up to prevent incidents. If "psychological safety" were the focus, people would create an atmosphere where everyone feels safe to speak up and is valued for doing so.

V. The Path Forward

Taking the process forward requires a focus on several key principles:

- *Change led by Senior Leadership.* No amount of change in practices and accountability takes place unless there is committed leadership support for a change in behavior. This means the leadership behavior at the top models what is required throughout the system.
- *Numerous, disciplined, front-line continuous improvement efforts.* Small, focused efforts to work smarter, to not just to fix problems, but make improvements, are the engine of transformation.

- *Knowledge immediately shared and standardized across the organization.* An effective organizational learning process very quickly shares new learning that is then immediately adopted by the entire system.
- *Safety practices embedded and integrated in all aspects of work at every level of the organization*. Throughout the organization, safety practices are conducted in the same way everywhere, and improvements are propagated through the system.

Finally change at scale goes in phases: ***I. Mapping the Potential*** –Identifying the ideal; ***II. Leading the Renewal*** – Shifting "muscle memory" around old ways of operating; and ***III. Integrating and Sustaining Delivery*** – Embedding policies and practices that reflect a new orientation.

The Agency is now entering the **Phase II,** where it is prototyping new practices and running experiments around new ways of operating. Many activities along these lines are underway and others are being contemplated.

B. Taking Steps Towards Change

I. Overview: Transforming Cultural DNA

In April 2007, Dialogos presented to the National Leadership Team an analysis of the ways a set of deeper cultural dynamics impacted safety within the Agency. In the report, we identified several critical interconnected factors that led to this conclusion. We found that the center had ceded too much power to the Line, leaving unclarity about direction and mission and creating a lack of alignment among leadership. We described the way the organization maintains a "family-based" culture that also leads to suppressing openness and a lack of straight talk in the face of difficulty, and we outlined how people tend to respond to pressure by working even harder, instead of by working smarter -- that is, not slowing down in order to surface, rethink and transform underlying causes. Finally, we observed that the inclination to proliferate initiatives, while intended to resolve problems, actually tended to fragment attention, limit learning, and dilute focus because of their uncoordinated creation and dissemination. We concluded that together these dynamics constituted a set of unsafe management practices that directly contributed to dangerous conditions on the ground.

We define culture as consisting of a set of shared tacit assumptions about how the world is and ought to be, and determines how people perceive, think, feel and to some degree, act.[1] We see the Agency as having now embarked on an effort to change its culture. Chief Gail Kimbell, in a memo attached to the report, emphasized that the issues it raised were "*not easy for most of us to hear*." She encouraged an Agency-wide discussion, adding that "*our culture creates the results we get; we cannot expect different results until we do the hard work to change it*."

In the months that have followed the report, people throughout the Agency have taken steps to do what the Chief urged. Chief Kimbell's invitation to speak about these issues was itself significant and, in our experience, an unusual move, because it demonstrated the very openness that the report noted had been lacking at times in the Agency. Few leaders promote this kind of candor—and people have taken the Chief at her word. The report appears to have resonated with many people in the Agency and has stimulated widespread discussion and reflection on the issues in it.

In this memo we outline some of the steps Agency leadership has taken over the past several months, including descriptions of two major tracks of work that the ELT has initiated to address the dynamics raised in the report. We also make some further observations about the obstacles to transforming culture, particularly as they relate to safety. We present several stories that reveal safety culture challenges, describing some of the "myths" and beliefs that people hold and, finally, outlining some of the steps individuals and teams must take to overcome these.

One of the most important myths that an organization seriously interested in change must overcome is the idea that its leaders are primarily responsible for producing the necessary changes. While it is true that some decisions lie exclusively in the hands of

[1] See for example,Schein, E. H. (1992) Organizational Culture and Leadership, 2d Ed.. San Francisco: Jossey-Bass.

executive leadership, the conditions that produce safety on the ground relate also to the ways people either reproduce—or transform—the hidden patterns of culture right where they are. In practical terms this means speaking out instead of staying silent; it can mean admitting one does not know instead of resolutely proceeding as if one did; and it can mean choosing to point out problematic behavior in another instead of protecting them from it. People tend only to take these kinds of steps when they feel their leadership will back them if they do—not only senior leadership, but also their own immediate leaders. One of the most high-leverage steps in producing lasting change involves making small improvements: noticing old habits and acting differently. Unleashing the power of an organization involves encouraging hundreds or even thousands of people to make improvements right where they are. When change happens in this way, employees begin to see remarkable results.

Many of the organizations we have worked with and study demonstrate this kind of local, on-the-ground change. Toyota, for example, *implements* (not just receives) over one million employee suggestions each year. Front-line workers guide that company's remarkable continuous improvement process in very real ways. At Whole Foods, teams of employees in different departments (not national managers, as in other food chains) make buying decisions for their local store, yet are subject to the approval and agreement of peer teams around the country. The Forest Service has already many of these same qualities—a deep commitment to the land and to the Agency, and a very strong sense of purpose (despite confusion at times about just what direction in which things are going). In the past few months we have also seen a significant increase in capability to recognize needed changes and make them quickly. We see a new breeze blowing within the Agency now—one that will take time to manifest completely, but that is based on a very deep willingness to make critical changes and maintain a position of leadership and stewardship for the nation's forests.

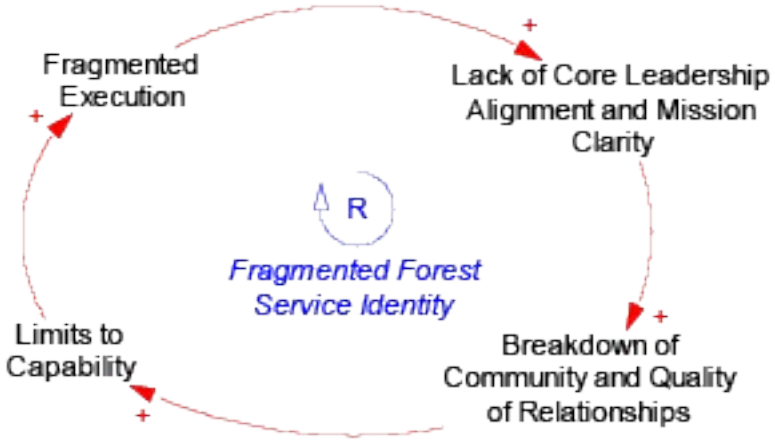
II. Update on Actions

Diagnosis of the Core Dynamic

In our April 2007 report we identified a core "dynamic" that we suggested was at the heart of the challenges facing the Agency. We said:

> *Within the Forest Service—as in every organization—a set of hidden rules or structures dictates the way decisions are made and challenges are met. These are deep assumptions about how to think and how to act. As part of the cultural "DNA" of the Service, these largely unspoken structures must be understood and transformed for changes to be made actionable and sustainable. - Dialogos Diagnostic Memo 2007*

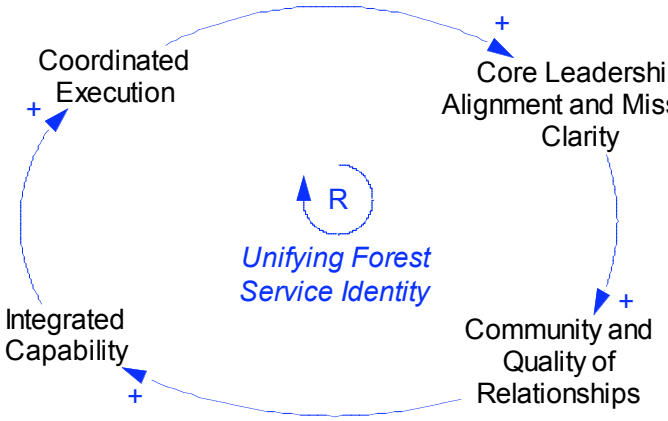
We represented this dynamic as a causal map that indicated four critical variables working together to produce the negative results and symptoms we observed:



- ***Lack of Core Leadership Alignment and Mission Clarity -*** Included in this variable are factors such as lack of clarity around whether this is the "Fire service" or the "Forest Service," uncertainty about who makes decisions (and whether decisions *are* made) and the sense that there are "camps" that do not fully agree, as illustrated by differences in culture and perspective between State and Private, Research and National Forest Service groups. People reported confusion about how to translate the Agency's mission into aligned action on the ground.
- ***Breakdown of Community and Quality of Relationships*** - This has to do with limits to what people will bring out in public; sometimes silence, which is used to mask opposition, rules when difficult issues arise. Open communication around safety matters was seen as inconsistent.
- ***Limits to Capability*** - This refers to Agency employees feeling pressure to work within increasingly greater resource constraints, and seeing real limits on their ability to meet practical needs. There is a trap in this: people work harder and harder to keep up, but when focus is largely on shorter-term internal matters or tactical details, inevitably there is diminished energy to work on strategic issues and find the root causes of trouble. All of this amounts to a sense of a squeeze on resources, not only because of increasing fire costs but also because of inefficiencies in the way people work.
- ***Fragmented Execution*** - The proliferation of initiatives, coming from many well-intended sources, nevertheless largely produced an uncoordinated collection of activities. We found seemingly different and unresolved ways of thinking about how to take action. One example that is still active in the Agency is the apparent split between the way the Fire organization and the Line organization think about fire and respond to difficulties. There is not as yet a widespread and shared perception or strategy for managing fire-dependent ecologies.

Each of these variables drives the culture of the Agency, and each has serious implications for safety, as well as for overall functioning of the Forest Service.

As we emphasized in the Memo, when these dynamics work well they become a virtuous cycle: aligned leadership, sound relationships, integrated capability and coordinated execution continually reinforce each other. One result of this organizational dynamic is that it produces management practices that foster greater levels of safety. For example, when leaders are in agreement and communicate a clear sense of mission to ground-level operations, individual employees are able to make better decisions that include safety as a top priority. People do not second-guess one another; rather, they seek to work across disciplines and communicate in order to detect error and correct it, as shown in the following diagram:



To encourage this cycle, the Chief, the ELT, and now the NLT have initiated a series of activities:

First, senior leadership is undertaking a track that has as its goal to produce a shift in the **core leadership alignment** of the Agency. This is a key element to any change process, and it is a critical first step. Several dimensions of action have been identified: the quality and level of alignment in the ELT, the structure and focus of the NLT as a deliberative body, and the quality and tone of leadership in Regions and Regional Leadership Teams.

Second is a focus on shifting the **quality of execution and coordinated action**, particularly as it relates to safety. One of the most important ways in which safety is impacted by effective execution (or the lack of it) is in the relationship between the Fire organization and the Line leadership when managing a wildland fire. While some processes work well, there is as yet a lack of shared orientation and strategic framework for approaching fires. Two perspectives and two cultures—Line and Fire—think and act very differently around these matters. This produces safety challenges, inefficiencies and unnecessary risk. There are many opportunities for improvement in this pattern, which, if successful, could provide an example for other challenges to integrated execution.

Track One - Leadership Alignment and Mission Clarity

> *The Agency is experiencing confusion and drift in its central identity and direction, and ambiguity in the way it allocates power and responsibility..; in recent years there has been emerging uncertainty about the precise and appropriate direction of the Agency as once familiar and unified ways of operating have changed… - Dialogos Diagnostic Memo 2007*

Building a more aligned leadership core—one that is unambiguous in the way it handles power and, more importantly, actively inspires focus, inspiration, and innovation—is a critical ingredient to success in the Agency. Alignment is not the same as conformity. What has been necessary in the Agency is the creation of a core robust enough to collectively address the complex issues that arise, without distraction and without falling into tactical details. Because in the past too much responsibility was handed off or not clearly delineated, a leadership vacuum developed, where the norm was more leadership of the parts rather than leadership in and of the whole. This pattern has its merits—many organizations struggle to get the level of committed Line leadership evident in the Forest Service. But in a world that presents increasingly complex external pressures and competition for resources, the Agency's ability to think strategically as a whole and speak with a single voice to the external world increases it chances of accomplishing its goals rather than confusing or dividing its stakeholders. Internal operational focus also requires this level of clarity—without it, it is very difficult to standardize and execute to the level of precision required. To this end, senior Forest Service leadership has directed its attention to three aspects of its function and structure:

1. ELT Leadership Development

Since our report, the ELT has taken several steps to address impediments to aligned leadership function. First, since September of 2007, it has been implementing a new way of working as an ELT. The work has consisted of conducting a series of sessions on developing the group's capacity to function at a higher level as a team. They have worked on applying a set of conversational and collective inquiry tools, and have built a new level of clarity among themselves about their aspirations as a group. They have also begun working on clarifying and strengthening their coordination and alignment with their teams. This work is ongoing, assisted by Dialogos.

2. NLT Transformation: A New Deliberative Body

The ELT has initiated and begun implementing a significant change in the model and style of governance of the Agency. The National Leadership Team meetings have typically consisted of a large group (60-70 or more), at which many different people would present a variety of ideas. Discussion tended to be limited to a few persons speaking. Information was shared, but there was little opportunity for debate or clarification of issues. As a result, many decisions tended to be made off line, constraining the on-line conversations. Attendance at these meetings was seen as a chance to influence decision-making, but it was not entirely clear what decisions could be made by a group this large. It was difficult to produce a sound and robust decision-focused discussion where the knowledge, experience and seniority of participants

varied. Topics would typically be reduced to detailed debates about tactics, not discussions about strategic issues from which a clear decision could emerge.

The group has now been reduced in size and restructured in order to create a genuine deliberate body at the core of the Agency. The intention is to produce a decision-making group that can carefully consider key strategic issues. The composition of this governance body includes the Chief, Associate Chief, Chief of Staff, Regional Foresters, Station and Area Directors, the Deputy Chiefs, Associate Deputy Chiefs, Chief Financial Officer, the Director of External Affairs, the NFFE Union President and the National Association of State Foresters President. Staff and Director input in advance of these sessions is now viewed as a critical opportunity to influence and help in guiding the Agency. Equally, debriefs following these sessions will be developed as a way of communicating and sharing the results of the deliberations, providing feedback and giving opportunity for wider input. Changes in this new model include:

- A smaller group size (previously 60-70, now 30)
- A focused process for meetings that is specific and precise around agenda preparation
- Clarity around decision rights. Members know who makes what decisions in which situations
- Early involvement by NLT members in order to deliberate on key decisions
- Ability to render NLT proceedings transparent, and effective communication of decisions and the reasoning behind them to the whole Agency.
- Inclusion of a diversity of voices in deliberations. When such diversity is not present in sitting members, the ELT acts to ensure that other critical voices are invited to participate in the deliberation
- Active representation and advocacy for the whole Agency—members discipline themselves to think and act on behalf of the whole Agency while actively representing the local interests for which they are responsible

The change of model also entails specific behavioral requirements for each participant:

- Show respect to each other
- Actively acknowledge and honor each voice at the table
- Participate actively
- Be willing to differ from the prevailing opinion and do it cleanly
- Take responsibility for one's own thoughts and feelings rather than projecting them on another
- Reflect honestly, publicly, and consistently on the gap between what we say we are doing and what we are actually doing

All members of the new NLT had opportunity to reflect on these principles in advance of the first session in April 2008, and to take responsibility for creating a successful launch of the new model. By all accounts the initial gathering was a breakthrough session, exceeding all expectations and enabling more genuine and candid dialogue among the senior leaders than many had seen, some reported, in over 15 years. The NLT focused on a few critical topics, including the HR operational difficulties, the rationale for the Transformation effort, and choices around climate change strategy for the Agency. The ELT's role in this process was essential, as they provided an environment of focus and support for the wider deliberations. This new deliberative model is just beginning, and

there are plans to alter and upgrade the rhythm of these meetings and the skills of participants so that the new mode can be sustained. Dialogos is assisting the ELT with this effort.

3. Extending Leadership Alignment

One key implication for this effort is a new standard of quality and focus throughout the Agency: in Stations, Regions, Areas, and teams throughout the system. This track of work—developing leadership alignment and leadership capacity—is ongoing, and may be extended to more Regions and Stations in 2008 and 2009.

Track Two—Coordinated Execution Across Fire and Line

" …there are differences between the way the center and the line see problems and seek to manage. There is an executive culture, which sees itself as responsible for balancing all interests and running an efficient and safe organization, and there is a "line culture," which takes as its core identity serving local and regional communities. - Dialogos Diagnostic Memo 2007

"What does Line need to learn? They need to get that we actually want *them to be in charge—[they can't just] give away responsibility and then blame us later if things don't go the way they want them to." - Fire and Line personnel interviews 2008*

A second major track of activity initiated by the ELT involves focusing on the problem of the lack of coordinated execution, particularly as it relates to the way the Fire and Line organizations interact during a wildland fire. The ELT made the choice to focus on this interface because it serves as a microcosm of execution issues throughout the Agency—dealing across jurisdictions, disciplines, reporting lines, hierarchy, and subculture—and because it is highly material to the problem of improving safety on the ground. Fire and Line leaders bring two very professional and technical orientations to the problem of managing fire. Fire's experience, based on its Incident Command Structure, is founded on an operational orientation, and entails years of highly structured and disciplined training, emphasis on chain of command, skill development, and safety. Until recently the momentum in the Fire organization has tended to be mainly towards suppression. Line's focus is on executive leadership—overseeing a Land and Forest Management plan, managing stakeholders and handling a budget. Its training and orientation is designed to optimize a wide set of strategic factors. These two cultures bring very different expectations and demands to the topic of fire. Up until recently, there has not been a pattern of unified training, shared strategic development, or coordinated execution. The pattern has been more one of a person (or group) developing a set of ideas and tossing it "over the wall" to the other, as one person we interviewed put it. The lack of a common strategic approach, common training and reflection represents an opportunity to shift a high-leverage dynamic in the organization in assisting it to move towards the virtuous cycle described above.

Work has now begun in this area of coordinated execution, with a focus on three elements: (1) mapping the underlying patterns that have driven these dynamics, with the intention of identifying leverage points for change; (2) creating simulations and shared training environments for Fire and Line personnel to enable them to function in a more unified manner; (3) and developing a common strategic model and approach for

managing complex fire that integrates both Fire and Line models and practices. This includes developing what is being called "During Action Reviews," a method of reflecting-in-action that may allow rapid course correction.

1. Forming a Core Group of Leaders

The Agency has formed a core group with the purpose of providing effective senior leadership in service to improving outcomes from Fire & Aviation Management. The group is composed of Regional Foresters, Deputy Chiefs of NFS and S&PF, Associate Deputy Chiefs of NFS and S&PF, and Director and Deputy Director of FAM. The group intends to provide leadership in order to create a common strategic approach addressing issues of safety, cost management and hazardous fuels reduction.

2. Mapping Behavioral Dynamics

Dialogos has conducted interviews with a 40-person cross-section of Agency employees to understand the current patterns of interaction between F&AM / Line Officers, including successes, to increase levels of safety, effectiveness and cost management. These conversations have covered a number of topics, including:

- Differing perceptions about "Appropriate Management Response" (AMR) in Fire, Line and in the communities being served
- Recommendations each group has for the others to enhance and clarify working relationships
- A review of long-standing patterns of behavior in close-in working situations
- Consideration of interactions that have been especially effective—or problematic
- Honest reflection on the ease or difficulty of broaching heretofore "undiscussable" topics
- A review of what happens when employees discover gaps between actual practice and espoused policy
- Conversations about the usefulness of current learning practices, and how these can be strengthened.

Out of these considerations Dialogos is constructing a series of "maps," much like the ones designed for the 2007 Diagnostic Memo, but focused on the interface between Fire and Line. These maps will be the basis for a series of more locally focused sessions across several regions, at which representatives from the Fire and Line communities will use them as a starting point to explore the core shifts that need to occur. Results of this work will be presented to the NLT and summarized for the Agency.

3. Building Simulation Practice Fields

To prototype a new form of training that will be offered across the Agency in the Fall and Winter of 2008-2009, Line and Fire personnel, working with Dialogos, are designing and conducting five "simulation laboratories." These events bring together 18 – 20 personnel in fire-prone Forests and include simulations, tools for better reflection, and dialogue about how the Fire/Line dynamic influences safety and other factors. These groups interact in simulations and dialogues that allow them to practice new behaviors and to experiment with new approaches to shared leadership.

The simulations focus on the quality of interaction between Fire and Line during an emerging incident, e.g., a Type III fire which transitions to Type II. Line and Fire rarely

have the opportunity to train together, even though the safe and successful management of incidents depends increasingly upon their effective performance together. Safety, land management issues, and cost can all be influenced by how Line and Fire interact and make decisions before, during, and after an incident. Training Fire and Line together allows them to see each other in action, and to understand each other's roles, responsibilities, pressures, and stresses. The timing and quality of communication during an incident is highlighted. What factors encourage or hinder straight talk between Fire and Line? What are the elements that limit "upward voice" and how can leaders ensure that people speak up when they don't feel safe?

Accompanying the simulations is the introduction of tools for cleaner communication and for deeper reflection to increase situational awareness. Dialogues build shared perspective and deepen the working relationship.

To prototype a new form of training that could eventually be offered across the Agency, Line and Fire personnel are designing and preparing to pilot four to six "simulation laboratories" that bring together personnel in areas predicted to be vulnerable to complex fires. There is a new level of shared strategic thinking possible and a shift to be made in the "muscle memory" among and across these groups to upgrade effectiveness and the quality of decision-making during simulated incidents. These groups will interact in environments designed to allow them to practice new behaviors and to experiment with new approaches to shared leadership in settings where mistakes and pressures can accelerate mutual learning and deepen the working partnership.

4. Creating a Common Strategic Approach

Finally, efforts have begun to build the outline of a common strategic approach across Fire and Line. A small working group is focusing on critical choice points that Fire and Line are each making at the beginning-, middle- and end-states of fires. From this they plan to develop common protocols and experiences. They plan also to include shadowing assignments to take advantage of accumulated Line and Fire knowledge and learned instincts. In addition, efforts are under way to develop a new kind of "during action review" process that enables more immediate learning and course correction during fires. This in turn will set the foundation for a redesigned system of after-action and near-miss reflection processes. This activity will entail creating several pilot sites where during-action review processes and shared strategic development will be carried out and documented.

III. What Does It Take to Produce Cultural Change?

There are three key conditions for producing cultural change: commitment to operating in a new way; perseverance and learning in the face of difficulty; and distributed responsibility: people at every level and location assuming responsibility to act in new ways.

First, across the organization there is a serious, widespread and deep commitment to address the issues raised in the Diagnostic Memo. Many people throughout the Agency have read the memo and have set up discussion groups and conversations to consider its implications. Despite the fact that it was initially in draft form and not widely circulated,

copies found their way throughout the organization and into the hands of the media. The report has given people permission to speak more directly and openly about issues that many had privately named but not felt the space to bring out.

Senior leadership of the Agency has not only embraced the report, but also has taken significant steps to address the issues raised within it. We will outline these in the pages that follow. It is important, as we have noted, to realize that this is a non-trivial development: we have seen a concerted commitment among the senior leaders of the Agency (not only the Chief) to begin to take hold of the organization, compel it to face its limits, and lead it towards taking steps to redefine and reshape itself—starting with themselves. This is not always the case in organizations, but as we will outline, it is so here.

Second, the report has significantly raised hopes and expectations that fundamental change would be quickly forthcoming, and that these would be easily evident. Our observations suggest that many people are carefully watching leadership to see if "they" are making changes. Several continuing internal operational difficulties, as in the HR system and in perceptions of the way the Transformation effort has been conducted, have amplified skepticism and concern.

It is not unusual in any attempt to produce large-scale cultural change to see an initial sense of hopefulness followed by the reassertion of doubt. People have seen many "change programs" come and go. At Harley Davidson, where we worked some years ago, employees referred to management's masterful ideas about change as "Another Fine Program"—an "AFP." What makes any such effort stand apart is, a) the degree of genuine commitment and transformation in leadership's ways of interacting with each other and the organization, and b) in the degree of genuine assumption of responsibility and taking of action on the part of front-line employees.

There are other ways people get frustrated by large-scale cultural change efforts. We tend to underestimate the cycle time required for change. When steps are taken by leaders to address the ways they interact with each other—something that has begun to happen now at the Agency—one does not always see immediate changes to obvious problems, leading to the suspicion that "nothing is happening." In fact a great deal *is* happening, as we will suggest, and at the same time a great deal more needs to happen throughout the Agency.

Most significant is the growing realization that the changes required are *cultural*. Culture consists of habits or ways of operating, deep assumptions about how things should be done, and emotional memory, or how we have learned to feel about things. Change in culture means shifting each of these—for instance having Fire and Line leaders jointly develop a fire plan for a fire, instead of each working independently. It might mean challenging assumptions about the who ought to attend a National Leadership Team meeting, or changing the manner and tone in which that group interacts. Perseverance is key to seeing this through.

Third, it means that the changes are not exclusively the responsibility of any one leader or group of leaders, but the responsibility of all. One of the tendencies we find in many organizations the inclination to "look up" towards senior leaders to see if they are yet "walking the talk" of a new way of operating—or even "talking the talk." This is a valid

concern, for without genuine leadership backing, innovative efforts that have been held to the side will tend to stay there. This concern is further exacerbated by doubts raised around ongoing organizational difficulties and a desire to know what "they" are doing about it. While there is certainly a distinct responsibility among the executives in an organization to provide direction and correction to problems, the core challenge involves producing a widespread *change in attitude and in everyday action.* Sometimes those new attitudes can be viewed as "countercultural" or weak, and therefore they are resisted. But if they are not taken, no sustainable shift can take place. That is why no amount of enthusiastic support by leadership makes a difference if there is not a corresponding shift in everyone.

IV. Resetting the Agency's Safety Culture: Reexamining Myths

Men [typically] went to great efforts to appear invulnerable in three realms—physical, technical, and emotional—in order to prove their merit as workers and as men. Men demonstrated their physical invulnerability by displaying bravado, including a disregard for physical safety, in the presence of physical danger. In the technical realm, they upheld an image of invulnerability by putting on a guise of being technically infallible, which meant refusing to admit or reveal evidence of mistakes, or lack of knowledge. In the emotional realm, presenting oneself as emotional detached, unshakeable, and fearless was crucial for demonstrating both masculinity and competence.

- Robin J. Ely, Harvard University, and Debra E. Meyerson, Stanford University, researching offshore oil worker attitudes to safety

As we have discussed, the Agency is taking steps in aligning leadership, moving to mission clarity, and working to improve safe management practices in the Fire and Line dynamic. There are certainly more moves to make, particularly when it comes to producing an Agency-wide shift in capability around matters of leadership and safety, and in the domain of improving the quality of conversation and reflection.

In organizations where the safety culture has been reset, one can observe several notable phenomena. In their study of offshore oil platforms cited above, the authors discovered something unexpected: roughnecks openly admitting to fears, asking for help, and raising concerns about safety when they saw dangerous circumstances. While the study was primarily about men, the attitudes were also found in women in these settings as well. Studying an organization that had deliberately and successfully implemented a series of safety improvement processes, the authors found resulting attitudes that went well beyond what one would expect of "tough" men (they are mostly men) in a risky and demanding physical environment. What was notable was that changes in organizational practices had generated shifts in people's internal attitudes, not just in their external actions. The authors of the study said:

Rather than seeking to prove how tough, professional, and cool-headed they are, [oil] platform workers purposefully make themselves vulnerable in order to perform their jobs more safely and effectively. They readily acknowledged their physical limitations, publicly admitted mistakes so they could learn from them, and openly attended to their own and other's feelings.

- Robin J. Ely, Harvard University, and Debra E. Meyerson, Stanford University, researching offshore oil worker attitudes to safety

Safe conditions are a function of a series of safe practices and cultural change. We see some parallels between the high-risk context of an oil rig and a fire, for instance. Tendencies to not speak up, to act like a hero, or to assume others have the overview and know what should be happening, were addressed and transformed on these rigs. Similar developments could well be helpful with the Agency.

Six Myths about Safety

The wrenching, traumatic nature of serious accidents pressures organizations to react quickly and decisively to fix the problems that are seen as the overt causes of the incident. This kind of reaction is appropriate and necessary. Unfortunately, it typically falls short of the more comprehensive series of steps required to address the foundationally cultural issues that lie at the root of such events. Stories like the ones above can stimulate new thinking about one's own underlying attitudes and actions. However, changing culture also requires reexamining deeply held assumptions and beliefs—beliefs that have often become elevated to the level of "myth." Several such myths typically circulate around considerations about safety. They are justifiably called *myths* because they are not true—they contain distortions or unexamined assumptions that mislead or distort clear thinking.

We describe here six such myths, and provide several stories from both inside and outside the Agency to illustrate them:

Myth #1: "People at the top (or somewhere else) will take care of it." *The Senior Leaders (or other responsible people) see what is needed, and are in best position to do something about it. In fact, it is their responsibility to act. We must wait to see what they will do. Someone else knows what to do here.*

People use this myth to distance themselves from responsibility, particularly when there are difficult safety issues afoot. As we suggested above, cultural change requires shifts in the way the organization solves problems at very local levels—everyday contexts on the front lines. The cumulative changes that people make in how they act, and the meaning they make about the situation, ultimately contribute to wide-scale shifts. This myth—that the leaders are responsible—takes the pressure off others in misleading ways, because it says that the leverage is at the top. In fact the leverage for change is "viral"—a function of self-reinforcing improvement efforts taken by everyone. This includes Leadership, and everyone else.

Learning from Tragedy—The Norcross Incident
A fatal helicopter crash in 2007 illustrates both a failure in the culture of safety in the Agency and the success of the ensuing investigation to position the tragedy as a learning opportunity (see Myth #6). People distanced themselves from responsibility, assuming others knew what they were doing; this led to a terrible, but not entirely unexpected outcome:

The Crash
A rotor strike in steep terrain with a 150-foot longline occurred in July of 2007, near the Norcross Helibase on the Klamath National Forest. The pilot was killed. This incident occurred in spite of good people who were attempting to do a good job.

It was obvious to the investigation team that there were significant contributing factors that could not be captured by the term "pilot error". The pilot had delivered blivets of water to the site the day before. The spot was tight, but the crew believed that it had been marked by a person they all respected. The personnel working the site had the necessary qualifications but very little experience. Who were they to question the placement of the marker panel? Several members of the ground crew felt the situation was perilous but that the pilot was the "final authority." Rather than voicing their concerns, they assumed that if the drop zone was too dangerous, the pilot would simply refuse it. They anticipated the possibility of an accident to the point that they had planned their escape route from the landing zone, some briefing their plan of action six or more times. One member of the crew brought a video camera to record the event.

The pilot made a straight in approach to the drop zone just as he had done the day before. The ground crew had asked the helicopter to bring out a longer line, but the request came too late—the helicopter was already on its way with the load attached. Another problem was that there was a lot of radio chatter that day and communications with the helicopter were not established until the load was less than 50 feet off the ground. There was no time to remind the pilot of the tree on the right side of the aircraft. He had been told about the tree the day before and acknowledged its presence then, but a pilot's position in the helicopter during long line operations absolutely prevents any reasonable ability to view of hazards on the right side of the helicopter.

Shortly after the blivets touched down, the helicopter moved to the right and impacted the tree. A member of the crew filmed the approach and impact before moving to a safe position. There was no evidence to suggest that environmental factors affected the pilot's ability to control the aircraft. The video supports the statement of some of the crew members that they expected something bad might happen—as evidenced by the rehearsed reaction to the crash. (Source: Drawn from accounts of Accident Investigation Team)

The Expert is the Pilot—The "Krassel Sleigh Ride"

In August, 2006, in what has become known as "The Krassel Sleigh Ride," four people were killed in a helicopter crash in Idaho. The helicopter had ferried a relief lookout to Williams Peak Lookout Tower and crashed en route back to the Krassel Helibase with the pilot, the returning lookout and two Forest Service employees who were assisting in the unloading and loading of supplies.

The debris found at the crash site indicated that the helicopter hit a snag on the top of a ridge, hit others farther down the slope and crashed on the East Fork Road in the Payette National Forest.

According to the National Transportation Safety Board report, four Helitack crewmembers interviewed by Forest Service personnel noted that the pilot was very skillful. One crewmember described the pilot as "a perfectionist—in everything about his flying—all had to be perfect." They pointed out that, while he did like "showy" flying at times, he would always ask the passengers if they were comfortable. He would "buzz" a ridge every now and then, performing a maneuver he called the "sleigh ride." One of the Helitack crew members said that a "sleigh ride was where you top a ridge then drop the collective, drop the nose a bit... it was a common maneuver for him."
Interviews with employees revealed that among the frequent passengers, at least one was aware the behavior was unsafe, but chose not to challenge it. Nobody knows for certain what happened in this incident—there were no witnesses. The episode raises questions that merit attention, though. Was the pilot conducting a "sleigh ride?" If he was, were the passengers actually comfortable with this? If they were, why was it okay to participate in unsafe behavior? If they weren't comfortable, why didn't they speak up? What was the underlying culture that made it okay to do this, or to not speak up about it? (Source: United States. National Transportation Safety Board. Accident Database and Synopses. Brief of Accident SEA06GA158. 29 May 2007. March 2008 <http://www.ntsb.gov/ntsb/brief.asp?ev_id=20060824X01237&key=1)

This myth raise questions for reflection:

- *What is it about the culture of the Agency that made it acceptable to not speak up when they suspected or even anticipated this disastrous outcome?*
- *What would it take for people in the Agency to speak up more often in circumstances like the ones above?*

- *What can be done to cause our personnel to challenge assumptions and verify facts?*
- *What can be done locally, in every unit, to ensure that something like this never happens again?*
- *In which actual situations do I believe are there leaders beyond my level of responsibility and authority who should "do something"? Have I used this as an excuse to remain passive or silent? to convince myself that I am powerless?*

Myth #2: We don't have enough (or we don't have the right) standards to prevent accidents. *By carefully crafting, articulating, implementing and evaluating the right standards, we can ensure safe operations.*

Clarifying and implementing standards is typically one of the first strategies employed in efforts to improve safety and reduce operational risk. Accidents in the Agency have often been addressed: with an increase in rules, regulations, and policies, instituted by leadership under pressure from Congress, the public, and legal action.

Research indicates, however, that no matter how well organized or comprehensive they may be, standards serve two conflicting ends. Standards can be used for good or for ill. On the one hand, they serve as a repository of organizational knowledge, and they capture best practice. They can focus thinking and create disciplined action. On the other hand, they are often used as a disciplinary device for managers who may not understand the operation intimately. Ultimately, they can serve as a definition of "the way things are done." Additionally, a written standard can give managers an idea of whether or not someone is "doing his or her job." Based on this assessment, rewards and consequences can be imposed in alignment with the standard, occasionally without subjecting those standards to the benefit of experience or common sense.

This approach can be troublesome. Using standards as a disciplining tool rather than as a tool for *self*-discipline inadvertently creates rewards for not being honest about one's practices. It makes documentation seem merely like an exercise in compliance, and tempts people to either under-report or mis-report gaps between standards and practice. Gradually, defects or errors are seen as failures to be ignored or punished, rather than as an opportunity for learning. Standards and rules can also serve to suppress necessary thinking: if someone is defensively preoccupied with applying standards, they can easily lose track of the overview in a situation and fail to respond accurately.

Stepping In and Up in New Orleans—Safely
Arriving in New Orleans after Hurricane Katrina hit, it was obvious to George Custer, commander of the Southern Area Incident Command Red Team, that nobody seemed to be in charge. Not content to sit around waiting "for somebody to do something," George scouted out the area and decided to go the airport where a Disaster Medical Assistance Team had set up a field hospital and needed support. On their first night at the airport, George's team found itself rounding up various relief agencies that had come to help. During a meeting to organize the effort, someone from the Disaster Medical Assistance Team (DMAT) called and asked if anyone there had coffee. George thought this a humorous request until the caller clarified that he needed entire pallets *of coffee… the DMAT was storing corpses in a refrigerator truck, and every time they opened the door they threw in a couple of cans of coffee grounds to cut down on the stench. George knew then this assignment was different.*

Thousands of people were arriving at the airport; some were dying each day, bathrooms were not working, and danger from biohazards and infectious disease was increasing. George knew early on that the mission assignment was unclear due to the unprecedented scope of the disaster. The team went to work.

There were numerous helicopters arriving with evacuees, but no organization for landing and departing. Pilots were talking to each other and doing their best in the midst of a clearly dangerous situation. In George's words, it was apparent to the team that "someone could get killed here, so we threw ourselves into the mix." They took charge, organized landings and departures for the helicopters, and ensured the safety of evacuees as they arrived from the city. The team confiscated alcohol and firearms as people arrived, called in additional fire crews, trained them to serve as stretcher-bearers with the DMATs, and did whatever needed to be done to bring "order out of chaos."

Before the operation, the team did its normal planning—stressing safety first. "How do we do this together as a team and be safe? What are the threats and dangers we are likely to encounter?" Logistics staff looked out for the safety of the team, everyone looked out for themselves and each other. There were bleach buckets to step into, cans of waterless hand cleaner everywhere--it was the norm to not shake hands when people greeted each other, as everyone knew of the threat of transmitting disease.

Looking back on the event, George emphasized that the mission was a success simply because he and his team "did what seemed to be the right thing to do, did it cautiously and with adequate planning. The more urgent and unclear the situation you face, the more you have to rely on good thought processes and planning—not business as usual. Every day was a crisis. We realized we had a really important job. The experience changed people's lives... We knew we had the skills we needed. There was chaos, and a big part of our job is to bring order out of chaos…. You realize where you are in relationship to the rules and policies, you do everything you can to mitigate risk and meet policy, you think through the situation and do the right thing." Nobody on the Red Team was injured or became sick despite their daily proximity to hepatitis, blood-borne pathogens or other hazards. The team received a number of citations in recognition of its work. (Custer, George. Telephone Interview. 26 March 2007. United States. Federal Emergency Management Agency. After Action Report: Hurricane Katrina, Southern Area Incident Management Team *(TX-FEM-050004). 2005.*

Some reflection questions around this myth include:

- *Do I see the standards for safety as a help or hindrance?*
- *How can we create a culture in which standards are held by the people doing the practice rather than those managing, rewarding, and punishing the practice?*

Myth #3: Large causes are at the root of accidents. *Accidents are caused by large, often overlooked issues or defects, be they mechanical or human. By simply redirecting people's attention more deeply in this direction, it is possible to identify these "major risk" factors through inspection or investigation.*

Research on disasters and our experience in organizations seem to contradict this assumption, sometimes called "The Myth of Large Causes." First, it is rare that difficulties arise from glaringly obvious "risks"; rather, they arise from an array of many micro-causes, the interaction of which leads to disaster. Only in retrospect is their unfortunate confluence labeled as a "major risk." As a result, process safety and risk management are best understood as distributed challenges, requiring a distributed commitment to risk management and operational excellence throughout the organization. It is unlikely that mitigation of serious risks will actually occur before that shift in culture and practice has been achieved.

The corollary assumption, that people's attention is easily focused on risks, is contradicted by Dialogos' research in other sectors—many front-line personnel become habituated to hazards to the point where they are no longer able to detect where they exist. Safety audits and inspections can illuminate some problems, but in the long run a deeper kind of capability development is required. Only a disciplined culture of continuous improvement in the field can reliably identify *and eliminate* operational risks.

Reflection questions:

- *How might we invite field staff to identify and communicate the risks in their own immediate environment, allowing a distributed and continuous solution to a distributed problem?*
- *How might we grow our staff's capacity to do so, and break the cycle of habituation by bringing fresh eyes?*
- *What about our culture might prevent us from hearing and responding to small but accumulating concerns?*

Myth #4: Experts have the knowledge we need. *Valuable knowledge is primarily explicit, articulated and held by experts. A well-articulated model for safety, created by the safety experts, is therefore superior to tacit, embodied knowledge of employees in the field. If we can come up with a smart enough idea, we should deploy it as widely as possible throughout the Agency.*

This assumption contradicts one of the basic findings of research on knowledge in organizations--that most knowledge is tacit, local, embodied, and difficult to extract, change, or share. High-performing organizations like Toyota assume the opposite: valuable knowledge is primarily tacit and, therefore, responsibility for continuous improvement is placed with front-line workers instead of depending primarily on safety "experts."

Organizations that respond to the need for an increase in safety by rolling out new safety initiatives can unintentionally create new hazards. First, they risk imposing a centrally developed safety program that may or may not address issues in diverse settings. Second, they add training and work to already overloaded employees. Third, they can increase "noise" in the system as personnel receive more and more safety messages and reminders to the point that they are dismissed out of hand. Fourth, they teach people on the ground that somebody else, e.g., the Safety Officer or crew chief, is responsible for safety.

Reflection Questions:

- *What would an integrated safety system, that is specifically not an initiative, look like?*
- *How could safe management disciplines emerge inside crews, districts, forests and regions, building on tacit rather than explicit conceptual knowledge? How can lessons learned anywhere in the Agency be successfully transmitted quickly throughout the organization without doing injustice to others' local knowledge?*
- *What role might leadership play in backing and modeling this kind of approach?*

Myth #5: Things can get continuously better if we work harder to improve. *If we focus our efforts on our safety programs, implement them more effectively, eliminate the largest causes of accidents, and work harder, we will rapidly see better results.*

The reality is that things often get worse before they get better. This is true because improving safety is largely a matter of changing the culture of the Agency while building individual capacity to think and act in new ways. Both of these tracks take attention, time, and resources. When people and groups are under increasing stress there is a tendency to work harder, applying the same familiar attitudes, mindsets, and skills to escalating conditions, rather than using time and resources to build new capacity. As pointed out in earlier Memo, the Forest Service's "can-do attitude" often reinforces this tendency to work harder, rather than building new capacity in the system. The effort to build new capacity and shift to a culture of increased safety can initially create disorientation as old mindsets and systems are replaced by new. During this lag, things can actually get worse before they get better. A more acute awareness of the need for improvement can make the status quo look grimmer than it has; and given increased uncertainty, people need to be even more vigilant than before to stay safe. New patterns of behavior may initially slow progress as people embody them—it may take more time and money to improve safety and save time and money in the future.

Worse Before Better at Dupont

"In 1991, an in-house benchmarking study documented a gap between Du Pont's maintenance record and those of the best performing companies in the chemicals industry. The benchmarking study revealed an apparent paradox: Du Pont spent more on maintenance than industry leaders but got less for it. Du Pont had the highest number of maintenance employees per dollar of plant value, yet its mechanics worked more overtime. Spare parts inventories were excessive, yet they relied heavily on costly expedited procurement of critical components. Overall, Du Pont spent 10-30% more on maintenance per dollar of plant value than the industry leaders, while overall plant uptime was some 10-15% lower.

Policy analysis showed that escaping the capability trap necessarily meant performance would deteriorate before it could improve: While continuing to repair breakdowns, the organization has to invest additional resources in planned maintenance, training and part quality, raising costs. Most importantly, increasing planned maintenance *reduces* uptime in the short run because operable equipment must be taken off-line for the planned maintenance to be done. Only later, as the *Reinvestment* loop begins to work in the virtuous direction, does the breakdown rate drop. Fewer unplanned breakdowns give mechanics more time for planned maintenance. As maintenance expenses drop the savings can be reinvested in training, parts quality, reliability engineering, planning and scheduling systems, and other activities that further reduce breakdowns. For example, upgrading to a more durable pump seal improves reliability, allowing maintenance intervals to be lengthened and inventories of replacement seals to be cut. Higher uptime also yields more revenue and provides additional resources for still more improvement. All the positive feedbacks that once acted as vicious cycles dragging reliability down become virtuous cycles, progressively and cumulatively boosting uptime and cutting costs.
At plants that implemented the program by the end of 1993, the mean time between failure (MTBF) for pumps (the focus of the program) rose by an average of 12% each time cumulative operating experience doubled. Direct maintenance costs fell an average of 20%. In 23 comparable plants not implementing the program the learning rate averaged just 5% and costs were *up* an average of 7%. Washington Works boosted production capability 20%, improved customer service 90%, and cut delivery lead time by 50%, all with minimal capital investment and a drop in maintenance costs. For the company as a whole, conservative estimates exceed $350 million/year in avoided maintenance costs alone."(Source: Sterman, John, and Repenning, Nelson (2001): "Nobody Ever Gets Credit for Fixing Problems that Never Happened," *California Management Review*, Vol. 43, No. 4, Summer 2001).

Reflection Questions:

- *What can you put into practice now to encourage your team to build new capacity while at the same time managing changing conditions?*
- *What can you establish now to anticipate and address the sense of uncertainty and disorientation as old mindsets are replaced by new ways of thinking?*

Myth #6: Only physical safety matters. *Safety is equated with the number of incidents. If we only remind our people to be safe, the number of incidents will go down.*

In fact, however, *psychological* safety precedes physical safety. It is key to create a climate of safety where employees can declare publicly, "I don't feel safe," admit to mistakes, and share with others why they did something wrong, so that others might understand how to prevent such mistakes. In short, safety is about creating an environment of psychological safety and learning instead of blame. Creating psychological safety requires leadership and creativity and goes way beyond a well-intentioned but meaningless encouragement to "stay safe."

The Aftermath—Creating a Climate for Learning from Tragedy
It is tragic that someone had to give his life over a blivet delivery to a fire in the mop-up stage. There were no lives in jeopardy. It was, in fact, a very "normal" mission. There were underlying challenges with communication, standardized briefings (or the lack there of), dominant personalities, ambiguous roles and responsibilities, ill-defined goals, and pilot proficiency. In other words, it was just like many other fires.

In the aftermath of tragedy, attention naturally tends to focus on the failures of the safety systems in place and the decisions that were made. While most organizations in such a situation are tempted to create new preventative measures—barriers to prevent reoccurrence—there is a stronger lesson that can be taken from this accident. It is important not only to look at the details, but also to determine the conditions and underlying culture that resulted in the accident. What happened before is less important than what happens now.

The Norcross incident demonstrated that in the aftermath of an accident, in spite of the difficulty, people can talk openly about what they felt and thought leading up to the accident. They should not be in a position where their concern about the reactions of their superiors prevents them from being frank and honest. The personnel involved in this accident took the first step towards becoming a "reporting" culture, one of the hallmarks of a High Reliability Organization (HRO). They trusted the accident investigation team to dig deeply enough into the incident to determine what happened and why. The investigation team, recognizing the need for the Agency to learn from this accident, was also willing to depart from the format of the Serious Accident Investigation Guide. It broke the mold of previous investigations and explored the "human factors" involved in the incident, bringing a new level of mindfulness to the process.

The result was that the Agency has an opportunity to see in a deeper way the problems, confusion, and ambiguity facing its young firefighters. This understanding can help the Forest Service make meaningful changes in the culture of the organization, leading it to be safer and to question circumstances "that just \ don't look right" in high-risk operations. The investigation team spoke out clearly with their report, and leadership reacted justly, using the event as an opportunity for learning and change rather than assigning blame and moving on.

Deputy Chief Hank Kashdan spoke about cultural change and the Norcross accident at the Occupational Health and Safety Conference in Dallas in March 2008 and in the NLT meeting in April of 2008. He mentioned "human factors" many times in his presentation and pointed to the underlying cultural issues at the heart of the incident. His speech marks a change in the way the Agency can learn from its mistakes (Source: drawn from accounts of Accident Investigation Team).

Reflection Questions:

- *What can be done do to encourage others to learn from mistakes and to prevent incidents before they happen?*
- *What could you do?*

V. The Path Forward

These myths stand as barriers to the creation of a new culture of safety. They tell us that someone at the top will take care of safety or that all we need to do is put newer, tougher standards in place. They tell us to deal with the major causes of accidents and injury, and they tell us to ask the experts what we need to do instead of to trust and refine the knowledge of people close to the ground. Finally they tell us to just work harder, rather than smarter, to improve our safety record.

While there are some elements of truth in each of these, they each take away from the most needed but difficult-to-produce changes: local awareness, responsibility and improvement. Simply stated, we believe that the Agency's ability to prevent serious accidents and fatalities can only improve as each individual takes personal responsibility to make the Forest Service a safe place to serve, in a culture where they are backed by full commitment from Senior Leadership. In practice, this means each person must speak up, embrace the opportunity to learn from one's own, or others' errors, and be willing to ask the hard questions.

Core Elements for Scaled Culture Change

This report has outlined some initial and important steps that the ELT and new NLT have begun to take to reset the leadership culture of the Agency. It has also described a process by which the Fire and Line organizations can become more aligned and effective.

These steps are however only a beginning. A full-scale change is not easy to produce and requires new actions and new processes that cascade through the organization in a highly disciplined manner. In every successful safety (and leadership) culture change example that we know of, several critical ingredients are always present, and we would like to conclude by outlining some of these. Together they comprise a path forward that the NLT and ELT can use to design the path forward:

- *Change led by Senior Leadership.* No amount of change in practices and accountability takes place unless there is committed leadership support for a change in behavior. This means the behavior at the top models what is required throughout the system. Leaders must hold others accountable, and they hold themselves accountable. This is particularly the case when it comes to safety improvement. At companies like Alcoa and Dupont, for instance line leadership is responsible for safety. That is their primary responsibility, and all other activities come second.

- *Numerous, disciplined, front-line continuous improvement efforts.* Small, focused efforts to work smarter, to not just to fix problems, but make improvements, are

the engine of transformation. Constant attention on improvement at every level works when it is based on scientific improvement processes and principles.

- *Knowledge immediately shared and standardized across the organization.* Many organizations make the mistake of getting caught in reinvention and rework patterns, where every local office and unit recreates solutions that others have already perfected. In contrast, an effective organizational learning process very quickly shares new learnings which are then immediately adopted by the entire system. One reason this is possible is that people trust and value the results of these systems, because they know they stem from a disciplined efforts that they too have had to implement.

- *Safety practices embedded and integrated in all aspects of work at every level of the organization*. Throughout the organization, safety practices are conducted in the same way everywhere, and improvements are propagated through the system. This kind of enforcement is strict, because it is understood to be the only way to foster execution at scale.

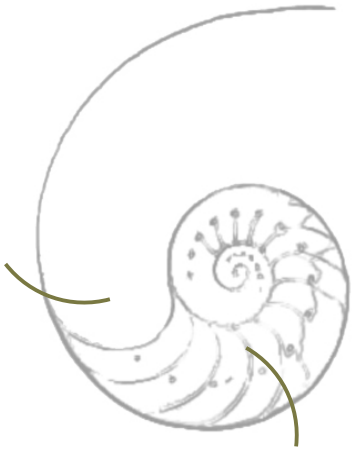
Phases of Change

After studying many organizations we find that there is a repeating pattern that always is present when significant change takes place. We have examined many such cases, in public and private organizations, in civil society, and at the level of national change. The creative change process appears to have three phases to it:

- ***Mapping the Potential*** – In this phase people name the ideal they wish to create, map the barriers and obstacles to progress, and gather together a core group that can lead and guide the transition to a new state.

- ***Leading the Renewal*** – Here, the organization addresses and shifts its "muscle memory" – the core habits it has developed that have kept it stuck in old ways of functioning. This phase involves developing "collective capability" to act together in new ways.

- ***Integrating and Sustaining Delivery*** – This phase involves delivering and scaling change, putting in place policies, structures, and norms that are based on genuine shifts that have been cultivated over time.



INTEGRATING AND SUSTAINING DELIVERY

Phase III: Activate Design

- Celebrate Successes
- Anchor in New Policies, Structures, and Processes
- Reap Learnings from Change
- Scale and Replicate

MAPPING THE POTENTIAL

Phase I: Create a Center

- Interviewing/Mapping
- Engage Stakeholders
- Design for the Whole System
- Create a Working Core

LEADING THE RENEWAL

Phase II: Transform Memory

- Engage a Wider Audience
- Sponsor Prototyping and Experimentation
- Shift Identity and Behaviors

The shifts taking place in the Forest Service are beginning to enter Phase II. The initial diagnostic report, and early efforts by the ELT and NLT to reflect on its implications, were Phase I activities because they named conditions on the ground and set the stage for future progress. Changes in the NLT, and in the Fire Line interface, are Phase II activities, because they are efforts to shift specific attitudes and actions that have been longstanding in the Agency.

There are clearly many other steps that need to be taken in this Phase to enable true scaled change. For instance, despite its many painful difficulties, the problems that have arisen in the Human Capital Management systems (HCM) are being reviewed now by a subset of committed NLT members, who intend to use this effort as an opportunity to transform how the Agency goes about handling HR matters. The same is true of the Acquisition Management Process (AQM). Again, a sub-group from the NLT are participating in addressing the challenge of achieving standardization across the Agency, and have the opportunity to do so in a very new manner that is collaborative, not imposed by the center.

Here are several examples of additional steps that might be taken. Each of these are proven activities that have worked in other organizations:

- *Large Group Dialogues*. One high -leverage vehicle for change consists of conversations conducted at the Regional Level, that deal with specific opportunities and challenges in that area, and that seek to pool knowledge and shift the quality of action. This might include holding a “World Café”—a

process that can enable 200 people (or more) at a time to reflect on and own tough issues. These gatherings can energize the "wisdom of the crowd"—harnessing significant improvement and change energy. Holding gatherings like these across the Regions might be one powerful way to proceed (see for example: http://www.theworldcafe.com).

- *Learning at Scale*. One of the striking things about the Agency is the willingness of its personnel to learn. There are many efforts already under way in the organization to improve effectiveness – efforts to increase "mindfulness", to improve the quality of dialogue, to facilitate learning after accidents, and to produce "near miss" reflection conversations. But the Agency could create a yet more deliberate, widely embraced effort along these lines that consciously seeks to elevate capacity throughout the organization. One way of doing this involves creating a learning process that cascades through the system, where each level teaches and is involved in assisting the next around a curriculum developed by the organization.

- *Accelerated Action Laboratories*. Another vehicle for change consists of reflection and diagnostic environments that can accelerate results around specific problems. There are several routes organizations use to accomplish this. One could be commissioned by the NLT, and be composed of cross sections of groups of people from throughout the agency who are engaged in solving one of a set of critical problems. These groups would work to both solve a problem and produce a cultural change of some kind. Another example, that is more "viral" and distributed throughout the Agency, would consist of structured peer led action learning processes designed to penetrate to the core of difficult problems and produce immediate change. These "laboratories" are designed to foster innovation and collaborative problem solving.

A Virtuous Cycle

Two critical elements must come together for cultural change: a new stance by the leadership of the organization, which is followed up by genuine action; and a powerful assumption of responsibility on the part of everyone on the front lines of the organization. Taken together, these forces will enable remarkable shifts. We see now initial action for each of these and their integration in the Agency, and so the potential to set a very different path for the future.