

# AERIAL FIREFIGHTING SAFETY

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HEARING  
BEFORE THE  
SUBCOMMITTEE ON PUBLIC LANDS AND FORESTS  
OF THE  
COMMITTEE ON  
ENERGY AND NATURAL RESOURCES  
UNITED STATES SENATE  
ONE HUNDRED EIGHTH CONGRESS

FIRST SESSION

TO RECEIVE TESTIMONY REGARDING THE ISSUES UNCOVERED AS A  
RESULT OF THE BLUE RIBBON PANEL'S FINDING ON AERIAL FIRE-  
FIGHTING SAFETY AND TO LEARN WHAT THE AGENCIES ARE DOING  
TO RESPOND TO THE RECOMMENDATIONS OF THAT REPORT

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MARCH 26, 2003



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## **AERIAL FIREFIGHTING SAFETY**

**WEDNESDAY, MARCH 26, 2003**

U.S. SENATE,  
SUBCOMMITTEE ON PUBLIC LANDS AND FORESTS,  
COMMITTEE ON ENERGY AND NATURAL RESOURCES,  
*Washington, DC.*

The subcommittee met, pursuant to notice, at 10:02 a.m., in room SD-366, Dirksen Senate Office Building, Hon. Larry E. Craig presiding.

### **OPENING STATEMENT OF HON. LARRY E. CRAIG, U.S. SENATOR FROM IDAHO**

Senator CRAIG. Good morning everyone and welcome to the Public Lands and Forests Subcommittee's hearing on the Blue Ribbon Panel report on Federal aerial firefighting safety and effectiveness.

I am pleased to be joined by my colleague, Senator Craig Thomas of Wyoming. Others of the committee should be joining us throughout the morning. I must tell you that yesterday, Senator Craig and I were talking about doing tag team so that we would get all of your testimony and not shut this subcommittee down because of the budget process on the floor at this moment, but we have been given a window of reprieve because we were good Senators yesterday and worked hard and got more work done than we had thought we might.

I want to especially welcome the co-chairs of the Blue Ribbon Panel, James Hall, president of Hall and Associates and former Chairman of the National Transportation Safety Board, and James B. Hull, the State forester and director of the State of Texas Forest Service. Thank you for taking time to serve on the panel and for coming to testify. Gentlemen, thank you.

I also want to welcome Larry Hamilton, BLM Director of Aviation at the National Interagency Fire Center in Boise, Idaho, and also Tony Kern, Assistant Director of Aviation for the U.S. Forest Service.

Last but not least, I would also like to thank William Broadwell, executive director of Aerial Firefighting Industry Association, and Mr. Duane Powers, president of Hawkins and Powers Aviation, Incorporated from Greybull, Wyoming for attending today. Gentlemen, thank you for taking time out of your schedules to be with us.

It is never easy to perform oversight on complex issues relating to the health and safety of people who perform incredibly difficult and dangerous tasks such as extinguishing forest fires and protecting ground firefighters with support from the air.

I hope that we will all listen to the testimony offered today in a proactive rather than reactive manner. We need our agencies and their contractors to address these issues and to make the changes needed to reduce accidents now and in the future. We need to know that they understand the issues and have developed a strategy to improve the safety of these operations.

While it is clear to me that many of the issues we face will not be resolved overnight, I want the wildland firefighting community and their families to know that this Senator will work to reduce the risks faced by these courageous people.

I want to make a couple of observations that I fear could be lost if we only focus on the eight major findings in the report. This report documents an increased use of aerial firefighting over the last decade. Planes and crews are putting in nearly double the amount of hours over these fires than they were only a decade ago. The increase in aerial firefighting has caused dangerous wear and tear on the fleet of aircraft and on their crews. Like it or not, we will continue to be calling on planes, helicopters, and their crews to fly into remote rugged terrain in smoky and hazardous or hazy conditions under less than favorable turbulent weather conditions in order to assist firefighters to put these fires out.

I do not want the agencies or the public to overlook the importance of reducing the hazardous fuels on our public lands before these fires start. When we have thinned our forests and have removed the hazardous fuels, fires are less intense. Our ground crews can be utilized to directly attack these fires and our aerial assets can be safely utilized to put these fires out.

I think our aerial safety issue is rooted in the overstocked, insect-infested forests that we are now asking these people to work in. Until we address the hazardous fuels build-ups, we are fooling ourselves to think that new, fully certified retardant planes with the best trained crews possible can overcome the inherent dangers of aerial firefighting. It is our failure to demand timely fuel reduction that is putting our firefighters, our aerial firefighting crews, the public and our forests at needless risk.

This is not to say that aircraft do not have to undergo a major revamping. I believe they do. I think the report argues that. But if we can reduce how often we have to rely on these planes and helicopters, we will reduce the wear and tear they sustain and reduce the amount of time we put these people in harm's way.

At this point, I have an open mind as to what type of aircraft to use for these tasks and what the correct mix of fixed-wing and helicopter aircraft should be. I will rely on Federal wildland firefighting agencies and their contractors to work that out.

I do want to know specifically what steps have been taken to address these issues listed in the report, including mission muddle, for this season.

I do want to know what is being done to deal with the grounding of 11 heavy retardant planes and 11 lead planes.

Most importantly, I hope I will see and understand that the only part of the fire triangle of oxygen, heat, and fuel that we can hope to influence is how much fuel is left in the forests. Until we address the hazardous fuels issue, we are fooling ourselves to think

that newly, fully certified planes and the best trained crews are beyond danger.

I encourage each of you to resist reading your testimony, to summarize your prepared remarks. Both your written and oral testimonies are a part of the record. Again, I thank you for being here.

I would turn to my colleague, Craig Thomas, for any opening comments he would have.

**STATEMENT OF HON. CRAIG THOMAS, U.S. SENATOR  
FROM WYOMING**

Senator THOMAS. Thank you, Mr. Chairman. Thank you for holding this hearing. I thank all of you for being here.

As is often the case, we are looking at a problem here, one that needs to be resolved. We clearly are going to have fires. We clearly need to do something about them. I think we clearly have identified some problems and what we have to do is find some answers.

Certainly there has been a great reliance on air tankers to do some of the things that have to be done, reliance on contractors. I hope we can continue to do that. This is an activity that could very well and should be done in the private sector, to the extent that it can be.

We had, of course, a number of difficult accidents last year, and we need to do something about that.

I am very pleased the Blue Ribbon Panel's report is here. I think we can focus a good deal on that because many of the solutions I think are there.

Contractors rely on surplus military aircraft. I guess I am a little surprised that we have not done more. We have gone from 130As to 130Hs, and there must be some out there somewhere that are not being used very much. There is no reason for us to be using 40-year-old airplanes when there are some probably in Arizona that ought to be being used.

But in any event, one of the problems obviously has been the number of agencies that have been involved in what appears to me at least to be a disconnect between the Forest Service and the BLM and the FAA in terms of doing the things that they do best. Even though they are in different bureaucracies, I cannot imagine why we cannot work it out to where you use the expertise from one agency when it is needed in one that does not have that kind of expertise. I believe that is partly where we are.

The other, of course, is if we are going to continue and do have these older aircraft, there need to be standards for which they are required to maintain. And then the payment has to reflect the cost of some of those improvements that we do. It is my understanding in the way that these contracts are made that that is not always the case.

So in any event, I think we have a great opportunity today to deal with the problem that all of us would like to resolve, and we appreciate your being here.

Thank you, Mr. Chairman.

Senator CRAIG. Craig, thank you very much.

Now with our co-chairs, we will start alphabetically. How is that? And that is difficult, folks. We have got to go through the first name. We have got a middle initial there, but we usually then go

to the last name. So we will start with James Hall. Jim, thank you very much for being here. As has been mentioned, Jim is president of Hall and Associates and former chairman of the National Transportation Safety Board. Please proceed.

Mr. HALL. Mr. Chairman, with the permission of the chair and Senator Thomas, we have arranged our presentation for Jim Hull to go first, the State Forester of Texas. So if that would be okay, I will have him proceed. We have divided the report up.

Senator CRAIG. Well, the chairman cannot say no.

[Laughter.]

Senator CRAIG. Mr. Hull, welcome. As I mentioned earlier, Jim is the State forester and director of the State of Texas Forest Service. And I did not know that the State of Texas had a Forest Service, but I do now.

Jim, welcome.

**STATEMENT OF JIM HULL, STATE FORESTER AND DIRECTOR,  
TEXAS STATE FOREST SERVICE; AND JIM HALL, PRESIDENT,  
HALL AND ASSOCIATES**

Mr. HULL. Mr. Chairman, Senator Thomas, I am going to resist the opportunity to educate you on the forests of the great State of Texas.

Senator CRAIG. I asked that question yesterday, and then I educated myself. Thank you.

[Laughter.]

Mr. HULL. But it is a real pleasure for co-chair Jim Hall and me to be here today to discuss the findings of this Blue Ribbon Panel with you. We will do that very briefly and just hit the high points.

As you recall, following the tragic air tanker tragedies and fatalities last summer, the U.S. Forest Service and the BLM commissioned this blue ribbon task group to take a look at what was going on and identify the key information that could be valuable in developing information for the planning and the safe and effective future use of the aviation program. As a State forester that is a user of these aerial resources, I can tell you that aviation resources are vital to fire protection not only in the West, but across the entire United States.

We were asked specifically to identify the weaknesses, the fail points that might be present in the current aviation program.

We were also asked to focus on five basic areas: safety, operational effectiveness, cost, sustainability, and strategic guidance. We spent some 3 months crisscrossing the Nation, visiting with Federal and State employees, contractors, pilots, consultants, a number of interested citizens and wildland firefighters throughout the Nation.

Very quickly, I will identify and briefly describe the first four of our findings and co-chair Hall will address the following four.

First, the safety record of fixed-wing air tanker and helicopters is unacceptable as far as the management in the wildland fire arena. We found that contractor personnel flying these large air tankers are subject to lower safety standards than government personnel that are flying the lead planes and the smoke-jumper type aircraft.

But what we also found was that both contractor and government aerial firefighting operations are being conducted at lower safety standards than we feel like can be justified, certainly less than any reasonable employer would expect of their employees.

We found that the aircraft, none of them—or very few at any rate—have voice and data flight recorders to assist in monitoring stresses and then certainly follow-up should a tragedy occur.

The second finding emphasizes the fact that nationwide the wildland firefighting is dealing with an environment that has changed and risks that are changed, new areas that we need to be involved with. As you described, Mr. Chair, so eloquently, we have this buildup of fuel throughout the Nation in our Nation's forests. We are also experiencing prolonged drought throughout most of the Nation that we have experienced personally in Texas and other States. And then we have this very rapidly expanding rural/urban/wildland interface situation with all of the population. And you put all of that together, it is bringing a new environment in which we must deal and respond to wildfires.

However, what we are finding is that fire policy to address all of this is not evolving at a rate that is essential to address the situation.

One of the statements we made in the report I want to read word for word because I think it is very important at this point. Possibly the single largest challenge now facing the leaders of these Federal agencies is to foster much greater cooperation and collaboration among working-level staffs, contractors, States, and certainly the Congress and the Administration to raise the standards of aerial wildland firefighting in the United States.

The third finding deals with the aircraft themselves. The FAA has categorized these retired military aircraft used for firefighting as "public use aircraft." And basically that says, you are on your own, and we found a lot of that. There are very few checks and balances in place to ensure that these aircraft are safe to fly.

Further, we found that the current air tanker fleet is being operated outside of their original design intent with very little formal mechanisms in place to evaluate their capability to be used in this wildland firefighting environment. We feel like that under the current system of aircraft certification, contracting, and operation, the program as it is right now is simply unsustainable.

The fourth finding you mentioned a while ago and I will mention it quickly, "mission muddle." There is no single body in charge of aviation. Instead, there is a variety of missions, philosophies, unclear standards amongst the Federal land management agencies. As a result, the firefighting risks remain higher than necessary because of these mission differences, and so far they have not been recognized, reconciled, or expressed to the degree that they should.

At that point I will ask co-chair Chairman Hall to continue.

Mr. HALL. Mr. Chairman, Senator Thomas, it is a pleasure to be here before the committee.

I would like to address the four final weaknesses, or fail points, that the Blue Ribbon Panel identified which are culture, certification, contracts, and training, and just a word on each one of those.



The safety culture seemed to be either absent or, as in the case of the mission, muddled. We have, obviously, a number of agencies involved here, and the one common thing that we found across the agencies was probably insufficient contract funding in order to provide adequate knowledge of the aircraft condition, insufficient training, inspection, and maintenance, which has resulted, of course, in a deplorable safety record for the air tankers and a less than acceptable safety record for all the other aircraft.

Senators, this reminds me a lot of while I was at the NTSB, U.S. Air had five major accidents which the board looked at very closely, and there had been a merger of several airlines and several cultures trying to co-exist together. You have to have a safety culture that is consistent, and I think we found this not just in the mission but obviously in the culture, the impact of so many different organizations trying to steer the direction.

On the subject of certification, there seemed to have been a misunderstanding of the role of the Federal aviation aircraft. There was no certification of these aircraft for the mission that they were attempting to perform, and of course, with public use aircraft, there is no real air worthiness oversight by the Federal Aviation Administration. This puts the Forest Service in the untenable position of being both the contracting agency and the regulator which is a situation that, unfortunately, rarely works.

In the area of contracting, which I think is an extremely important area, there seemed to be an emphasis on cost efficiency and an absence of contract provisions that emphasized safety results and required a demonstration of safety, no emphasis on judgment, experience, safety records, past performance, and obviously a lack of knowledge and awareness, it appears, in the contracting process of what is required for a safe aviation program.

And finally, in the area of training, we found inadequate funding to provide the type of training that is required in crew stress and fatigue, in turbine engine operation and reporting processes and workload management and crew resource management in particular.

We looked at several different options which are in the final report of things, although we were to look not at recommendations but strictly at fail points and omissions. We did see, in Canada and in the State of California with their operations, models that the committee members may want to have committee staff look at more deeply in terms of potential directions to go in this area.

Finally, let me say on behalf of the co-chairman, the other panel members, that we were honored to have this assignment. We had the opportunity to have a full briefing with Dale Bosworth, the head of the Forest Service, and Kathleen Clark, the head of the Bureau of Land Management. Both Mr. Kern who is here this morning and Mr. Hamilton and all the staff and folks we met primarily on our travels throughout the Western States were most cooperative, and we hope that this work in some way will help the committee, as well as the agencies, in providing a new direction and a new safety standard in this aerial firefighting area.

[The prepared statement of Mr. Hull and Mr. Hall follows:]

PREPARED STATEMENT OF JIM HULL, STATE FORESTER AND DIRECTOR,  
TEXAS FOREST SERVICE; AND JIM HALL, PRESIDENT, HALL AND ASSOCIATES

Mr. Chairman and members of the Committee, we are pleased to be here to discuss findings of the Blue Ribbon Fact Finding Panel on the aviation programs of the Forest Service and Bureau of Land Management. I am Jim Hull, Texas State Forester and I served as co-chair of this Blue Ribbon Panel with Jim Hall, former chair of the National Transportation Board who will join me in this presentation. We represent the entire Panel that also included Mr. Ken Johnson of Canada, Dr. Earl McKinney of Ohio and Mr. Bill Scott of Colorado.

Following the tragic air tanker fatalities of last summer, the Forest Service and Bureau of Land Management jointly established our independent commission to identify key information for planning the safe and effective future of the aviation program that is so essential for effective wildland firefighting across the nation. We were tasked to identify weaknesses and fail points in the current aviation program, focusing on safety, operational effectiveness, costs, sustainability, and strategic guidance. We spent three months gathering information from federal and state employees, contractors, pilots, consultants, interested citizens and firefighters. We issued our report to the Chief of the Forest Service and Director of the BLM in December 2002. The panel identified a wide variety of issues, and we will briefly summarize the eight principal findings.

- **Unacceptable Level of Safety**—The safety record of fixed-wing aircraft and helicopters used in wildland fire management is unacceptable. Contractor personnel flying large air tankers are subject to a lower safety standard than government personnel flying federally owned and operated lead planes and smoke-jumper aircraft. The level of safety for both contractor and governmental aerial firefighting operations is lower than can be financially justified and is less than expected for any responsible employer. The aircraft do not have voice and data flight recorders to assist in accident investigation.
- **New Environment, New Risks**—A considerable build-up of fuel in the nation's forestlands, three-plus year's of severe drought conditions and an expanding wildland/urban interface have significantly changed the way land managers must consider fighting wildfires. Different philosophies and firefighting tactics are required to combat the ever-increasing number of large fires. However, current fire policy to address these changing circumstances has been slow to evolve and this negatively impacts the utilization of aviation resources. Possibly the single largest challenge now facing leaders of these federal agencies is to foster cooperation and collaboration among working-level staffs, contractors, states, and the Congress and Administration to raise the standards of aerial wildland firefighting in the United States.
- **Aircraft**—The FAA has categorized retired military aircraft used for firefighting as "public use aircraft," meaning that there are few checks and balances to ensure these aircraft are safe to fly, beyond obtaining the initial FAA Restricted Category type certificates that are issued once the aircraft are placed into firefighting service. Further, all aircraft in the current airtanker fleet, are being operated outside their original design intent with little or no formal evaluation in the low-level firefighting environment. Together these pose serious safety hazards as underlined by recent in-flight structural failures. Under the current system of aircraft certification, contracting and operation, key elements of the aerial wildland firefighting fleet are unsustainable.
- **Mission**—The variety of missions, philosophies, and unclear standards of federal land management agencies creates a "mission muddle" that compromises the safety and effectiveness of aviation in wildland fire management. As a result, aerial firefighting risks remain higher than necessary because the mission differences among agencies have not been recognized, reconciled, and expressed as a common operations plan with clear lines of authority. There is no single body in charge.
- **Culture, Organizational Structure, and Management**—The structure and management of federal wild fire agencies is ill-suited to conduct safe and effective fire aviation operations. While the passion and "can do" spirit of firefighters is admirable, it has masked agency management, and has contributed to over aggressiveness in piloting large air tankers. Contract specifications do not require necessary knowledge of aircraft condition, training, inspections, and maintenance. This has led to operator's bids that do not adequately provide for these factors and to an unacceptable safety record for large air tankers.
- **Certification**—Because the FAA has abrogated any responsibility to ensure the continued airworthiness of "public-use" aircraft, both the FS and BLM have been placed in the untenable position of determining whether an aircraft is safe

to fly. Neither the FS nor the BLM are staffed or qualified to make airworthiness assessments. Although these aircraft are FAA certified, the certification processes do not require testing and inspection to assure airworthiness for the new mission. This is unacceptable.

- **Contracts**—Government contracts for air tanker and helicopter fire management services do not adequately recognize business and operational realities or aircraft limitations. This is particularly evident in aviation contracts that do not require a safe operation.
- **Training**—Training is under-funded and inadequately specified for helicopters, large air tankers, and other fixed-winged operations. The lack of training in several well-known and effective contemporary aviation management areas has contributed to a stagnant, rather than improved accident rate over time.

Although the panel was not tasked to provide recommendations, we felt it important to identify existing models and strategic alternatives that might be useful for government program managers as they charted their future.

The panel thought that the Canadian model was especially noteworthy, where the government established specific airworthiness standards and then appropriated resources to flight test and evaluate each proposed model of airtanker to ensure that it was safe and sustainable as a fire fighting aircraft. This resulted in a maintenance and inspection program that far surpasses anything we saw with U.S. vendors—a program that acknowledges aircraft “age” faster when operating in the fire-fighting environment.

The panel also noted the current model used successfully by the California Division of Forestry, where the government owns and controls the configuration and inspection of the aircraft, but the private sector maintains and operates them during the fire season. Although we did not visit the military aerial firefighters, we were briefed on the use of Air National Guard assets and their excellent safety record. We believe that each of these options should be carefully evaluated as a possible solution to the current set of challenges.

In conclusion, the panel wants to commend the Forest Service and BLM for their courage in establishing the Blue Ribbon Panel, but also to encourage them to look carefully at the full range of options, including the possibility of outsourcing the entire program to a separate entity that can specialize in the complexities inherent in a large-scale aviation operation. The panel would also encourage appropriators to work closely with the administration to assure funding for near term modernization of both the airtanker and lead plane fleet, and to ensure that the funding remains sufficient to sustain these operations in support of the public interests.

Thank you for allowing us this opportunity to share the panel’s testimony and we are prepared to answer any questions that you might have at this time.

Senator CRAIG. Well, on behalf of the subcommittee and the full committee, gentlemen, thank you for your work, and I thank the clarity of your findings and what you are suggesting.

Now let me move to Larry Hamilton, BLM Director of Aviation at the National Interagency Fire Center in Boise. Larry, welcome. Please proceed.

**STATEMENT OF LARRY HAMILTON, NATIONAL DIRECTOR, OFFICE OF FIRE AND AVIATION, NATIONAL INTERAGENCY FIRE CENTER, BUREAU OF LAND MANAGEMENT, ACCOMPANIED BY DR. TONY KERN, ASSISTANT DIRECTOR OF AVIATION, U.S. FOREST SERVICE**

Mr. HAMILTON. Good morning. Mr. Chairman and Senator Thomas, we are pleased to be with you this morning to discuss the U.S. Forest Service and the Department of the Interior fire and aviation program.

I would also like to thank the Blue Ribbon Panel for their outstanding work. They got a lot of work done, covered a lot of area in a very short period of time, and this report has been very helpful to us in making some changes already this year, and I want to talk about a few of those here this morning.

Also with me today is Dr. Tony Kern. He is the Deputy Director of the Forest Service's fire and aviation program and he will be here to assist in answering any questions that you may have.

You are very much aware of the kinds of fire seasons we have had here, and those were very eloquently described in your opening statement. So what I would like to do is move to some of the things that we are doing in response to the findings in the Blue Ribbon Panel.

First, the Forest Service and BLM have not renewed contracts on nine C-130A and PB4-Y retired military air tankers that were determined to pose an unacceptable risk to public and firefighter safety. And then we are also requiring that the remaining 33 air tankers go through an enhanced inspection program prior to returning to firefighting duty.

Because of these safety concerns, we have also retired 11 of our 19 existing Beech Baron 58-P lead planes that have exceeded the 6,000 hour safe life limit. Within the next couple of weeks, we plan to replace up to 10 of these planes with newer, more efficient and safer aircraft through long-term leasing.

Secondly, the agencies have prepared mitigation and contingency plans as a result of losing some of these aircraft. We are planning on increasing the number of single-engine air tankers for initial attack and reducing the number of large air tankers that we use on large fire suppression activities. BLM sponsored an intensive single-engine air tanker pilot training academy which is a requirement for all pilots staffing these aircraft.

Third, the Forest Service and BLM, through a contract with the Sandia National Laboratories, are also continuing to analyze the safety of all of our air tankers and their use in aerial firefighting. The lab is analyzing the existing air fleet in three phases, focusing first on the Lockheed P-3 Orion; second, the Douglas DC-4s, -6s, and -7s; and third, the Lockheed P2-V Neptune. It is anticipated that P-3 aircraft will be available in the near future. As a matter of fact, we have two of those aircraft that have been certified at this point and are available to us.

We are also working to increase the use of other aircraft and reduce our reliance on retired military planes. For example, we are contracting for more Type I heavy helicopters, to use them in conjunction with the single-engine air tankers for initial attack and extended attack. A combination of these efforts will reduce our reliance on large air tankers.

Finally, one effort that the Forest Service recently completed on behalf of all fire management agencies is an aviation action plan for 2003. This plan identifies actions to be taken to improve our fire management operations. It focuses on the four critical areas that have been identified here: safety, preparedness, security, and cost containment. It also provides direction to assure safety, appropriate staffing, management oversight, planning, and training for wildland fires.

I know you are interested in the finding on mission muddle. We have done a couple of things in response to that. One is that we have written new policy for our national multi-agency coordinating group there at NFSI. When we go to preparedness level 4 and 5, our aerial assets now will be managed at the national level. So we

will not have the problem that we have had in the past where we have had geographical areas that could hoard these assets or refuse to make them available in other areas.

The other thing that we have done is we are in the process of hiring a project manager. We have a list of candidates. It is an outstanding list of candidates, and we have people from outside the Federal agencies who have applied for this job. We will shortly be making a selection for that position.

Given the scope of the report, it will take us some time to implement all the findings, but I want to assure you we are working on that very diligently.

While early indications are that this fire season could be as challenging as last year's and the 2000 fire season, we are still continuing to improve safety in our aviation program. We hope that the steps described above will meet our needs here this fire season.

This concludes our remarks and we would be happy to answer any questions that you may have.

[The prepared statement of Mr. Hamilton follows:]

PREPARED STATEMENT OF LARRY HAMILTON, NATIONAL DIRECTOR,  
OFFICE OF FIRE AND AVIATION, BUREAU OF LAND MANAGEMENT

Mr. Chairman and members of the Committee, we are pleased to be with you this morning to discuss the United States Department of Agriculture's Forest Service (FS) and Department of the Interior's Bureau of Land Management (BLM) fire aviation program, and our efforts to ensure the safety of our firefighters and our contractors and to show what both agencies are doing to be adequately prepared for the upcoming fire season. With me today is Dr. Tony Kern, Assistant Director, Fire and Aviation Management, USDA Forest Service.

BACKGROUND

The interagency fire aviation program is a large and complex program that has been operating aviation assets for natural resource purposes since the 1920s. The FS and BLM own, lease, or contract for nearly 1,000 aircraft each fire season, with annual expenditures in excess of \$250 million in recent years. Aviation missions include fire retardant and suppressant delivery, reconnaissance, infrared imaging, aerial photography, leadplane and air supervision operations, and smokejumper delivery. The programs are managed with full interagency cooperation by approximately 200 personnel at the national, regional, state and local levels.

The fleet is extremely mobile during the fire season, and often operates in a high risk, low altitude environment in and around the wildland urban interface. Although they are primarily intended for initial attack, aviation assets are often deployed on large fires. The decision to deploy aircraft on a fire depends on many factors, including safety considerations for firefighters, the likely effectiveness of suppression from the air, the stage of fire suppression, the condition and terrain of the land, and fire behavior. The last several fire seasons, heightened by continued drought and the build up of fuels on public lands, have resulted in more intense and larger fires. These fires have placed increased demands on aviation resources and the interagency aviation program. We face several challenges in providing aerial firefighting capability during this fire season and into the future.

Last year proved to be one of the worst fire seasons in the last half century, one in which 73,000 fires burned approximately 7.2 million acres of land. The severity of the 2002 fire season was magnified by several fatal aerial firefighting accidents, including the crash of one C-130 aircraft, one PB4Y-2, and an Aerospatiale SA 315B Lama helicopter. In total, six aircrew members were killed in these incidents. In response to these tragedies, the FS and BLM jointly established an independent panel called the "Blue Ribbon Panel" to investigate issues associated with aerial wildland firefighting in the United States. The report identifies eight key findings that are determined to be essential for planning a safe and effective fire aviation program. Mr. Chairman, we look forward to discussing the Panel's findings, and ongoing efforts to ensure that both the FS's and BLM's fire aviation program is adequately prepared to address wildfires in the upcoming fire season and beyond.

## THE BLUE RIBBON PANEL

The joint FS and BLM independent Blue Ribbon Panel was tasked with identifying weaknesses and “fail points” in the current aviation program, focusing on safety, operational effectiveness, costs, sustainability, and strategic guidance. These four areas were addressed as they relate to the various types of firefighting aircraft, including the operation and supervision of airtankers, leadplanes and air supervision modules, helicopters, and air attack platforms. With input from the public via town hall meetings held across the country and comments received from other interested parties, including Federal and state governments, industry, and other interest groups, the Panel developed eight key findings, which it believes are critical for planning a safe and effective fire aviation program. These key findings, more fully discussed in the chairman’s testimony, are in the following areas: aircraft safety records; aircraft operations; staff training; aircraft certification; contracts; agency missions; culture, organizational structure, and management; and changing fire environments and new risks. The Panel did not advocate solutions or make recommendations, although it identified several strategic alternatives and organizational models.

## EFFORTS TO IMPROVE THE FIRE AVIATION PROGRAM

The Report identified various concerns about aircraft safety, including the airworthiness of aircraft that were operating outside of their original intended design and the appropriate levels of maintenance and training to ensure safe operations. The Report also identified a lack of training in contemporary aviation management areas that has contributed to an unacceptable accident rate. The FS and BLM have already taken several steps to address these issues.

First, the FS and BLM have not renewed contracts on nine C-130A and PB4-Y retired military airtankers that were determined to pose an unacceptable risk to public and firefighter safety. We are also requiring the remaining 33 airtankers to undergo an enhanced inspection program prior to returning to firefighting duty.

Because of serious safety concerns, we have retired 11 of our 19 existing Beech Baron 58-P leadplanes that exceeded the 6,000 hour safe life limit. Leadplanes are utilized to direct airtanker tactics and provide aerial supervision. Within the next couple of weeks, we plan on releasing a Request for Proposal to replace up to 10 of these planes with newer, more efficient, and safer aircraft through a long-term lease. Further risk mitigation steps include reducing the retardant load on the airtankers and reducing exposure through direction to the field to use the airtankers primarily for initial attack.

Second, the Agencies have prepared contingency plans to mitigate the loss resulting from suspension of certain airtankers. To address these shortages, the FS and BLM are planning to increase use of Single Engine Airtankers (SEATs) for initial attack and reduce use of airtankers for large fire support. The SEATs will be prepositioned as needed to improve initial attack coverage. Airtankers that are available for duty will principally be used for initial attack, as originally intended, instead of their increasing use as support for large fires. Recently, the BLM sponsored an intensive SEAT pilot training academy, which is a requirement for all pilots staffing these aircraft.

Third, the FS and BLM, through a contract with the Sandia National Laboratories, are also continuing to analyze the safety of all types of airtankers for their use in aerial firefighting. The Lab is analyzing the existing airfleet in three phases, focusing on: a) the Lockheed P-3 Orion, b) the Douglas Series (DC-4, DC-6 and DC-7), and c) the Lockheed P-2V Neptune.

a) Lockheed P-3 Orion: The Sandia Labs has forwarded its analysis of the Lockheed P-3 Orion airtankers to the FS, BLM, and the FAA. The FAA has evaluated the report and mission inspections are underway. It is anticipated that P-3 aircraft will be available in the near future;

b) Douglas Series: Analysis of the Douglas line of aircraft is underway. Because the Douglas aircraft are generally used for commercial purposes, they have a better-documented maintenance history than retired military aircraft. These aircraft are not available for firefighting use until the analysis and required inspections are completed; and

c) Lockheed P2-V Neptune: The final phase will be the analysis of the Lockheed P2-V Neptune. This analysis is not complete, but we look forward to receiving it. These aircraft are not available for firefighting use until the analysis is completed.

We are also working to increase the use of other types of aircraft to reduce our reliance on retired military planes. For example, the FS and BLM are contracting

for additional Type I heavy helicopters for their use in conjunction with SEATs for initial attack and extended attack fires. We are also encouraging the private-sector large-airtanker industry to propose different airframes for consideration as next-generation airtankers. These aircraft can carry anywhere from 2,000 to over 11,000 gallons of retardant. Some of these aircraft could be available as early as 2004. Also, SEAT manufacturers are gearing up to provide additional aircraft by the 2004 contract year and future years.

The combination of these efforts will reduce our short-term reliance on large airtankers and provide a solution until those large airtankers that are qualified can be returned to service. It is our intention to closely coordinate with the Sandia National Laboratories and solicit the assistance and cooperation of the FAA in determining which airtankers can safely be returned to service. We are equally committed to partnerships with the private sector in developing newer technologies and reducing our dependence on aging, retired military aircraft.

The Forest Service recently completed on behalf of all fire management agencies an Aviation Action Plan for 2003. The Plan identifies specific actions to be taken to improve fire management operations. It focuses on four critical areas—safety, preparedness, security, and cost containment—and provides direction to assure safety, appropriate staffing, management oversight, planning, and training for wildland fires.

Given the scope of the Blue Ribbon Panel's Report, it will take some time to fully address the other identified issues. We will continue to strive to improve program efficiency and cost effectiveness in all areas of the wildland fire program, including the fire aviation program, as directed by the President's proposed FY 2004 budget. In particular, we will continue to develop and begin using the new interagency fire planning system to optimize cost effectiveness for fire readiness resources. Throughout this work, our primary emphasis has been and will continue to be the safety of the public as well as our firefighters and contractors. Accordingly, our efforts will ensure a coordinated approach to developing a safe and effective aerial firefighting program in which all firefighting agencies are in lockstep.

#### CONCLUSION

While early indications are that this fire season could be as challenging as last year's, the FS and BLM are continuing to improve the safety and effectiveness of its fire aviation program. Fire aviation continues to play an integral role in combating wildland fires. We feel that the steps described above have adequately prepared both the FS and BLM to address this year's fires. This concludes our remarks. We'll be happy to answer any questions that you may have.

Senator CRAIG. Well, Larry, thank you very much.

Tony, do you have any additional comment?

Dr. KERN. No, sir. I am basically here to answer some questions.

Senator CRAIG. Thank you very much.

We have been joined by Senator Murkowski. She has an opening statement. Senator, if you do not mind, could we complete this testimony and then we will come to you for your opening statement? And then we will go to questions of all who are here. Okay?

Senator MURKOWSKI. Fine.

Senator CRAIG. Well, thank you very much.

Let me now then turn to William Broadwell, executive director of the Aerial Firefighting Industry Association. Are you gentlemen in tandem this morning?

Mr. BROADWELL. No.

Senator CRAIG. Separate testimony. All right.

Mr. BROADWELL. Separate testimony.

Senator CRAIG. All right. Bill, we will start with you. Please proceed.

**STATEMENT OF WILLIAM R. BROADWELL, EXECUTIVE  
DIRECTOR, AERIAL FIREFIGHTERS INDUSTRY ASSOCIATION**

Mr. BROADWELL. Mr. Chairman and members of the subcommittee, thank you for the opportunity to participate in this hearing.

My remarks will be very brief. You have my statement for the record and it provides the association views on the Blue Ribbon Panel report in much more detail, as well as what we are doing for this fire season.

Just by way of introduction, the Aerial Firefighters Industry Association consists of nine large fixed-wing air tanker companies, two heavy lift helicopter companies, two single-engine air tanker companies, and seven sustaining members. We provide aerial firefighting services throughout the United States, and several of the companies are working in the international scene.

We are largely a large fixed-wing air tanker-focused association. Our nine companies represent all but one company that contracts for large fixed-wing air tanker contracts with the Forest Service. We, by no means, represent though the large number of helicopters and single-engine air tanker companies that are available to the Forest Service.

First, let me say that the association members believe the Blue Ribbon Panel accomplished a great deal on accurately identifying shortfalls in the Nation's aerial firefighting program. They had a lot of data to review. They had a short time to do it. They had a lot to filter, and we think that they got it right for the most part. We believe, as a result of the actions that should be taken as a result of their findings, that the large air tanker industry will be transformed to a much safer, more effective aerial firefighting fleet, providing—and I want to emphasize “providing”—the program is properly funded.

Now, just a few words on where we are in preparation for the upcoming season. You were briefed on the fact that we were working with the Sandia lab to review the inspection procedures. I want to tell you, though, that the air tanker companies have been proactive in that area and had started that process way back in the late summer or early fall and during this winter maintenance period, have broken the aircraft down as far as they could to be able to examine all the critical members in their aircraft and to conduct sensitive tests on those. A lot of those procedures have been validated by the Sandia Labs. Some of them need upgrading and they have made those recommendations and we will do it.

We do not look at that process, though, as the end of the process. We look at there being a follow-on program which a couple of our companies are already investigating, and that is to develop a model air worthiness program that will be applicable to all future air tankers, either resale or built for the mission. That type of process will include full examination of the environment in which we fly, damage tolerance tests to be able to identify the critical areas within the aircraft that need to be monitored. And that will be followed by installing a structural monitoring system which will constantly monitor the actions of the aircraft, stresses and strains it undergoes, so that you can validate your inspection program and you can also identify where overstress has occurred. You can pull it off the line, do your proper inspections, and put it back on the line again.



While it is too early to tell exactly the full cost of such a program, we have been told that you could do the instrumentation and do the analysis for about \$100,000 per aircraft, and then for another \$5,000 to \$10,000 per year per aircraft, to manage the structural monitoring program.

So, where do we go from here? While we recognize that the older aircraft requires higher maintenance costs, we still maintain the most cost effective immediate, medium-term solution to the modernization process remains the sale and conversion of excess military aircraft under the Wildfire Suppression Aircraft Transfer Act of 1996. I am not saying we propose we get these aircraft and we operate them forever. First of all, we have to have this model airworthiness program by which they would be operated by. But we say purchase them for a set period of time, given that when you purchase them like 10 to 12 years, maybe 15 years depending on how the program goes, and then park them, and then get on with it. But it will give us time to be able to transition to aircraft that are better built for this mission. It is going to take time.

However, right now we do not see anything that is immediately on the horizon that is cost effective for this area, and that is why I am proposing that we continue on with this excess military aircraft. After all, the United States is one of the few countries in this world that has excess aircraft paid for by the taxpayers already, and they could get a continuing return from these aircraft.

Now, the Blue Ribbon Panel proposed several within-funding-constraints solutions that should be investigated by the Forest Service. We question whether these options are feasible within current funding constraints and their cost effectiveness, and we recommend that before any serious consideration be given to any of these options that a complete cost analysis and an apples-to-apples comparison be conducted with existing commercial programs.

So what do we need to continue on in the future besides this model air worthiness program which we are already working on? We need a strategic plan from the Federal agencies that specifies the aerial firefighting resources required to support the agency's wildland firefighting mission. The operators need this plan in writing so that they know what to buy for. They are not going to put millions of dollars into a program if they do not know what needs to be.

We also need adequately funded contracts that include incentives for high standards of maintenance, training, and safety, that rewards research, development, and innovation, and sets aside some money for future modernization.

Given the plan and the proper funding, we believe the commercial large fixed-wing air tanker industry is fully capable of providing safe and effective operations into the future.

Thank you. I am available for any questions, sir.

[The prepared statement of Mr. Broadwell follows:]

PREPARED STATEMENT OF WILLIAM R. BROADWELL, EXECUTIVE DIRECTOR,  
AERIAL FIREFIGHTING INDUSTRY ASSOCIATION

The Aerial Firefighting Industry Association (AFIA) is a nonprofit trade association organized for the purpose of advancing the effectiveness and long-term stability of the commercial aerial firefighting industry through high maintenance standards and aircraft availability, and proactive safety and training programs. Current AFIA

membership consists of nine large, fixed-wing airtanker companies, two heavy lift helitanker companies, two single engine airtanker (SEATS) companies, and seven sustaining members. The airtanker/helitanker companies provide aerial firefighting support to all regions of the United States during the regions' peak fire season through federal and state contracts. AFIA is currently a large airtanker focused association in that the nine large, fixed-wing airtanker companies represent all but one large, fixed-wing airtanker company that contracts through the Forest Service for aerial firefighting services.

We believe the Blue Ribbon Panel accomplished a great deal in accurately identifying shortfalls in the nation's aerial firefighting program in a relatively short fact finding and analysis time frame. They had a significant amount of data to review and filter, and in our opinion, they got it right for the most part. However, several of their observations warrant comment before discussing actions the large, fixed-wing airtanker companies are taking to ensure safe and effective operations in the future.

Current operators are not without engineering support for their airtankers. P-3 and P-2 operators are able to obtain product support from Lockheed. The operators of Douglas made aircraft have received product support from the Douglas (now Boeing) engineers over the years and that service continues. For airtankers where OEM product support has not been available, the companies have contracted with FAA certified structural engineers for their engineering work. With this support, and implementation of a more rigorous inspection/repair program supported by structural monitoring systems, the large airtanker fleet will continue to provide valuable aerial firefighting services in the future.

The statement that contractors do not have a financial incentive and are "not required to ensure their aircraft are safe to fly" ignores the moral responsibility our operators exercise to ensure the safety of their aircrews, and the financial losses they experience from losing an aircraft. They do not purposely send their crews out in unsafe aircraft. What the Blue Ribbon Panel uncovered, however, was that existing inspection and repair programs were not adequate for the environment in which the airtankers were being flown. The operators, in conjunction with the Sandia Laboratories, Airworthiness Division, have addressed that shortfall in the short term, and will continue to work on a long-term program applicable to all future airtankers, both new production and converted resale aircraft.

Many of the training shortfalls mentioned in the report have been the subject of discussion in the biennial aerial firefighting workshops held in the past, which have proven to be a valuable exchange of information between pilots and the agencies. The National Aerial Firefighting Academy has been a great innovation and contributor toward coordinated training. Crew resource management has been in the curriculum from time to time, but not consistently. The Association has been a big supporter of the Academy (all but the new hire pilots have attended at least once) and has recommended the addition of a flight phase since its inception. The panel has correctly identified the lack of incentives or accountability in the contracts process for maintaining well-managed training programs. We would welcome the opportunity to work with the Forest Service in establishing basic pilot training and proficiency requirements and a management system for ensuring accountability in the program.

As recommended in the most current published strategic guidance promulgated in the National Study of Large Airtankers to Support Initial Attack and Large Fire Suppression, 1995/1996, the Association members believe the most cost effective modernization option for large, fixed-wing airtanker companies remains the sale and conversion of excess military aircraft under the Wildfire Suppression Aircraft Transfer Act of 1996 (PL 104-307), and we recommend continued pursuit of this goal as an immediate, but medium term (10-12 years), solution to the modernization process. Ultimately the companies would like to procure aircraft built specifically for the mission. We do not agree that acquiring and converting newer, excess military aircraft would only perpetuate a cycle that has proven to be unsustainable and dangerous, given that a more rigorous inspection/repair program is now being implemented. The cycle cited by the Panel occurred without adequate means to measure the wear on aircraft engaged in aerial firefighting. New procedures will ensure that critical areas of the aircraft will be continuously monitored and evaluated with structural monitoring systems and their inspection/repair programs adjusted accordingly. The United States is one of the few countries in the world that has an excess of aircraft sitting in preservation. These aircraft are capable of being operated safely as airtankers given they are maintained under rigorous inspection/repair programs developed from comprehensive damage tolerance assessments.

The Blue Ribbon Panel identified four "within funding constraints" options that could be explored to ensure safe, effective aerial fighting operations. We question

whether these options are cost effective and strongly recommend they be thoroughly analyzed and compared on an "apples-to-apples" basis with existing and future planned commercial aerial firefighting programs. Several of these options have been proposed in the past with apparent little regard for the ultimate taxpayer cost, but more for the emotional impact of the moment.

The large, fixed-wing airtanker companies have been proactive in pursuing more rigorous inspection/repair programs, having initiated their program review and modification before release of the Blue Ribbon Panel Report. As follow-on to the one-time structural inspections conducted last summer, the companies began evaluating their current FAA approved airtanker inspection programs with the assistance of independent non-destructive inspection (NDI) laboratories, structural engineering firms and the FAA. The ultimate goal was to ensure all critical structural areas were inspected at intervals necessary to ensure safety of flight. During the winter maintenance period, the aircraft were disassembled to provide access to all the structural members and sensitive NDI methods, e.g. x-ray, eddy current and dye penetrant, were used to inspect the aircraft structural integrity. Repairs were made where required. Following release of the Blue Ribbon Panel Report, the Forest Service contracted with the Sandia Laboratories, Airworthiness Assurance, to assess each company's inspection/repair program to validate and/or modify as necessary to ensure the most effective inspection procedures possible were being accomplished. We anticipate this process will be completed by April 15th, and all airtankers that meet the new standards will be on contract for the 2003 wildfire season.

The Sandia review of the large, fixed-wing airtanker companies is just the first phase in developing a total inspection/repair program that will serve as the model for all airtankers in the future. Several of our companies have already started initiating this process on their own. The next steps will include an evaluation of the operating environment to establish a load spectrum in order to understand the loads imposed and the effects of those loads on firefighting aircraft. From that analysis a damage tolerance assessment (DTA) will be developed that will identify critical stress areas and critical stress crack lengths and growth rates. Based upon the DTA, an inspection program will be designed that thoroughly addresses structural elements of the aircraft. This will ensure the aircraft are inspected properly for the operational environment in which they are being operated. Coupled with these programs will be a "Structural Health-Monitoring Program", whereby the aircraft will be properly instrumented to ensure events of harsh or unusual usage are quickly identified. The structural health-monitoring program will allow a company to identify when an overstress event has occurred, remove the aircraft from service, and take appropriate inspection/maintenance action. The program will also be invaluable in the continual monitoring of existing inspection programs and adjusting inspection intervals as appropriate. While exact costs for the "model" airworthiness program are not available since the program development is still in its beginning stages, rough estimates for instrumenting an airtanker and conducting a damage tolerance assessment are \$100K per aircraft, with the cost of managing the structural health-monitoring program at \$5-10K per aircraft per year.

Key to the successful implementation of the "model" airtanker airworthiness program will be adequate contract funding. As the Blue Ribbon Panel correctly identified, the short-term pursuit of cost efficiency by federal agencies responsible for wildland aerial firefighting has been reflected in contracts that do not reward value, performance and safety. The large, fixed-wing airtanker program has in fact been under funded for years, which has led to the present concern over its sustainability without a major upgrade of its airworthiness program. Some estimates place the under funding at 50-100% of current contract funding levels. Implementation of the enhanced inspection/repair programs, transition to an all turbine-powered fleet, and allowances for future modernization will further increase funding requirements. In fact, at a briefing with Forest Service aviation personnel several weeks ago an aerial firefighting resource plan for CY-2008 was outlined that was estimated to cost 300% more than is currently budgeted. The exact costs will remain undetermined until the Forest Service publishes an official aerial firefighting requirements document. The bottom line, however, is that even with the increased budget required to properly support a first class large, fixed wing airtanker program, we believe that commercial aviation is still the most cost effective resource to provide aerial firefighting support. The National Study of Large Airtankers to Support Initial Attack and Large Fire Suppression determined the benefit-cost ratio of the 1995 large, fixed wing airtanker fleet was 8.7:1. The study estimated the benefit-cost ratio of a fleet of 41 turbine-powered airtankers (20 P-3A, 10 C-130B, and 11 C-130E aircraft) with 3000-5000 gallon retardant capacity to be 6.38:1. The large, fixed-wing airtanker companies have in fact supplied effective aerial firefighting support to Federal and State agencies for over 40 years. They employ highly trained crews whose primary

job is to fight wildland fires. They have the best delivery equipment available that is certified in accordance with strict Federal standards of performance (IAB performance specifications), and they are responsive and always available.

We look forward to participating in the team effort to "raise the standards of aerial firefighting in the United States". We just need the long-range strategic aerial firefighting resource plan and the funding required to maintain, train and operate safely and effectively.

Senator CRAIG. Well, thank you very much, Mr. Broadwell. We appreciate that testimony. We will be back to you with questions in a few moments.

Now let me turn to my colleague from Wyoming for the introduction of one of his constituents.

Senator THOMAS. Thank you, Mr. Chairman. We are very pleased this morning to have Duane Powers. He is president of Hawkins & Powers which is a pioneer in the aerial firefighting techniques. They have been in business, I think, for over 40 years. And I think they are the second largest aerial firefighting company in the Nation. They have been very involved here and very involved in the safety aspects and so on. So, thank you very much for being here, and we appreciate hearing your experience and your suggestions.

**STATEMENT OF DUANE A. POWERS, DIRECTOR OF OPERATIONS, HAWKINS & POWERS AVIATION, INC., GREYBULL, WY**

Mr. POWERS. Thank you, Senator Thomas.

Mr. Chairman, members of this special subcommittee, I am Duane Powers. I am a mechanical engineer and have served 20 years as a naval aviator. I am an aerial firefighting pilot. That describes my occupation in a few words. I deliver air drops of fire retardant to slow down the spread or extinguish forest and wildland fires.

I am proud to say that our employees have had a hand in saving national parks, Federal forests, grasslands, the Los Alamos National Laboratory, and even towns and communities. Whether it is a motel, a rail car, a burning pile of massive scrap tires, we put them out.

More formally, I am a co-owner of Hawkins & Powers Aviation, a renowned firefighting operation based in Greybull, Wyoming.

My father and his partner began flying and combatting forest fires more than 40 years ago. They are pioneers in the business and to this day their sons, my son, my daughter continue this proud tradition as a third generation family business.

We operate a variety of aircraft, including helicopters and a number of aircraft for fire suppression. These are air tankers you have heard so much about. Like other contractors, many of our aircraft are retired military aircraft, C-130As, PB4-Y2 Privateers, P2-V Neptunes. These aircraft have served this Government well, but we do not want to fly them long term. We are flying these aircraft because that is what the Federal agencies could afford.

Hawkins & Powers has spent millions of dollars and worked year after year to try to modernize its fleet to no avail. As discussed by the Blue Ribbon Panel, our industry is caught in a low-cost paradigm.

I would be remiss if I did not point out that two of our aircraft, the C-130A and the PB4-Y2 Privateer, were involved in fatal air

tanker crashes during the 2002 fire season. We lost wonderful friends, crew members, dedicated employees. Our business reputation, our stability, our morale were greatly affected.

As a result we have taken a close and agonizing look at how we have maintained our aircraft, trained our crews, and operated our business. As a family-owned company responsible for more than 150 employees, we have always prided ourselves on being morally upright and totally cognizant of our employees' safety.

I can say that we have been rewarded in our introspection. The FAA has thoroughly examined our aircraft and our staff and gives us exceptional marks. We have reflected with our employees on improving the already tight aircraft maintenance system and have developed new tougher procedures and internal inspections, as Mr. Broadwell has pointed out.

Over the past 30 years, we have been among the preferred aerial firefighting contractors for Federal and State agencies. Some of our contracts such as those for the State of Alaska and national park continue to this day.

Our relationships with the Federal firefighting agencies have ebbed and flowed over time, with changes in policy, politics, Federal management strategy. At times it is difficult to know whether the agencies regard us as friends, partners, or simply the lowest-cost vendor.

I am here today to speak directly to the findings of the Blue Ribbon Panel and how Hawkins & Powers has reacted to that report and its recommendations. We believe the panel did an excellent job of identifying the issues, problems, and challenges of managing aerial firefighting. We agree with many of the eight findings and trust that the decision will form a framework of new proactive, progressive philosophy about using aerial firefighting resources.

Key to those relationships with the contracting agencies, we believe a new dialogue must be created between Federal agencies and the contractors, contractors which have performed key firefighting assistance over the years, and this dialogue must be grounded in partnership and cooperation.

Hawkins & Powers believes and agrees with the Blue Ribbon Panel that traditionally Federal agencies' contracts had a narrow cost focus. Thus, contractors are focused on how safely to get the best aircraft and the best crews put to work with limited financial support.

Over the years, more than 100 million acres of valuable forest lands have been preserved and saved as a result of air tactics. This industry and Hawkins & Powers have served the Federal Government and our country well. The taxpayers benefit greatly from having private industry participate in the Government's firefighting efforts. Hawkins & Powers looks forward to an overall greater understanding of the service provided by large air tankers and improved utilization and support for that service.

We agree heartily that there needs to be a new approach towards providing modernized, well-suited aircraft for this type of firefighting. Even though it was not recommended by the Blue Ribbon Panel, most of Hawkins & Powers' fleet is now grounded. The Forest Service and the BLM stop orders, issued after the Blue Ribbon

Panel report—we are dismayed by this but continue and are committed to finding a solution.

Time is of the essence, especially for the 2003 fire season that forecasts to equal the losses of last year. Planning for this year should provide effective, qualified air tankers and get them back into the air.

The plan to use primarily small, single-engine planes, helicopters is clearly flawed and questioned by responsible wildland fire veterans. It is simply wrong to stop utilizing effective firefighting aircraft that are currently available. Aircraft such as the Privateer that have in recent months been completely inspected, reengineered, and repaired should be utilized this summer and throughout the short-term transition to newer equipment. Like our industry association, I submit that later model aircraft owned and operated by private industry should be considered.

Mr. Chairman, members of the committee, the Blue Ribbon Panel has clearly raised expectations about our Nation's wildland firefighting policy and how it should be implemented. This administration has conceived the Healthy Forests Initiative to focus attention on preservation of these resources. As an air tanker pilot and contractor, I have been able to see the damage that wildfire can do and I have been proud to have saved valuable forests and public lands. I would just be proud to be part of the new solution.

Thank you for the opportunity to share my thoughts with the committee. I would be pleased to respond.

[The prepared statement of Mr. Powers follows:]

PREPARED STATEMENT OF DUANE A. POWERS, DIRECTOR OF OPERATIONS,  
HAWKINS & POWERS AVIATION, INC., GREYBULL, WY

Thank you Mr. Chairman and Members of the Committee for the opportunity to appear as a witness in front of this Subcommittee and share Hawkins & Powers Aviation's perspective on the issues uncovered as a result of the Blue Ribbon Panel Report on Aerial Firefighting and the agencies response to that report.

I am Duane Powers, a co-owner and Director of Fixed Wing Operations at Hawkins & Powers Aviation, Inc., which is a private contractor that provides large airtanker and helicopter aerial firefighting services to federal and state agencies. My background in aviation includes a degree in mechanical engineering, serving in the Navy for 20 years on active duty and the reserves as a Naval Aviator and 3,000 hours experience flying aerial firefighting aircraft for Hawkins & Powers Aviation, Inc.

Hawkins & Powers Aviation, Inc. (H&P) is one of the most experienced firefighting companies in the United States and has been operating since 1969. In 2002, the federal government contracted with H&P to provide ten of the forty-four large airtankers for use as aerial firefighters. H&P is extremely innovative and serves the federal government well in consistently striving to improve aerial firefighting resources.

After the tragedies of last year, H&P participated in a public hearing held by the Blue Ribbon Panel and provided information to assist the Panel in its purpose. Overall, it is Hawkins and Powers belief that the Blue Ribbon Panel did an excellent job of discerning the problems that plague our industry and its relationship with the firefighting agencies.

While I believe that all eight of the Blue Ribbon Panel's findings should be considered, due to the commendable proactive approach by airtanker companies in pursuing aggressive inspection and repair improvements, many but not all of the conclusions should be implemented into future aerial firefighting programs. I would like to take the opportunity to discuss those findings that most directly pertain to contractors; particularly safety, contract, aircraft, certification and training. Initially, it is important to restate that in response to the Blue Ribbon Panel the airtanker contractors have taken a proactive approach in pursuing aggressive inspection and repair improvements.

## SAFETY

H&P is a small family company that employs approximately 150 people and operates out of Greybull, Wyoming. Due to the size of our operation and our love for what we do, Hawkins and Powers' management also serves as pilots during the fire season.

The founders, Dan Hawkins and Gene Powers continue to fly, as do myself, Dan's son Bob Hawkins and my son, Ryan Powers. This industry is a family and we would never sacrifice safety to the detriment of our crews and company.

Safety is what drives our decisions and our continuing effort to progress and modernize. As the Blue Ribbon Panel identified, safety has a price and the "Funding for the aerial firefighting program appears to be either inadequate or ineffectively distributed." (page 5). H&P agrees with the Panel's statement that the "remaining ex-military large airtanker fleet is probably at risk of being withdrawn from future operation, unless a major investment is made in testing, inspection, and maintenance to ensure airworthiness." (page 5).

However, any aircraft that is put into service for the purpose of aerial firefighting must receive this level of support, including newer versions of ex-military aircraft and newly manufactured multi-role aircraft. The industry as a whole needs support from the federal government in the costs of testing, inspection and maintenance of the existing fleet until the long-term solution is put in place. H&P has developed extensive Level 1, 2 and 3 non-destructive inspection (NDI) programs and utilizes an FAA certified class 4 repair station for inspection and maintenance of its aircraft. In house Level 2 NDI certified technicians are in place and receive periodic recurrent training.

The BRP stated that "nothing in the current airtanker contract provides incentives for contractors to operate safely." (page vi). Beyond any lack of a positive reinforcement incentive built into the contract, H&P and other contractors do have a moral responsibility to ensure that their aircraft are safe to fly. Contractors also have a financial incentive through safe operations to protect against lawsuits and maintain strong relationships with insurance companies. We must concur that the cost of safety has a price, and we as an industry have never been reluctant to make those investments.

Naturally, the result is that the customer must be expected to share in an increased cost. It is important to point out that the aircraft improvements and work done since last year were not anticipated in current contracts. Given the findings of the panel, it would seem logical that the firefighting agencies will benefit from the improved aircraft and should reward this further investment in safety. Is this a legal obligation? Perhaps not. We would submit it is certainly a moral obligation, for the preservation of our crew members' lives, and the federal lands and forests.

## CONTRACTS

H&P agrees with the BRP that traditionally the federal agencies' contracts had a narrow cost focus that did not reward value, performance and safety. Contractors were focused on how to safely get the best aircraft and crews put to work with limited financial support. As a result, contractors, like H&P, could not transition to newer aircraft and needed modernization. Rather, contractors were directed by the government, through the contracts, to do the best with what they had.

This industry and H&P have served the federal government and our country very well. The taxpayers benefit greatly from having private industry participate in the government's firefighting efforts. H&P believes that the relationship between private contractors and their customer, firefighting agencies, is at a turning point. We must advance together to protect the value of our national parks and federal lands. We look forward to an overall greater understanding of the service provided by large airtankers and improved utilization and support for that service.

As Mr. Broadwell explained, the contractors have been extremely proactive in looking at their aircraft and how they can be improved, as well as their maintenance and inspection programs. H&P has completely dismantled, conducted NDI, re-engineered and improved its PB4Y-2 and P-2 airtankers. This re-engineering and improvements were made without the assurance that any of those substantial repair costs will be reimbursed by the firefighting agencies. Consequently, we are apparently being asked to provide services this summer under the prior level of funding for repair costs.

Contract modifications must be written that financially support the services requested. It is imperative that the agencies continue to evaluate the Blue Ribbon Panel's findings and proceed to effectively respond. There is an absolute, definite need for a better exchange of information to overcome the disconnect found by the Blue Ribbon Panel. Better exchanges of information should also be perpetuated be-

tween federal program management and contracting offices, in particular as it relates to the contracts attempt to carry out management objectives while inadvertently creating disincentives for modernization, safety, industry sustainment and a broader competitive base. An increase in communication, both internally and with industry, will improve aerial firefighting in the short and long term.

H&P looks forward to the agencies remedy to the BRP's finding that "The agency cannot require its aircraft contractors to ensure a high-level of safety and quality maintenance, yet provide the associated oversight, while also striving to obtain the lowest-price services possible." (page 30). As this system continues to move forward, firefighting agencies should refocus on ways to determine what is needed to accomplish the overall objectives of an aerial firefighting program, and analyze critical areas that currently may not be supported.

#### AIRCRAFT

In regards to Aircraft, the Panel stated that "Private Operators, for the most part, have done an admirable job of keeping these aging aircraft flying." (page iii). H&P found that, although not true in all aircraft models, the Blue Ribbon Panel was correct regarding the C130As, when it stated that contractors "are handicapped by receiving little, if any, support from former military operators and the aircraft's original manufacturer." (page iii). The firefighting agencies must be able to adequately pay for appropriate levels of support necessary to field and sustain safe equipment. H&P and the industry are moving ahead and making repairs on the current large air tanker fleet. The federal government must move forward as well and directly provide the funding and support for the existing aircraft over the next 3 to 5 years and the future modernization of the aerial firefighting fleet.

Unfortunately, an immediate shortage of firefighting capability is created due to a lack of communication and commitment with industry regarding funding repairs. Additionally, the necessary transition is threatened by ignoring the fact that aircraft, such as DC-4's, are being inspected and returned to service, while similar aircraft like the PB4Y-2's have been fully inspected, repaired and approved by the FAA yet remain grounded.

It is in this nation's best interest that firefighting agencies be able to make decisions with a reasoned and objective approach, rather than having to deal with political issues or the glare of media scrutiny.

When the Panel made its findings, those findings applied to the entire fleet, not specific aircraft, with one exception. It did question the viability of the Beechcraft Baron lead planes. The C130As and the PB4Y-2s were not mentioned, yet they have been among the grounded aircraft. Nonetheless, we have gone ahead and completed engineering modifications on our PB4Y-2s, and those modifications have been completed and approved by the FAA.

I particularly want to address the status of the PB4Y-2 Privateers, often a workhorse of aerial fire attack. As you may know, the Forest Service has directed us not to fly those aircraft, and has refused to contract them for this fire season. We know these aircraft are well-suited for fire attack, and have significant fire-stopping capabilities. We submit that it is not crucial which aircraft you are using if you go to the extent of ensuring the airworthiness, as we have, then those aircraft should be and can be used in the short-term until another resolution to the overall issue is found.

It is simply wrong to stop fighting fire with proven large fixed wing aircraft such as the PB4Y-2 for two to three years until new equipment is ready. We all know that it will take a long time to develop the right type of aircraft and make the fleet available and affordable for private contractors.

It is a mistake to believe that helicopter water drops, or small splashes by single-engine crop-dusters, will have the same effectiveness as a full-scale large airtanker drop. While the federal agencies' have been actively working to justify the currently reduced contracted resources as adequate, responsible wildland fire managers know this is not true, and they fear for results generated by this policy. The general public knows as well, and persons who choose to live in the urban-wildland fire interface zone cannot be comfortable with this decision.

Although we are not discussing the long-term solution today, I would echo Mr. Broadwell's comments that industry obtaining and outfitting newer military aircraft, such as a later model C-130, should be considered and would not perpetuate a cycle that has proven to be unsustainable and dangerous for the following reasons: newer model C-130 aircraft, such as the E and H models, are currently supported by the military and the manufacturer. Additionally, newer military aircraft have been structurally improved and reinforced aiding in durability and performance.



Further, federal firefighting agencies have recently identified the need for newly manufactured, zero-fatigued aerial firefighting aircraft that have been designed to perform a multi-role mission, such as retardant and smokejumping delivery with real time infrared imagery. H&P and Basler Turbo Conversions have worked closely over the past three years to design, manufacture and certify in standard category the Fire Guardian, a multi-role aerial firefighting aircraft that fully meets the mission profiles of retardant delivery, smokejumpers and real time infrared coverage. This versatile new aerial firefighting platform will be available for in the field evaluation this summer and have the benefit of a damage tolerance analysis and structural health monitoring program.

#### CERTIFICATION

In its findings regarding certification, the BRP identified a gap between the FAA requirements on operators, the agencies' contractual requirements and what could occur if the contractors had sufficient financial resources and engineering expertise. H&P has always placed an emphasis on outside engineering, specialized NDI and implemented safety precautions despite its out of pocket expense. During the past six months, the FAA aircraft certification offices have strengthened their oversight and support for aerial firefighting aircraft certification. This support from the FAA addresses the need for enabling new aerial firefighting aircraft development.

I cannot stress enough that time is of the essence, especially for the 2003 summer firefighting season. Additionally, the inability of the federal firefighting agencies to deal with the planning for this season appears to be shortsighted and punitive toward airtanker operators.

#### TRAINING

Hawkins and Powers agrees with the Blue Ribbon Panel that "training is under funded." (page 34). Hawkins and Powers maintains one of the most comprehensive training programs in the industry. During a recent inspection conducted by a team of Federal Aviation officials, it found that "The skill and knowledge tests required for pilots are backed by a comprehensive flight crew training program, which is not required by Federal Aviation Regulations (FAR). Further the officials were impressed that the training program covers everything from how to drop a load on a fire to aircraft performance and that a Crew Resource Management (CRM) program was also in place. To H&P's credit, training records, also not required, exceeded even FAR Part 135 requirements, and that average experience in terms of flight hours is impressive and many pilots have been with H&P for years. Overall, the FAA was impressed with crew training and qualifications."

The level of training that Hawkins and Powers Aviation conducts is not fully supported by the contracts and is subsidized through other sources of revenue within the company due to the importance and the commitment by management.

#### CONCLUSION

In conclusion, we must agree with the critical finding of the Blue Ribbon Panel, "Possibly the single largest challenge now facing leaders of these federal agencies is to foster cooperation and collaboration among working-level staffs, contractors, and states to raise the standards of aerial wildland firefighting in the United States."

H&P has risen to the challenge of protecting American communities and resources by air, and is prepared to rise to the challenge of cooperation and collaboration as well. We look forward to working with the agencies with the shared goal of creating the best aerial firefighting program in the world.

Senator CRAIG. Duane, thank you very much for that testimony.

We have been joined by the ranking member of the subcommittee, Senator Ron Wyden of Oregon. Ron, we will turn to you in just a moment for any opening comment. Senator Murkowski has not made hers, and I suggested we finished the panel first. We have just completed their testimony.

So let me turn to Senator Murkowski. First we will turn to you and then we will start the questions. Thank you. Senator, please proceed.

**STATEMENT OF HON. LISA MURKOWSKI, U.S. SENATOR  
FROM ALASKA**

Senator MURKOWSKI. Thank you, Mr. Chairman, and thank you, members of the committee.

It is important to be discussing how we can not only improve the safety, the track record of those involved with aerial firefighting, but in Alaska we are particularly concerned already this year. It is just March. We have already had some wildfires. We have not had the winter that the East Coast has enjoyed back here. We have a very low snowpack this year. It is very, very dry already. We have had some winds, and as you know, we have forest fires that consume millions of acres in my State.

We have been afflicted with an infestation of insects, the spruce bark beetle, that are killing our trees, our forests, at a huge rate and laying fuel on the forest floor that just adds to that problem.

So I have a very keen interest in ensuring that when these fires happen, as we know that they will, that we have the capability to respond.

We have had, I think, a pretty successful interagency relationship, a cooperation. We fight the wildfires in Alaska through a partnership of the Alaska Fire Service and the State's Division of Forestry in partnership with the BLM and the National Park Service, Fish and Wildlife, and Forest Service. The Alaska Fire Service provides fire protection on 194 million acres in the northern part of the State while the Division of Forestry manages fires on 150 million acres in the southern part. And then the U.S. Forest Service manages those wildfires in the national forests.

I do not know about you. I have flown over just about every part of my State, but looking down, I cannot tell the difference between what is the national forest, whose jurisdiction this would be up there. So there has to be a cooperation. There has to be a sharing, and I understand that sharing for the most part works.

Last year the Alaska Fire Service and its partners flew more than 8,000 flight hours without incident. So for us up north, that is a good track record. They attribute this safety record in large part to an all-eyes aviation safety philosophy that ignores these agency boundaries in an effort to identify the safety problems and basically put out the fire. That is what we want to hear. That is what my constituents want to know. We do not care whose jurisdiction it is, whether it is the Division of Forestry, the Fire Service, the BLM. We just want to know that it is happening.

As I have indicated, what we want to know is that we have got the resources that are available out there. I understand that the Alaska Fire Service is expecting to receive its first tanker on the 1st of June and a second tanker a week later. And we want to make sure that these resources are going to be available so that these will be coming on line so that we will have the ability to deal with the fires as they come, recognizing that one of our greatest assets in Alaska, which is our size, is our geography, is also a huge impediment to us. You cannot have aircraft that can only go a short range. We need to be able to travel hundreds and hundreds of miles in order to reach the situation.

So just a little bit of background as to Alaska's situation. I am sure it is not news to you. But I would urge the Federal aviation

resource managers at the national level to work closely with the Alaska Fire Service and the Alaska Division of Forestry to address Alaska's needs this summer as we anticipate again a really tough year in my State. And as you have indicated, several of you on the panel, you expect that on the West as well.

So I appreciate the testimony, and thank you, Mr. Chairman, for the opportunity to say a few comments.

[The prepared statement of Senator Murkowski follows:]

PREPARED STATEMENT OF HON. LISA MURKOWSKI, U.S. SENATOR FROM ALASKA

I would like to take this opportunity to thank the Chair for convening this important hearing on the safety of the federal aerial firefighting fleet. Wildland firefighting in Alaska is conducted by a well-coordinated partnership of the Alaska Fire Service and the State of Alaska's Division of Forestry. The Alaska Fire Service is itself a partnership of the resource management agencies, including the Bureau of Land Management, the National Park Service, the Fish and Wildlife Service and the Forest Service.

Under an interagency agreement, the Alaska Fire Service provides wildfire protection on 194 million acres in the northern part of our state, while the Division of Forestry manages fires on 150 million acres in the southern part. The U.S. Forest Service manages fires in national forests. However, resources are shared among the agencies and interagency incident management teams are deployed to manage the most severe fires.

The State of Alaska and the Alaska Fire Service each contract for aviation resources. I am pleased to note that the open lines of communication, which are a natural outgrowth of our partnerships, pay big dividends for aviation safety in Alaska. Last year, the Alaska Fire Service and its partners flew more than 8,000 flight hours without incident. They attribute their stellar safety record in large part to an "All Eyes Aviation Safety Philosophy" that ignores agency boundaries in an effort to identify safety problems.

The idea is simply to maximize the number of eyes looking for possible problems and to report them immediately to appropriate authorities. The goal is to recognize and correct problems before they become links in an accident chain, through respectful and courteous communication. I would like to commend the Alaska Fire Service, the State Division of Forestry, and their partners for this progressive approach to safety issues.

While the "All Eyes Safety Philosophy" has proven to be effective in managing the human factors that contribute to accidents, it is no less essential that our wildland fire aviators have access to safe equipment and that the standard operating procedures under which they operate promote safety. I look forward to hearing from our expert panel on how we can improve in these areas.

Mr. Chairman, we don't have much time to resolve the issues that we are discussing today. Southcentral Alaska, which includes the Anchorage Bowl and the Kenai Peninsula, is presently in a low moisture situation. This is also the part of our state with the greatest population density.

Other areas in the State may be more vulnerable this year due to the light snow pack. The spruce bark beetle has drastically changed some forests in my State. Trees infested by the beetle are especially vulnerable to fire. Many of these areas are not accessible by road.

The State of Alaska is expecting an early fire season and has been talking about bringing on one of their air tankers in mid-April. The Alaska Fire Service would expect to receive its first tanker on June 1 and a second tanker a week later. They are wondering whether it is reasonable to expect to have these resources in time for the coming fire season.

If there are not sufficient federal aviation resources in Alaska, the State Division of Forestry will, of necessity, have to fill the gap. The potential loss of federal air tankers to Alaska could mean that the Alaska Fire Service will need to rely on the State for all of its retardant needs, assuming that those resources are not fully deployed in the areas of Alaska that the State is responsible for protecting. If state resources are fully deployed, many of our Native villages, which are protected by the Alaska Fire Service, could be left especially vulnerable.

I would urge the federal aviation resource managers at the national level to work closely with the Alaska Fire Service and the Alaska Division of Forestry to address Alaska's needs for this summer. If we don't come to some decisions soon, perhaps

we will win the battle for aviation safety, but lose the war against wildland fires in Alaska. That too would be a tragedy.

I thank the Chair and the panel and look forward to an informative hearing.

Senator CRAIG. Senator Murkowski, thank you very much. Now let me turn to my colleague, Senator Ron Wyden.

**STATEMENT OF HON. RON WYDEN, U.S. SENATOR  
FROM OREGON**

Senator WYDEN. Thank you, Mr. Chairman, and I want to commend you, Mr. Chairman, for holding this hearing. I think it is another important initiative that you have taken on. And I think you know how strongly I feel about working cooperatively with you, whether it was county payments last week, some Senator victory in terms of getting the additional \$500 million for firefighting. And we know, as Senator Murkowski has correctly said, that this is going to be another brutal summer in the West. I am absolutely convinced we are going to have infernos all over the West, and I agree very much with what Senator Murkowski has said and what you have said, Mr. Chairman. I look forward to working with you.

I also want to commend the administration. Mr. Kern and Mr. Hamilton are here. I thank what the Chief and Director Clark are doing in terms of the Blue Ribbon Panel. It is a statement that the administration recognizes the seriousness of the problem and that is very important. It really, just looking at the report, shows that we have seen that there has been a lack of oversight, and now what we have got to do is get beyond sort of the blame game and the finger-pointing and work in a bipartisan way to address the safety and service questions for the future.

There is no doubt in my mind that aerial firefighting is one of the most effective methods of initial response to wildfire events. But there is trouble. You look, for example, at what we saw with the Biscuit Fire in Oregon. Repeated appeals for air tankers were denied due to the lack of available assets, and the Biscuit Fire grew into Oregon's largest in history. And then we had the well-publicized crashes last summer as well, which indicates we have got a challenge here, and we are going to work in a bipartisan way to do it.

The only other point that I wanted to mention, Mr. Chairman, for you and our colleagues, Senator Thomas and Senator Murkowski, I am very interested in introducing shortly legislation to amend the Public Safety Officers Benefit Act so that we could provide death in the line of duty benefits to the survivors of those federally contracted air tanker crews who risk their lives on public lands and to protect the property of our citizens. I think our staffs have already begun some discussion about that, and I just want to reiterate my desire to work with you, Chairman Craig, Senator Thomas, Senator Murkowski. There is nothing partisan about something like this, and obviously, for colleagues who are interested, we are open to making changes and suggestions. And for colleagues in the administration, we are anxious to work with you all on it.

Thank you for the chance to make the statement, Mr. Chairman.

Senator CRAIG. Well, Ron, thank you very much. I too enjoy our cooperative working relationship and we hope here we can accomplish a great deal and improve the situation that is now before us.

Let me start. We will do 5-minute rounds and move as quickly as we can. We have an open window of time here that should be adequate enough for us.

Mr. Hall, given your service as chairman of the National Transportation Safety Board and your extensive experience in the transportation, safety, and crisis management areas, was the failure of the FAA to provide sufficient oversight and the failure of the Forest Service and the BLM to understand that no oversight was occurring with these public use aircraft surprising to you?

Mr. HALL. No, sir. First, Mr. Chairman, let me point out—and I think it is important the committee understand—that the National Transportation Safety Board is investigating these accidents. I spoke with some of the board members and they anticipate in about 6 weeks that that report and its recommendations will be made public. So that will also be available for you.

During my tenure at the NTSB, I had a growing concern about the area of public use aircraft. If you remember, Senator Craig, Senator Pressler was the one who passed legislation, after the unfortunate tragedy that took the life of the Governor of South Dakota in an accident, for the NTSB to begin investigating and looking at public use aircraft.

As you know, the military is structured with its own safety program and safety centers. The Air Force, the Navy, the Army all have their own safety centers and work very hard at safety, and we could just look at the combat situation now in Iraq and see how important that is.

As well as the FAA in commercial aircraft. But the whole area of commercial use, government-owned/government-operated or government-owned/government-contracted aircraft has been an area that the FAA has essentially taken hands off because they do not feel they have the responsibility and the authority in that area and do not have the funding to adequately do their job. So it did not surprise me to see an absence of oversight or certification.

I think the Forest Service and the BLM are put in a very difficult position, as the report points out, of being both the contractor and the regulator of this system.

Senator CRAIG. Do you know of any other public agencies that might be utilizing the public use aircraft for other purposes that might suffer the same problem of no oversight?

Mr. HALL. Well, of course, this goes throughout the Government use area. Of course, the Coast Guard has a very large fleet, the Customs Service. There are other large aviation fleets, but a lot of the coordination is left to the General Services Administration, and it has been my opinion that very little has really been done in trying to set standards of regulation and oversight over public use aircraft. It really varies on the level of funding from one agency to another in how effectively the safety issue is addressed.

Senator CRAIG. Well, given what you know of the steps the Forest Service and the BLM are now taking in response to your report, are they making the progress that you would have hoped they would be addressing in the issue that the panel surfaced?

Mr. HALL. Well, Mr. Chairman, this morning is the first time really we have heard, unfortunately—not unfortunately, but our responsibilities ended in December. I have not been in a position of tracking this.

Senator CRAIG. The report was your charge.

Mr. HALL. Yes, sir.

However, it would appear to me that the most important thing, as Senator Murkowski pointed out, is regardless of how many agencies might be involved, you have one aircraft. The certification of that aircraft, the operational and safety standards for that aircraft, and the oversight of that aircraft operation, if you are going to have a good aviation safety program, needs to be consistent, and we do not need to have, as we pointed out with mission and with safety, a muddle as a result of all the different organizations being involved.

Senator CRAIG. Let me ask my last question of this round, and let me ask it of you, Mr. Hull. The Blue Ribbon Panel report indicates that this is the end of the third cycle of similar accidents with ex-military aircraft. It is clear from much of the information that you cited in the report that the Forest Service and the BLM and NASA have all studied these air-worthiness issues in the past. In all of the information in the old reports that the Blue Ribbon Panel studied, was there any indication that the FAA, the Forest Service, and the BLM's disconnect on air worthiness had been identified in the past?

Mr. HULL. Certainly as we looked at past information, and the third cycle that you are referring to whereby military aircraft would be acquired, they would be used for a while, then various types of accidents would occur, and then we would start the cycle over again with a new set of planes. And we are reaching that point again now. There have been reports in the past, but like so many reports, studies, and so forth, we did find, I believe, that the lessons of some of the studies of the past simply had not been pursued to the degree that we are seeing with this one.

I think the report that has come out now is evidence of a wake-up call, that the Secretaries of the Interior and Agriculture, the Chief of the Forest Service, and BLM recognized that something had to be done, and we provided the information.

It is very encouraging that the information that we provided as part of this panel is now being used very seriously. What I was afraid might happen would be that we would see a lot of denial or trying to prove that the findings were not accurate. I am not hearing any of that. Everything that I am hearing is a positive step, use this as a baseline to move forward, and I congratulate each in the role that they are playing in this.

Senator CRAIG. Thank you. My time is up. Let me turn to Senator Thomas.

Senator THOMAS. Thank you.

Mr. Hamilton, you have reduced the number of planes, grounded some planes, not contracted some planes. How do you propose to deal with the needs this coming season?

Mr. HAMILTON. Well, there are a couple of things we are doing, Senator. As I mentioned earlier, 2 large air tankers have been re-

turned to service and we are anticipating another 12 to 15, and that will be down from the 44 that were available last year.

I also wanted to respond to Senator Murkowski's concern about having air tankers in Alaska. That is our number one priority in the Bureau of Land Management, Senator, to have those two air tankers up there this year.

Senator THOMAS. Why are they returned? What have you done differently that causes them to be returned?

Mr. HAMILTON. You mean to Alaska?

Senator THOMAS. No, just totally—4-Ys, for example. You have not returned those. Do you have any standards? Has anybody said, we have looked at the planes, they are now safe?

Mr. HAMILTON. Okay. You are talking about the C-130s and the PB4-Ys.

Senator THOMAS. I am talking about anything that you are going to be using now. Are there standards? Has somebody who is in authority in the area, like the FAA, certified these airplanes?

Mr. HAMILTON. Yes, sir. What we have done is we have contracted with Sandia Labs to review these aircraft and they are sending their reports to the FAA, and we have been working closely with the FAA, the Forest Service, BLM, and the Sandia Labs. As I mentioned earlier, two P-3s are returned to service and they are looking at these other aircraft, and we hope to have this done by June.

Senator THOMAS. I see.

You mentioned, Mr. Hull or Mr. Hall, that you think there is going to be follow-through in terms of the air worthiness for public use aircraft. Who is going to do that? How do you see that happening? Who is going to certify it and so on? And do you have any suggestions?

Mr. HALL. Senator, I am not aware that anyone is actually stepping into that responsibility at the moment. We had suggested, obviously, looking at the Canadian model where there is a certification process that is based on the environment in which these aircraft have to operate, and the Canadian government has a certification process in which maintenance and operational minimums and standards are established. I believe that there continues to be a hole in the whole area of public use aircraft and the responsibility for those aircraft.

The board was clear, Senator, not to get into the issue of any particular aircraft operation, but clearly to look at how you would go about effectively setting standards regardless of what type of aircraft is used.

Senator THOMAS. I am just concerned that it does deal with a number of different agencies, and we may end up with the same sort of "that is your thing or your thing," and no one assuming the responsibility.

Mr. POWERS, I think I have indicated that under the contracting arrangement and the payment arrangement, that it is very difficult for the private operators to do the kinds of safety things that we are talking about. Is that the case?

Mr. POWERS. Yes. It is very difficult. Most of the innovations and proposals that have been presented historically over the last 10, 15 years are rejected due to issues of cost.

Senator THOMAS. That is interesting.

How do you propose to deal with that in terms of how you pay for these services if they are going to cost more? Are you prepared to put them in as a part of the contract, or are you still going to say whoever can do this the least expensive way gets the contract?

Mr. HAMILTON. With your permission, Senator, I would like to have Dr. Tony Kern answer that question.

Dr. KERN. Thank you.

I think if I can try to capture where we have been and where we are and where we hope to go, obviously we are going to function within the constraints of whatever budget we are given. But if we assume the same amount of money—I believe that Duane is absolutely correct. In the past, what we have done is we have a certain pot of money and we have an established need, for example, of 41 air tankers, and we have then turned the contracting personnel loose, and a negotiation process between the Government and the contractors is worked until we got 41 air tankers out of that pot of money.

The way that we intend to move now and, in fact, the way that we are working this year—so this has already been implemented—is that we have the same pot of money. That has not changed, but what we do now is we set certain standards. Right now Sandia with the FAA is helping us establish those standards. It is just the first phase of higher standards because of the time constraints. Instead of dividing the total number of required air tankers into it, you divide the standards into it, and that is going to give you a number of air tankers. That is the same process that we intend to use in the future.

What that will do is likely—certainly raise the standards of safety and performance of those aircraft and do exactly what Mr. Powers has suggested we need to do. However, the down side of that is that the number of aircraft that will be available will be reduced. So at that point in time, we will have less available firefighting capability unless we look at other resources that may be available to do that job. But that is the intended process.

Senator THOMAS. Good. Thank you. I guess it would be pretty naive to think you could have a safer fleet at the same price, would it not?

Thank you, Mr. Chairman.

Senator CRAIG. Senator Murkowski.

Senator MURKOWSKI. Thank you.

And just to follow up with that, though, we may now have a safer fleet in the air, but you have increased the risk on the ground because you may be less able to adequately deal with the fire that you are fighting. In certain parts of my State where, quite honestly, you do not have any human life around that is at risk, but in the State of Idaho, as we saw with the fires last year, how do you balance all that? Obviously, it is a funding issue ultimately, but I would like to think that at some point we are not compromising safety in the air for the safety on the ground. It is certainly a Catch-22.

Dr. KERN. No, you are absolutely correct. I will ask Larry to comment on this with me, but I believe that that dynamic is ongoing all the time. We, in fact, have recognized that potential risk and



issued an NWCG, National Wildfire Coordination Group, safety alert to the field already this year saying, hey, there may be fewer aviation resources available to you, especially early on. So brief and train this year for those potential consequences.

I am willing to accept the fact that reduced resources may result in some increased acres burned, but I guess I would completely reject the fact that that should ever put a human being at risk. We ought to be smart enough to be able to operate in that environment where we can get people out of harm's way. Ideally we want both to happen, but we recognize that trade-off. We have pushed the information to the field, and then as soon as we can get the resources back up to where they really need to be, we ought to be safer all the way around.

But certainly that equation is in play in both directions. Last year, following the tragedy in the Thirty Mile burn-over up in Washington, many of the ground risks were mitigated by having air come in. So it is the same thing in both directions.

So, a point well taken. I will turn this over to Larry for a moment, if I might.

Mr. HAMILTON. I guess I would add a couple of things to that. One is, as a result of the National Fire Plan, we have been able to increase our predictive services capability. So we have fire weather meteorologists located in our geographic areas, as well as the National Interagency Fire Center. What that enables us to do is, based on predictions they are making, put assets in areas where we think we have got ignition probability.

The other thing that we have done is we are replacing our capability with single-engine air tankers and more Type I heavy helicopters. So we will probably be pretty close to being able to deliver the same amount of retardant, as long as we do not have a terrific fire season to deal with this year.

Senator MURKOWSKI. Let me ask you, Mr. Hamilton. You had indicated that the two air tankers would be returned to Alaska. So am I correct in assuming that what we anticipate to be delivered on, I guess it was, the 1st of June and then a second delivery on the 7th or the 8th, are these two tankers that we have had previously?

Mr. HAMILTON. Well, it may not be those two tankers. What we have to do at this point is see what gets certified and released, and then we will sit down with the Forest Service and see what is going to work best in Alaska and the lower 48. But as I mentioned, Alaska is our number one priority because, as you described, it is a different beast to deal with up there because of the distances.

Senator MURKOWSKI. So we can expect that.

And then just as a last quick question. Apparently the State has contracted for two Canadian air tankers. The Fire Service has traditionally relied upon the resources contracted by the State to supplement our Federal aviation resources. These Canadian aircraft have apparently not been carded for interagency use, and I am wondering if you are working with the State and the Alaska Fire Service to assure that this contracted aircraft is going to be available. Are you following this?

Mr. HAMILTON. Yes, ma'am, we have solved that problem.

Senator MURKOWSKI. It has been solved.

Mr. HAMILTON. Yes, ma'am.

Senator MURKOWSKI. Okay, so we are good with our Canadian tankers as well.

Mr. HAMILTON. Yes, ma'am.

Senator MURKOWSKI. Good. Thank you. Thank you, Mr. Chairman.

Senator CRAIG. Thank you, Senator.

Let me do a series of questions to try to break us into where we are and where we need to be, and it goes something like this. We had X number of aircraft available at the beginning of last fire season. We have less aircraft available at the beginning of this fire season, with apparently some beginning to come online. You have heard Mr. Powers talk about much of his fleet being grounded.

So I guess the questions I would want you all, those of you who can respond, to respond to, you know, how many P-3s will be available and when? How many Douglas aircraft will be available and when? How many P2-Vs will be available and when? And then how many single engines does it take to replace one heavy? And is that really going to work, or are we really facing a fire season in which we are going to be substantially under-planed? Larry?

Mr. HAMILTON. One thing that I have here—and I am not sure you want me to read down through it, but I would be glad to provide it as part of our testimony—and that is where we have contracted SEATs in the past and where we have new SEATs contracted for this year and where they are located and the cost.

Senator CRAIG. Why do you not provide that for the record? We would like to know that.

Mr. HAMILTON. Okay, I would be glad to do that.

And then I will have Tony answer the first part of your question.

Dr. KERN. The hard data on that is just not yet available because of the Sandia process that is going on. But let me do the best I can with it.

Senator CRAIG. And add to that comment, is Sandia giving you some time line?

Dr. KERN. Yes, sir.

The process that we are currently undergoing is part of a larger process that spans several years, probably 3 years. The first initial effort that we are going through is Sandia is doing basically an historical evaluation of the inspection and maintenance procedures and looking at the qualifications of the vendors. Now, that is not as deep as we would like to go. We are not doing any engineering analysis, those sorts of things, but we plan to instrument aircraft to get there next year. So that process speeds it up considerably.

We have the P-3 final report that we received a week and a half ago, got it to the FAA. They reviewed it. They had some comments. We made some adjustments, went back. We have a letter from the FAA that basically says, a prudent risk-mitigation step. Now, it is important to point out the FAA is not approving any maintenance procedures or changing anything. They are informally helping us out with this process because of the public use aircraft.

The P-3 inspections then by the contractors to comply with the Sandia inspection requirements began last week. We have already been out to provide contract inspections on two aircraft. One is at Fort Smith, Arkansas. The other is flying to Brainerd, Minnesota

as we speak. But the rest of the P-3s will be inspected as soon as the company that owns them calls us to bring them on. So we expect the full number of P-3s—and I do not have that number off the top of my head—available with the possible exception of one that the FAA came back and said we have some concerns about this particular tanker. So that will take some more care and feeding on that aircraft.

We have a draft report on the Douglas 4, 6, and 7s.

Senator CRAIG. Let us stay with the P-3s for a second. So based on what you had available last fire season and what appears will be available this fire season—where is the difference?

Dr. KERN. Probably minus one, and that could get remedied anytime in the near future. There were some special concerns about a specific aircraft that showed some cracking in an area that the Navy had tested to failure in the past. That is the kind of thing Sandia brings to the table because they were able to pull those pieces of the puzzle together. So all available minus one.

The Douglas products. We have a draft report. We expect the final report by the end of this week. The FAA is already reviewing the draft report. So they have promised to turn that back around within 2 weeks of receipt, which was the day before yesterday. So at the conclusion of that review, we expect to get another letter from the FAA which will indicate whatever their thoughts and concerns are regarding the Sandia report.

And the same process will take place. The contractors will call us. They will say it cost us this much to inspect the aircraft. We are ready on tanker 66 and 67, and we will have our inspectors out there. I believe we will have Douglas aircraft in the air by the middle of April. That is my estimate.

The P2s represent a different challenge.

Senator CRAIG. Let us stop there and again, the same question. Based on what you know now in that process, how many will we be down from from last season into this season?

Dr. KERN. That is going a little bit out on a limb, but having read the draft report, I would say that it is likely that all or perhaps maybe one or two short of all will be returned to service.

The P2-Vs represent a little bit different challenge because they are operated under multiple restricted type certificates, and the maintenance inspection procedures are different from company to company, and they are owned by multiple companies. So that is a far more difficult estimation to make at this point in time.

We expect that we will have the initial P2-V report around the middle of April. April 15 is what Sandia has given us for a target date. And then assuming that they come up with the findings similar to the P-3 or the Douglas, then that process will run similarly, about 2 weeks for the FAA to turn it around, and we will have potentially 33 air tankers, which is all of the remaining ones available, sometime in early to mid-May.

If you would have asked me 3 months ago whether we would have gotten there, I would have told you, not a very good chance. So I am pretty satisfied with the pace that we are proceeding.

Senator CRAIG. So the last question, as we deal with P2-Vs, we will have the same number?

Dr. KERN. That, sir, is very hard to project at this point in time because it represents a little bit more complex challenge for Sandia, and I do not want to speak for them.

Senator CRAIG. Mr. Hall.

Mr. HALL. Mr. Chairman, I think it is very important that the committee is aware that the Blue Ribbon Panel report looked at the issue not just of safety, but we also addressed effectiveness. And in looking at effectiveness and resources, we looked at two issues: one, the mission because obviously you have to clearly define what the mission is that is to be accomplished by the aerial aviation firefighting structure. We found that was inconsistent, whether it was to be used for initial attack or how the aviation assets were to be used. There seemed to be the type of muddle that we had referred to.

And in regard to resources, the panel said specifically on page 22 that we found that large supplemental appropriations, typically triggered when fires grow to a certain size, suggest that the base funding profile is insufficient to control fires, while too much funding is devoted to the control of escaped wildfires. So if you go back and look at the total dollars, whether it is base funding or supplemental that is being spent, I think it was the panel's feeling that if more of the funding could be front-loaded and there could be a clear mission, that the resources would be better used and the mission better accomplished.

Senator CRAIG. Larry.

Mr. HAMILTON. Yes. Mr. Hall brings up a really good point, and I ran out of time and was not able to cover the one thing he just mentioned with mission muddle. Another change that we have made this year is we have changed our policy on these large air tankers, that they will be used for initial and extended attack and not used on these large project fires. So the utilization of the aircraft is going to be different this year than it has been in the past. So that is a little change in our strategy, and that comes right out of the report.

And then the other issue that Mr. Hall brings up is our preparedness funding versus our suppression funding. But as a result of not using some of these large air tankers this year, without any additional funding, what we have been able to do is in the West, 30 SEATs are assigned on exclusive use contracts. That is up 18 from 2002. So that means we have got 57 available on call when needed, and that is up from 42.

We also have 20 smoke jumper aircraft, and then we have nationally over 500 exclusive use and call-when-needed helicopters. So we think we are going to have the capability that we need this fire season.

Senator CRAIG. Senator Thomas.

Senator THOMAS. We have heard the panel and the agencies respond. I would like to hear that contractors visit a little bit. For instance, on this inspection and putting back into play, you have been concerned I think about the PB4-Ys. What is the situation there?

Mr. POWERS. Well, it has been a proactive approach on the company's side. The agencies have refused to participate or look into the technical merits of the engineering repairs and return to serv-

ice that has been approved by the Federal Aviation Administration. So, so far there has been no participation or willingness by the agencies to consider that aircraft.

Senator THOMAS. How do you respond to that, Mr. Hamilton?

Mr. HAMILTON. I will have Tony respond to it.

Dr. KERN. There are a couple, I believe, of definitions we need to make clear. First of all, the Forest Service has not grounded any aircraft. Only the FAA has the authority to ground aircraft.

Senator THOMAS. Wait a minute now. You cannot contract, though, can you, which effectively grounds them.

Dr. KERN. It grounds them for Forest Service and interagency use. Certainly they could do other contracts with States, international and other—

Senator THOMAS. But you have effectively grounded them when you say you are not going to contract for them.

Dr. KERN. For Federal use, that is correct.

Senator THOMAS. So let us be clear about that.

Dr. KERN. Right. There are other air tankers that fly internationally quite often, so I just want to make sure that that is clear as well.

I would, I guess, respond by saying that the discretionary contracting decision was made with careful deliberation and not in isolation. In fact, we did receive and review the technical aspects on the PB4-Y and many on the C-130A as well. The Chief's decision was made in consultation with NTSB engineers, the FAA, the Blue Ribbon Panel, the internal Aviation Safety Manager Council and operations staff, as well as Sandia National Labs. So these decisions were not made lightly. So I am convinced that we gave all of those considerations fair play in this decision.

Senator THOMAS. I guess my question is if you are going to look at standards on others, if these standards can be met on this aircraft, why would they not be used?

Dr. KERN. Sure, and I think that is a fair question. Unfortunately, we have a tragic history with structural failures. My numbers may—

Senator THOMAS. On the 130s.

Dr. KERN. Well, it goes back much further than that. There were B-25s, three C-119s, C-130s, and now a PB4-Y. I believe there were actually three each on the B-25s and the C-119s. In every case in our past, when we have had an in-flight structural failure, it was followed up by corrective actions approved by the FAA, put back together with the best intent by the contractors, and there was a subsequent structural failure.

Additionally, I think that part of this decision process was made by what resources we had available. We basically had that same pot of dollars, and we had to make some determinations on where we wanted to go in the future. The 4-Y, unfortunately, being the age it is and the low capacity for delivery and primarily because of the safety issues, it was determined to be an unjustifiable risk to bring that aircraft back on contract with the history that we have.

Senator THOMAS. Any comment, either of you?

Mr. POWERS. Well, one comment that I would like to add is that we have talked a lot about the inspections and the mandate by the

fire agencies for industry to inspect their aircraft. But most recently the guidance that we have received from the contract agencies is that any repairs that are found and made to the aircraft to bring them into air-worthiness condition will not be paid for by the Government. So we are kind of, from an industry point of view, trying to provide equipment on a good, high level of safety and air worthiness, but the agency is not willing to fund the costs to do that. So the only place that that money can come out of is the pocket of the operator/contractor.

Mr. BROADWELL. Senator, I think your comment is very valid in that if we can design an air-worthiness program for our aircraft that are currently in the fleet, would that not be very applicable to an aircraft like the PB4-Y. I do not have a history on either that C-130A or the PB4-Y, but I understand the C-130A comes with a lot of baggage, with which I am just not totally familiar.

But the PB4-Y, I was not aware of any such thing, and in fact, Gene Powers wrote a very detailed letter to the Chief on the history of the PB4-Y. The safety record appeared to be very good for that aircraft. There have been incidents with them in the past, but not related to any structural problems that I am aware of.

Senator THOMAS. I suppose it is oversimplified, but what I am really dealing with is if a piece of equipment can be certified and qualified and meet standards—we ought to be talking about standards—

Mr. BROADWELL. Exactly.

Senator THOMAS [continuing]. And not agency decisions that are not necessarily on standards. That is my whole point. Thank you.

Thank you, Mr. Chairman.

Senator CRAIG. Let me read something from the report, and then Mr. Hall and Mr. Hull, maybe you would wish to respond to this. Page 8. They also found that the Forest Service and the BLM leaders are not well-versed on aircraft certification worthiness.

Finally, collaboration among the many Federal and State agencies associated with firefighting, each with a different mission and culture, has created a situation where engaging all employees and contractors in a clearly defined task is difficult.

The Federal Aviation Agency has abrogated any—and this is the dark print—responsibility to ensure the continued air worthiness of public use aircraft, including ex-military aircraft converted to firefighting air tankers. Although these aircraft are awarded an FAA-type certification—I assume that is as they transition out of one service into another—the associated certification processes do not require testing and inspection to ensure that the aircraft are air worthy to perform their intended missions.

So I guess that also says that while they are certified out, they are not certified into the new mission based on, if you will, the protocol or the condition of that mission.

Now, and then FAA says, we do not have money or we do not follow the aircraft. And they argue absence of money. Do they argue absence of authority? Because they are certifying and that certification has a certain attitude about it, if you will, by all who see it and all who get it. Please respond to that, if you could.

Mr. HALL. Mr. Chairman, your comments are exactly on target. The fact that there is a certification has led unfortunately to an im-

pression with many that these particular aircraft were certified for the new mission that they are to perform in the Forest Service. As you said, what it implies, of course, or what the FAA actually does is just accept the old military use as certification under a restricted use category of service.

In our meeting with the Federal Aviation Administration—and let me say at this point, Mr. Chairman, a point that Chairman Hull and I should have probably mentioned. We did attempt to meet with the Department of Defense, but were unsuccessful in doing that.

But in our meetings with the Federal Aviation Administration and with their most able Administrator, I think they would basically state that they do not have either the funding or the authority in this particular area.

This again leads me to the concern that I have had that the FAA is the aviation and air-worthiness authority for the U.S. Government and they have a structure in place where one category, public use aircraft, is then given to the General Services Administration or the FAA points to GSA as the coordinator for this, to me defies common sense. But it is a mission that the FAA traditionally has not had.

I am pleased to see that they are working cooperatively now with the Forest Service and the NTSB, but I think the panel would recommend a system similar to the Canadian system where there is a formal regulatory structure in place where in Canada, obviously, to just give you one example, I think, if I remember correctly, it was 7 hours for every flight hour over the fire in terms of determining the actual operational use of the aircraft for maintenance, structural inspections, et cetera. So we felt that the Canadian model, if we continued, was an excellent model to look at.

But the present system, I do not think, has been fixed based on the testimony I have heard this morning, and it certainly is one that needs to be addressed hopefully by this committee.

Senator CRAIG. Thank you.

Larry, respond to that, if you will, but respond in this context, and let me dress it up a bit for you. I had said earlier in reading the report, that the panel found that the Forest Service and the BLM leaders are not well-versed on aircraft certification and worthiness. Now, of course, we are having a third party, Los Alamos, look at it, and they do have expertise in that area, and they are establishing a protocol by which certain things get done to correct the problems and allow these aircraft to go back into service.

Is that to say then that you assume you have the talent and the ability to develop a certification process or an air worthiness process after you go through this that continues a level of air worthiness for these aircraft you contract? Or should there be another authority that oversees you to make sure that you are following through on a consistent basis? Culture versus talent. Can you respond to that?

Mr. HAMILTON. Yes, sir, Senator, I would be glad to respond to that. We certainly endorse the Blue Ribbon Panel's finding. We do not want to get into the business of certifying aircraft. We feel that is not part of our mission. There are other Federal agencies that

do have that as their mission, and we would welcome the oversight in setting the standards.

Dr. KERN. May I add a comment to that?

Senator CRAIG. Please do, Tony.

Dr. KERN. In the interim, though, we have no choice.

Senator CRAIG. No, I am not arguing that point. I am arguing reshaping the system after the fact and working forward.

Dr. KERN. I just wanted to make sure. Right now we have accepted the role as regulator and contractor.

Senator CRAIG. Duane.

Mr. POWERS. Yes, Mr. Chairman. Our company has had 40 years of work with the FAA on certifying aircraft, and what has changed since the accidents—our company was thoroughly investigated by the FAA, and in the investigation, the FAA determined that there were weaknesses within the Federal agency in terms of how they determined the mission profile compatibility of the aerial firefighting aircraft that were taken from military and put into commercial operations.

That has been beefed up considerably in recent months. Our company has been developing a new aerial firefighting aircraft platform, and we are working closely with the aircraft certification offices in Denver and in Washington, D.C. on developing a strategic health-monitoring program. That is a series of inspections for the life of the airframe and, also before that is developed, determining what the actual loads and stresses on that airframe are so that we know exactly what we need to be looking at in the future.

So we do have an opportunity to put aircraft like this into service. This particular aircraft is available this summer. However, the cost basis of the previous military aircraft run \$500,000 to \$1 million. This new aircraft is going to come in somewhere around the \$5 million range. However, it is a zero-fatigue structure, and it has the benefit of the enhanced oversight of the FAA's certification process that has changed in the last few months.

Senator CRAIG. Thank you.

I am running out of time and I do appreciate you fellows' valuable time.

Mr. Hull, you may want to respond to this after the fact. I am going to ask the question of Mr. Hamilton, and it was in relation to a comment you had made, Larry, to see if this fits the scenario that we may be looking at as relates to single-engine, smaller aircraft, less capable versus large bomber aircraft. You said you will use the heavy craft for initial attack. Does this mean your agency will now put more emphasis on initial attack and be putting out all fires in wilderness and remote areas?

My point is quite simple. The urban/wildland interface and the growth of people presence, and we see the shift to that to protect those human structures. And yet, the really big fires that really got away last year that destroyed a lot, we let them sit for days because we were not into the initial attack business. Does the configuration of your aircraft now—what does it argue?

I guess we could step across the line into Canada, and they say every fire is a fire, go get it, put it out now. But we were not doing that, and we lost millions of acres of valuable watershed and habi-



tat as a result of that. It somehow appeared to be expendable, and yet it was a matter of resource allocation in part.

Could you respond to that, Larry, and Mr. Hull?

Mr. HAMILTON. Yes, sir. As you describe, there is a major dilemma there for us. With the condition that the forests are in, we may see a fire get started in a wilderness area and the plan is to look at that as a fire use kind of event. Yet, when you have the fuels build-up that we do and the drought, we will see fires that can cover anywhere from 5, in some cases 19, miles in a day. So then you have got a crown fire that is coming out of the wilderness area into a wildland/urban interface. So that makes us think very hard about initial attack.

I think as you are aware, last year our average was that we caught 99 percent of all the fires that were started, and that is a real testimonial to our initial attack capability.

The point I was trying to make earlier is that we have referred to mission muddle. I think we had some mission creep in the way we were using our large air tankers, and sometimes, sir, we refer to that as political retardant when the local Congressman or Senator calls and wants to know where that air tanker is and there is a television crew out there wanting to get some fantastic footage.

What we have to get back to is that this is the best tool we have in our tool box for initial attack. When you get into these large project fires—the Biscuit Fire is a good example—there are water sources all over that and heavy helicopters are much more effective when you are into that kind of firefighting scenario. So it will be at a national level utilizing this tool for initial attack and make sure that it is not being used on these larger fires.

Senator CRAIG. Mr. Hull.

Mr. HULL. I really applaud the emphasis that initial attack has been given here. You mentioned the Canadian model that if essentially there is smoke, go put it out. We have 50 models like that here in the United States. That is the role that State foresters play in our State agencies. We cannot afford to have big fires. So often, as we had utilized in a cooperative effort these Federal contracts for large air tankers, helicopters, and so forth, we too have found that because these valuable resources were being used to create fire lines on the large fires, drop water on large fires where it was questionable as to whether or not it was really doing a whole lot of good, it took those resources away from what we consider the absolute most important role here, and that is initial attack.

So any return to that I think is going to go a long way to keep fires small in the first place. While there is lots of conflict and firefighters have almost been blamed to a certain degree for the build-up of fuels because we have done a pretty good job through the last decade, but a lot of that good job was done because of the commitment to initial attack back through the years. And here recently because of this thing called managed wildfires or fuel treatment, that sort of gets muddled in with initial attack in firefighting, I think it has caused some of the problems that we are seeing here and the considerable more use of air tankers doing things besides initial attack, and thus, the more use, the quicker that these old planes are wearing out.

Senator CRAIG. Gentlemen, we are about to conclude, but let me ask of you is there anything that you would want on the record that you have not, by statement, put on the record yet? I will give you all that opportunity if you will be reasonably brief.

Mr. HULL. Thank you very much for the opportunity to be here.

I would just sum this up by saying as we crossed the Nation numerous times looking at this, we found a tremendous committed group of Americans working at all levels of government, the private sector, and contractors and everywhere that are committed to fixing the problem. And I think there is great hope that we can all have in that.

Senator CRAIG. Thank you.

Mr. HALL. I would just like to stress, Mr. Chairman, what I view as the responsibility of this subcommittee and your counterpart. I think this area needs additional oversight. There needs to be additional regulatory authority put in place, clear lines of authority drawn so that you know and the American people know who is accountable.

I think one of the things that probably has not been addressed this morning to the degree I would like to have seen because of the time is the whole contracting issue. If the procurement process is not changed so that these contractors are given adequate funds to put in place the safety programs that are required, I think we will be revisiting this issue again.

Thank you very much.

Senator CRAIG. Thank you.

Mr. Hamilton.

Mr. HAMILTON. Senator, on behalf of all the Federal agencies and the National Association of State Foresters that serve with us there at the National Interagency Fire Center, we want to thank you for your support and I would again like to invite you out this fire season and any of your staff.

Senator CRAIG. I will be there.

Mr. HAMILTON. So I look forward to seeing you this summer, sir.

Senator CRAIG. Thank you.

Dr. KERN. The one area we did not touch on, which I think is vitally important that we look into, is the systemic collection of data and analysis on how effective our retardant and water drops are. It is not air tankers or helicopters that assist the ground firefighter, it is water, foam, and retardant. And right now we do not have a very good pool of data to match the right tool to the right circumstance. So the Blue Ribbon Panel pointed that out. It was buried a little bit to us, but that one struck me as the real key to the kingdom for the future. So we need to push to get that data collection analysis process started.

Senator CRAIG. Thank you, Mr. Kern.

Mr. Broadwell.

Mr. BROADWELL. Yes, sir. Tony took the words out of my mouth much more eloquently. What we think is needed is for us all to know what is required out there to successfully do the mission each year. We have talked all around that, but that is the other plan that is needed, is what is required so we have something to build to.

Just for a matter of record, we are concentrated on 33 air tankers being available. We do have five spares, four of which are P2-Vs and one is a DC-7. So there is some flexibility regarding commercial assets.

Senator CRAIG. Thank you.

Mr. Powers.

Mr. POWERS. Thank you. I would like to just reaffirm two very important comments that Mr. Hall made, the one regarding the contract situation. It just absolutely has to change and that has to change immediately in terms of how do the contracts support and pay for the services that are being asked for and actually required and needed.

The other part of it is that I think there could be some shift of funds to do more up front to get our aircraft into service and sustain them over a short period of time. Also, as I mentioned, there are opportunities for new developed aircraft this summer, but again you are taking that step up. We need to get some funding to allow that type of equipment to be starting to phase in.

Senator CRAIG. Thank you. Gentlemen, thank you all very much for your time, and certainly the co-chairs for the work they have done with this panel and the report. It is an area that this hearing will not resolve, but we will build a record from which we hope to gain some resolution working obviously with the BLM and the Forest Service and the other appropriate agencies involved. It is critical that we have, obviously, this fleet of aircraft, that they be safe, that they be properly certified for the missions at hand, and I think you have all touched on all of the right touchstones today from which we will move forward. But we thank you all very much.

The subcommittee will stand adjourned.

[Whereupon, at 11:47 a.m., the hearing was adjourned.]