

BROOKINGS INSTITUTION

TRANSCRIPT OF BLUE RIBBON PANEL

PORTLAND, OREGON

OCTOBER 7, 2002

PARTICIPANTS INCLUDE:

Jim Hall
Jim Hull
Ken Johnson
Earl McKinney
Bill Scott
Al Hyde [Moderator]

*Transcript by:
Federal News Service
Washington, D.C.*

Brookings Portland

AL HYDE: The panel will introduce themselves in a second and we'll move through the rest of it, but there's one other thing I wanted to mention. We'll break for lunch at 12:00 -- the hotel is here, whatever. If you want to come back in the afternoon, that's fine as well. Obviously, if you've got a chance to speak, you get one once you're back at 1:30, whatever, but it will go from 1:30 to 4:30 and then anyone who wants to make additional comments, anyone of the public of this group wants to come in and react to them, we'll take sign-ups for the afternoon until 3:00. We will come to an end at 4:30.

That's the logistics in terms of the agenda. Let me start with the panel and do -- Bill Scott, do you want to introduce yourself to the panel and we'll go from there?

BILL SCOTT: I'm Bill Scott. I'm the Rocky Mountain bureau chief for *Aviation Week* magazine. My background is I've spent about 12 years testing airplanes as a flight test engineer and been with the magazine about 18 years. I am a pilot, not an ex-military pilot but commercial instrument, multi-engine.

KEN JOHNSON: I'm Ken Johnson and the token foreigner with the funny accent from Canada. I flew in the military and was a flight calibration pilot what the Department of Transport and I spent about 20 years as the senior public servant in the Canadian counterpart of the NTSB, so I have a long background in aircraft accident investigation and here's Jim to introduce himself.

JIM HALL: My name is Jim Hall and I am formerly chairman of the National Transportation Safety Board for approximately seven years. Prior to that, I served as chief of staff to the governor of the state of Tennessee and I'm an attorney by training.

JIM HULL: And I'm the "U" of this Hall/Hull bunch. I thought I was the token foreigner as the state forester of Texas. I also serve as the chair of the Fire Committee of the National Association of State Foresters, represent the states on the National Wildland Fire Leadership Council, and I can tell you that perhaps I'm the one on the panel that looks at himself as a user of the great resources that most of you folks provide to the nation and any way that we can possibly make that more safe, cost efficient and all the things that our panel is trying to look into, that's certainly a real goal of mine.

EARL MCKINNEY: My name's Earl McKinney. I'm on the faculty, the business school faculty of Bowling Green State University in Ohio, which I think has the distinction of being the furthest away from any forest fire in the last ten years. I only understand fires from what people tell me, but I'm a 20-year military pilot, have done

studies on risk management and CRM for the military and other agencies, and I'm also a commercial instrument, multi-engine pilot.

AL HYDE: Before we start, I'd like to introduce Lori Kreb (?), the regional fire director for the Northwest, and have her say a quick word or two to welcome.

LORI KREB: Well, good morning. I first off wanted to just welcome the panel to the Pacific Northwest. Thanks so much for coming and for everybody else welcome you to Portland. I think that is a really important discussion, town hall meeting for us to have. I'm going to be here all day and I'm just anxious to hear what everybody has to say. Thank you.

AL HYDE: Is Bill Bulger here?

LORI KREB: No, he's not.

AL HYDE: (Off mike) -- tremendous amount of work helping us set this up and my compliments to him and your standing staff --

Okay, the morning program is what we're going to need to worry about and that's what we call time management. I have a clock there and one I will use and when we're talking and running out of time I'll start standing up. And when you're really running out of time I'll be standing next to you. So when you're really out of time I'll be making you sit down. So this is the only way I can keep this on track to make sure you all keep to the amount of time (off mike.)

I'm very grateful to Dave Kelly from Butler and his two colleagues from Erickson who are going to do the morning opening we call it a discussion panel to get things kicked off. I turn it over to you, sir and we'll go from there.

DAVE KELLY: Well, I don't know how I got to be first, but somebody has to be first. Anyway, let me tell you a little bit about me, in case you don't know who I am. My name is Dave Kelly. I work for Butler Aircraft Company and TBM Incorporated. Butler Aircraft is in Redmond, Oregon and TBM is in Visalia, California. I've worked for them as an air tanker pilot for about 35 years, starting in California and the last 18 years I've been in Oregon.

In addition to being an air tanker pilot, I am a certified aircraft mechanic and I work on the airplanes in the wintertime, mostly in a sort of management role in structural repairs and things like that.

So not only do I fly the airplanes, but I am familiar with the structures and the maintenance of the airplanes.

I'm a designated pilot examiner for all the large air tankers in our company. I do recurrent training with our company pilots and type ratings for the new pilots as they progress up the line.

And as far as air tanker pilots go, I'm 75-years old. There's only one other air tanker that's flying that's older than I am, and he and I 40 years ago flew together crop dusting in California. We worked for the same company. So I'm waiting for him to retire so that I can be the oldest pilot for one day and then I can retire.

Anyway, I'm here to address these topics that were outlined on the green sheet today, white sheets that I've got in the mail here, five different items: safety, operational effectiveness, costs, sustainability and strategic guidance, as seen from my perspective.

So I'm going to start out with safety and safety, I believe, if influenced by agency personnel. And if anybody is offended by what I say, I'm sorry, but I'm going to tell it like I see it, because I'm telling it to this board, excuse me, and not to anybody else, because I'm sure you want to get my frank opinion on this.

So one of the problems is interpretation of the contract. We operate under a contract between the operator and the U.S. Forest Service and sometimes we disagree with how that should be applied.

And then we have probably the attitude of some of the people on the tanker bases who I sort of accuse of being guardians of the United States Treasury; they want to make sure that the government is not cheated out of a single minute of standby or the moment wasted. They want to make sure that they get their money's worth.

A part of the contract that's been an aggravation to me for several years is what they call authorized breaks, and that's a condition in the contract, which I'll leave the board here the page out of the contract that authorizes that. It says aircraft may be released from availability for scheduled or unscheduled maintenance and the contractor will continue to be paid availability rate. Approval to remove the contract from availability will be wholly discretionary by the government. During periods approved for maintenance no longer than 60 minutes may elapse from the time the aircraft is ordered to return to service until the aircraft is available.

Well, over the years this contract contained this clause for several years and it's a good clause in the contract but it is applied in the interest of the government and if you request an authorized break from the government they'll say -- they may, if it's not a high fire activity, grant you this but they'll tell you that they want you back in service in 60 minutes. So you really don't have an unlimited break, you have 60 minutes, and after that then you'll be unavailable. And the thing that that concerns is that we get paid for availability every hour that we're available and it would result in a loss of income, and that causes some pilots and I know that in the previous session there was some mention about that, to not do maintenance on the airplane when it should be due because the company would lose money by doing that.

JIM HALL: Jim Hall. Let me just say I've got a couple of questions and if you don't mind during your presentation if we could ask a question or two.

DAVE KELLY: Yes, sir.

JIM HALL: And let me say first that I appreciate your opening comments and I want to assure anyone that's going to be speaking before the panel today or wants to speak to any of the panel members while we're here that this panel comes only with the interest of doing the job that we have been asked to do. None of us have preconceived opinions or biases in this matter. I know, in fact, the majority of the panel really this is our first exposure to this subject.

So in terms of trying to build a level of knowledge I may have a lot of questions. I want to be sure you get all your input in. So if I get us off course, let me know.

But when you talk about the contract, do you know a specific clause in the contract, the number? If you could, you don't have to do that now, but I'm an attorney and I'd like to know where in the contract the language is you're talking about.

DAVE KELLY: Well, I have a copy here for you.

JIM HALL: Excellent. And then the second thing is you said the attitude of the people on the ground and specifically what are their titles and responsibilities, not individual names, but what are their roles at the tanker base?

DAVE KELLY: Oh, okay. There are several people. Every tanker base has an air tanker base manager, who is contracting officer's representative. In addition to those, there are other people that load airplanes and keep records, manage the radio.

JIM HALL: Do they have safety training or a background? Are they making basically safety decisions in regard to whether the plane is airworthy to go out and perform the next mission without maintenance?

DAVE KELLY: Occasionally they might, because they have a system of -- oh, they call them SAFECOMs. They're a report, what they consider to be unsafe conditions that they observe, and I guess they could probably if they saw an unsafe condition require that the airplane be shut down until it was repaired or inspected or something. That's a pretty rare occurrence.

But what I was talking about was just the fact that they made sure that everybody was there on time and they didn't leave early.

JIM HALL: That you're performing the contract?

DAVE KELLY: Yes, that we are performing pretty much --

JIM HALL: But when it comes into maintenance, that's what I'm trying to understand, the 60 minutes, if there's a problem with the aircraft, you know, I could see 10 or 15 minutes just trying to get somebody's approval. What is the actual process if you --

DAVE KELLY: Oh, the process for an authorized maintenance break is to request for the operator, pilot, whoever notices this to request an authorized maintenance break to correct a deficiency, maybe something that needs attention like change a tire or if they notice a hydraulic leak or fuel leaks, oil leaks, flat tires, anything, the operator would request a maintenance break and this is during the period of availability.

Well, maybe you need to understand one other thing. We're required to be available for nine hours a day. After we've performed or been available for nine hours, we have earned our daily availability and if we're out of service after that there's no penalty involved. So we want to --

JIM HALL: Do you get overtime after the nine hours?

DAVE KELLY: Now we do, yes. There was a period of time when we did, but we do get paid overtime for that.

JIM HALL: So there would be a pressure to be sure nobody is extending unnecessarily your day in order to get you into overtime?

DAVE KELLY: Well, if you're --

JIM HALL: We're talking about how the world operates in real money.

DAVE KELLY: Okay. If we're unavailable and we're not paid for unavailability and it runs into overtime, we don't get any overtime; it's still out of service. And if we were out -- just, for instance, if we were out of service for the first nine hours in the day and then went back in service, we would not earn any availability that day because we would have been out of service for the first nine hours.

Well, part of our budget is based on this availability money that the company gets. That's part of their compensation. The other part is for performing flight time. But if you're not available, and this unavailability is mostly supposed to cover the fixed costs of operation, so that if you don't fly, why, you don't go broke, but it doesn't quite cover all of that. You need to fly a little bit in order to --

JIM HALL: So you're paid one amount to have the plane there for nine hours a day?

DAVE KELLY: Right.

JIM HALL: Then you're paid for flight hours?

DAVE KELLY: Yes.

JIM HALL: And then if you go into overtime you're paid for overtime?

DAVE KELLY: That's correct.

JIM HALL: So there are three different ways you can get paid.

DAVE KELLY: That's right.

JIM HALL: Now, in regard to safety of the aircraft, when you have a maintenance problem on the aircraft during the nine-hour period, do you only have 60 minutes or does it depend on what the problem is with the aircraft in terms of putting it back in service? Or are there procedures to take it out of service?

DAVE KELLY: Well, there is this procedure to take it out of service for what I perceive, maybe they don't, for an indefinite period to cure whatever the problem is.

JIM HALL: But you don't get paid?

DAVE KELLY: And you will continue to be paid.

JIM HALL: Continue to be paid.

DAVE KELLY: If they grant this. This is wholly on the discretion of the government whether to do this or not. But, in fact --

JIM HALL: And what I'm trying to get to is if you have a safety problem with an aircraft, does the government have someone there knowledgeable enough to know whether somebody is trying to just hoodwink them or whether there's actually a legitimate safety problem with the aircraft that may require two, three, four or five hours to fix? Is there training for those individuals?

DAVE KELLY: Not at every air tanker base, but there is a maintenance inspector who may at his discretion inspect the airplane to make sure that it is airworthy. When you say that it's back in service, then he is authorizing you to continue to perform, whether he does it personally or designates somebody else to do that, but once it's out of service.

But I don't know if it's going to take too much time; I'd like to read a couple paragraphs out of this letter.

JIM HALL: Go right ahead.

DAVE KELLY: This is addressed to the air tanker contractors and the subject is authorized breaks. And the substance is that after we had two fatal aircraft accidents that had structural failures in flight a bunch of airplanes were grounded, the PB4Ys and the C-130s, and at that time the government grounded those airplanes and continued to pay availability, but they were not to be flown and that condition still exists. Our C-130s are still grounded and they will continue to be paid until the end of their what they call the mandatory availability period, which is the contract amount.

And it says, "The intent of this direction was for the contractors to assure themselves, their crews and their customers that the aircraft were airworthy and further perform any repairs or maintenance necessary to return the aircraft to contract availability status in the event problems were found."

Now, the next paragraph says, "Apparently, some contractors had misunderstood this direction. Now I'm getting requests to take aircraft out of service for extended periods of time to conduct additional repairs and correct other maintenance deficiencies under the authorized break clause in the contract without being charged any unavailability."

"The July 19th letter and contract modifications dealing with this issue were intended to be a one-time occurrence. If you're now finding that your aircraft continue to not be airworthy or have issues that prevent them from meeting the contract availability requirements, unavailability will be charged in accordance with the contract clause unless the unavailability is a result of some action being taken by the government beyond your control."

"The issue of whether or not you will receive an authorized break or be charged unavailability should not be a factor in the decision to take aircraft out of service to perform maintenance or repairs that may affect airworthiness."

This is kind of an anti-safety thing, because this encourages or coerces people into postponing maintenance until a period when they won't be charged unavailability, and I know that this occurs. I've seen letters that other people have sent to your commission in that regard and they've referred to pilots hiding un-airworthy things, they were postponing them until a later time when they could be accomplished. Well, this does not contribute to safety if you fly with a known deficiency just in order not to lose money. Money influences the way people work, I'm sure.

But anyway, I'm going to leave that letter with you and part of the contract that addresses that.

MR.: Dave, before you move on, can I ask a follow-up question on the maintenance inspector?

DAVE KELLY: yes.

MR.: That person is the Forest Service representative or the government representative that approves the airplane to return to contract status?

DAVE KELLY: Yes.

MR.: Is it after every piece of maintenance that's done, routine, exceptional? How does he get involved or does he get involved or not?

DAVE KELLY: Well, it's more or less up to their discretion. For any major thing they definitely will do that. For instance, if we change an engine or something, why then we have to get what amounts to a maintenance release from them. Our own mechanics sign us off, but then the Forest Service has to approve that. And what they do then is examine the aircraft or the engine records to make sure that it's a proper one with the appropriate time remaining and maybe propeller records if we change that too. Or if there's any major repairs done to the airplane they'll want to know about it. After they're approved by the FAA and they're accomplished, then some Forest Service maintenance inspector will inspect the airplane and approve it for a return to service.

MR.: So they do a physical inspection of the airplane itself?

DAVE KELLY: In most cases they do. Sometimes they don't. If it's just an engine change, we can send them the records and they can approve it that way. But normally, yeah, they want to see it. And those are the same people, basically the same category of people that come around and inspect our airplanes each year before we go into our mandatory availability period.

MR.: Do these people tend to be A&Ps or not?

DAVE KELLY: I believe they are. I don't know what their requirements are. The one that I know personally I know is an A&P mechanic.

MR.: I just want to be clear on the authorized maintenance break. You have to get the airplane or be able to get the airplane back in the air within an hour or you lose your standby. But if I understand it correctly, you may ask for a break and have it authorized and if nobody calls on the airplane you can work on it all day long without losing any time?

DAVE KELLY: Well, I'm sure that's the intent of this paragraph in here, but the practical application is, and I've been told this personally, despite what that says, when we give you the break we're telling you at that time that we want you back in service in 60 minutes. And that was not the intent of this clause in here. It was to let you repair whatever is necessary.

Now, if they needed you, if they needed your service and told you they needed you, then you had to respond within 60 minutes or you would begin to lose availability.

JIM HALL: But you're saying that 60 minutes is in the contract?

DAVE KELLY: Yes, sir.

JIM HALL: Because I've got a contract that was furnished to me and I'm having trouble finding it. Do you know what section it's in?

DAVE KELLY: Well, if you can find, it's in section F, page 49.

JIM HALL: Okay. I see it. Here it is. "Upon advance approval of the contracting officer, crews may be released from availability and service will continue to be recorded as available. When released during the 14-hour duty day, crews shall inform the contracting officer how they may be contacted."

DAVE KELLY: No, it's the paragraph before that, paragraph A.

JIM HALL: The one before that, okay.

"The aircraft may be released from availability for scheduled and unscheduled maintenance and the contractor will continue to be paid the availability rate. Approval to remove the aircraft from availability will be wholly discretionary by the government. During periods approved for maintenance, no longer than 60 minutes may elapse from the time the aircraft is ordered to return to service until the aircraft is available."

Do you know who came up with 60 minutes?

DAVE KELLY: I don't know where the 60 minutes is. That would be about time enough to put the cowling back on and get everything buttoned up. But that's been in there for quite a few years.

But the ironic thing is that the government on their own did grant this to the PB4Ys and the C-130s for an indefinite period and they haven't ordered them that their 60 minutes is up and they're ready to go back to work yet.

And then the further comment was that the decision of whether or not you receive an authorized break or be charged unavailability shouldn't influence you whether you take the airplane out of service.

JIM HALL: I think we're clear on that point.

DAVE KELLY: I didn't intend for that to go along for that much time.

JIM HALL: Well, that's important, because, I mean, one of our responsibilities here, although there are five responsibilities, the number one we have is safety. And I'm very interested and I'm sure all the panel members are in how we get about safety. And one of the biggest problems we have when money is involved is trying to make good

decisions in regard to safety. And the structure of the contract is where that all begins. And also how the contracting officer communicates with the people in the field as to what their responsibilities are, which is something else we'll have to explore from the government side.

DAVE KELLY: Well, I know you've got communication from one of the pilots that I saw in California that was referring to something that happened several years ago, that the government was, whatever government we're talking about, was sort of forcing people to fly with unsafe aircraft.

JIM HALL: Well, it's our government and our tax dollars and what we want to be is responsible as everybody in the room and being sure that they're spent efficiently, but also we don't want to create artificial barriers. Sometimes they're good people trying to do good jobs and there's a miscommunication in terms of what's supposed to be done, so that's why I'm trying to understand who is responsible for making the decisions, and I'll ask the government who came up with 60 minutes, on what basis someone said 60 minutes is a reasonable period of time to place in a contract for the repair of an aircraft.

DAVE KELLY: Well, that isn't what the contract says. That's the amount of time allowed for you to return to service after you've done whatever it is, and what you need to find out is --

JIM HALL: But you don't get paid after that, right?

DAVE KELLY: If you don't respond within 60 minutes, then your availability ceases until you do return to service.

JIM HALL: And the period of time you're out of service you're not paid or are you paid?

DAVE KELLY: You are paid.

JIM HALL: You are paid.

DAVE KELLY: And this year they did another strange thing that I didn't see anything in the contract. They allowed people to take the airplanes out of service -- we had airplanes that had cracks in the wings and things like that -- and repair the airplanes, not be paid for that but not be charged unavailability, which would influence the contract people maybe, and then add the time that they were out of service was added to the end of the contract so they could perform the extra days after it was over. Now, that's not in the contract anyplace and I never ran across that before. But this year we had some unique situations.

You see, one of the things about unavailability, the contract has a clause that says if you're unavailable for three consecutive days or I believe it's 7 percent of the total mandatory availability period, they can cancel the contract for default, so we don't want

unavailability to be charged indiscriminately against the airplane when I don't know that anybody ever has been, but it's a threat of defaulting the contract.

JIM HALL: Is it a pressure to keep a plane in service?

DAVE KELLY: Yes, there is from two or three respects. One of them is the pilots want to fly because they make extra money when they fly. They earn more money when they're flying than when they're sitting there waiting.

They also don't want to antagonize their employers by having the airplane out of service all the time, so I know of more than one instance where an airplane had something wrong with it, the people didn't want to fly it but they didn't want to tell about it in hopes that they could coast through the day and get it fixed during the night. But if they had to go fly, I don't know whether they would have decided to fly with a known deficiency or more than one or whether they would finally fess up and say, well, we can't go. But that's not conducive to safe, in my opinion.

Anyway, I've spent a lot of time on safety.

AL HYDE: As a matter of fact, maybe we could switch over to your two colleagues and let them talk --

DAVE KELLY: Sure. You bet.

AL HYDE: And then we'll still come back to you for a closer look.

LEE RAMAGE: Thank you. I'm Lee Ramage (ph), Chief Operating Officer of Erickson Air Crane and Lani Almirez (ph) is our manager for firefighting.

Erickson Air Crane has been in business since 1971. We operate a fleet of S-64 aircraft. Presently we are operating 18 of these aircraft, soon to be 19.

Personally, just to give a bit of background, I was a production test pilot on the S-64 Sikorsky aircraft in 1967 through '73, so I've been a pilot. I know the S-64 very well. In 1992, and I think we're going through these five steps. I'm not here to try and sell the committee on particularly Erickson Air Crane, but I think it's worthy of some background.

In 1992 Erickson Air Crane developed a tank system for it's S-64 that is bolted to the Skycrane. If you're familiar with it at all, it's a very unusual helicopter. It doesn't have a fuselage in the normal thing to carry people.

Igor Sikorsky, who I met when I was at Sikorsky, he was of the opinion always helicopters had been developed to carry people and then somebody put a hook on them to carry things. Well, he felt there should be a helicopter developed to carry things and if you want to carry people you put a pod on it, so that's why the fuselage is the way it is.

But we saw the availability and the flexibility of the S-64, so we developed a tank system that bolts to the base of the fuselage. It has a 2,650-gallon capability. The system is computer operated in that it will compensate for airspeed, the flow of the liquid out of the tank and it's a constant flow system.

And we have over the past ten years now developed a rapport around the world. This system has been accepted in Canada, in Italy, in Greece and in Australia. In Italy, in Greece and in Australia this aircraft has become the primary air resource system for their initial attack. The Korean Forest Service has purchased one of these aircraft as their primary source of firefighting. It's been in service for one year.

So we have a very proven record that the S-64 is a very, very effective aerial resource and it is very effective for initial attack.

I think from what I heard from the previous statement that the committee may not be too familiar with the contracts that are available from the U.S. Forest Service for large helicopters like ourselves. Would that be somewhat of a true statement?

I think some explanation is valid there, that the S-64, as well as other large helicopters, are classified as a type 1 helicopter. The primary contract for a type 1 helicopter is a Call When Needed contract. These contracts run for a period of three years. The people that submit these contracts, the operators that submit the contract give a daily rate charge and then they give an hourly rate charge when the aircraft is in operation.

So the way these contracts work is if there's a fire and someone requests a type 1 helicopter, the request is made and the phone rings at your office and you have the privilege of accepting the contract or not accepting the contract. And this particular type of contract has been in forever.

Recently the government came up with an exclusive use contract for a type 1 helitanker and we participated in this but it was only to prove that the aircraft, the S-64 was a suitable initial attack resource where the contract is exclusive certainly but there's no daily fee awarded to the contract. So this means if you have a fire season like we had this year, well, financially you did okay, but if you had the situation like it was in Europe this year we had eight helicopters, helitankers in Europe this year. They had a very wet season and we flew very few hours. So if you have this kind of contract with the U.S. they pay a daily fee and an hourly fee so it's a very satisfactory contract. Well, the U.S. Forest Service is not paying a daily fee for this size of helicopter that these things are and the cost of operation of it. We accepted those contracts about five years ago because we wanted to prove the concept of the S-64. Well, now that there's one contract that's been awarded for a type 1 helitanker in Minnesota where it does pay a daily fee and then an hourly rate.

Well, we're not going to participate, we won't participate in these kinds of contracts in the future. We just feel from a business point of view it's not a reasonable contract.

JIM HALL: You mean, you wouldn't want to enter into a contract like the air tanker contract, where --

LEE RAMAGE: No, we would like to enter into a contract where an air tanker is paid a daily fee and then when you fly you're paid an hourly rate. The exclusive use contract that's presently with the U.S. Forest Service we have two helicopters that are on contract right now in southern California. We do not receive a daily fee. We only receive a fee when we fly. And we were very eager to enter into those contracts five years ago because we wanted to prove the concept, but now that the concept is proven, why continue to do it and maybe not make any money each year.

JIM HALL: And how many gallons of retardant do you carry in those helicopters?

LEE RAMAGE: Our helitanker will carry 2,650 gallons.

JIM HALL: And do you have a clause similar to the 60-minute clause and what do you do on maintenance?

LEE RAMAGE: No, I'm not aware of that type of --

JIM HALL: If you've got a maintenance problem, what do you do?

LEE RAMAGE: We shut the aircraft down and perform the maintenance. We tell the Forest Service or our manager, helicopter manager that we have a problem with the aircraft and we'll tell you when the aircraft is ready for service again.

MR.: If you're not getting a daily fee, it really doesn't matter, does it, because you're not losing it?

LEE RAMAGE: Well, but if you -- yeah, you're not losing, but still we pride ourselves in being available. If you talk about sustainability in operations, we have operated these aircraft in the logging environment, which is a very difficult mission for any aircraft, and we have flown these aircraft over 300 hours in a 30-day period, performing maintenance at night and flying them long hours during the day. So the aircraft is certainly capable of performing and being available for a firefighting mission.

JIM HALL: How old are most of these aircraft?

LEE RAMAGE: Well, we own the type certificate on the S-64. We purchased that from Sikorsky Aircraft in 1992, so we are the manufacturer. Having been at Sikorsky when these aircraft were originally manufactured and now when we

remanufacture these aircraft, they're every bit as good as new. We have some of these aircraft that we've remanufactured that they're approaching 25,000 hours on the airframe since we remanufactured them. So these aircraft are in excellent condition.

JIM HALL: Does the airframe have a life?

LEE RAMAGE: The airframe does not have a life. When we remanufacture the aircraft we carry whatever the hours were on the airframe forward and so the Koreans when they came here and purchased their aircraft, they consider that aircraft new. The components had time on them but all the components, other than the rotor blades, were TSO'd zero time, so Time Since Overhaul was zero time. Any life limited items on the aircraft were zero timed. So in essence it was a new aircraft.

JIM HALL: And do you have a commercial airworthiness certificate on the aircraft?

LEE RAMAGE: Oh, yes. It's a standard airworthiness certificate under part 27 and part 29.

JIM HALL: And do you do any testing on the appropriateness of this aircraft for the mission it's flying?

LEE RAMAGE: We have done over 300 upgrades since we've owned the type certificate. We're presently upgrading the automated flight control system that's in the aircraft to a solid-state state-of-the-art system that will be certified within the next 12 months. We have a new torque meter system to measure the power of the engines. I mean, it's really the state of the art aircraft.

JIM HALL: Does the aircraft have a flight data recorder or a cockpit voice recorder?

LEE RAMAGE: We do not have either of those.

JIM HALL: Do you know why?

LEE RAMAGE: There's no regulation that requires that.

JIM HALL: If it was a regulation, you would have one?

LEE RAMAGE: If it were a regulation we would have to have one.

MR.: Lee, when these are employed, maybe I already have heard this someplace else, is there any difference between a heavy air tanker and a heavy helicopter type 1 in terms of lead airplane? Do both need the same sort of other airborne support to operate?

LEE RAMAGE: We don't operate with a lead aircraft, a lead aircraft to lead the aircraft into the fire.

MR.: Okay, so everybody is essentially initial attack qualified then and that's --

LEE RAMAGE: That's correct. Our pilots, I think that's one of our requirements now, particularly on the exclusive use contracts that our pilots are initial attack qualified.

MR.: I'm sorry, just last question about initial -- airspeed, what sort of speed do these things fly en route to the initial attack?

LEE RAMAGE: The two models, the E model has a V&E of 115 knots and the F model is 105 knots. And that goes up quite high, unless when you're en route to a fire you're not going to be -- probably would not be, other than the fuel loading, you're not going to be too heavy, so even though you may be going up in altitude, the V&E will sustain itself to a reasonable altitude.

MR.: From a business standpoint, could you characterize the differences between the type 1 helitankers and the large fixed wing air tankers? It sounds like there's quite a bit of difference there, because if I understand it right you're allowed to use these aircraft, the helitankers for a lot of other things the rest of the year, are you not, and you're not restricted for taking them somewhere else because they are your own aircraft and so you can take them to Australia to fight fires if you want to, you can use them to do logging, as you said, you can set air conditioners on top of buildings, whereas the heavy air tankers, they're pretty much a one-use operation and you're restricted, is that correct?

LEE RAMAGE: Well, that's mostly factual, other than the problem -- I mean, if you look at the cost of an S-64 to an air tanker, we're more expensive, I mean, from a daily and hourly rate, but if you look at us from a gallon delivered point of view we're probably the most cost effective system available.

You're correct that we can use these aircraft for different missions, the problem being other than in Australia the seasons, the U.S. firefighting season is basically from May till we fly down in southern California through November. Well, so is all the logging, so is all the construction work. All this stuff is still seasonal through that really busy time of year, so it's hard to use these aircraft for other missions, other than firefighting. So if you commit an aircraft to a firefighting contract, the aircraft that we have over in Europe, they have done nothing else except firefighting on a yearly basis. Other than the two or three helicopters that go to Australia, which is off season.

JIM HALL: How many accidents have you had with this aircraft?

LEE RAMAGE: Since we've been in operation, there have been five accidents. The last one was in -- I think the last one we had was in the firefighting situation, but I think it was an operationally caused problem. The aircraft, those five accidents --

JIM HALL: What have you learned and what have you changed as a result of those five accidents?

LEE RAMAGE: The aircraft was not guilty in any of those and so we --

JIM HALL: All pilot problems, operational problems?

LEE RAMAGE: Yes, all operational problems. And we tried --

JIM HALL: Have you changed any of your training and operational work as a result of that and what are you doing different?

LEE RAMAGE: We do that. We have two pilots, our chief pilot and his assistant go around and fly with our pilots on a regular basis. In January and February we have a week retraining course, if you will, where we go through the last year's history of any incidents that we may have had or malfunctions that we may have had to see how we can correct those.

JIM HALL: Without recorders, flight data recorders or cockpit voice recorders, how are you sure it's an operational problem and not a helicopter problem?

LEE RAMAGE: I think all of them are pretty evident when you investigated the accident that we know what the cause was.

JIM HALL: Were there any independent investigations?

LEE RAMAGE: The NTSB I think would be involved in all of them and the FAA. I think we all came to the same conclusions.

(Audio break, Portland 1, side A to side B.)

MR.: -- if I could and bring Dave back into the conversation. Would there be training that you would like to be able to do if the contract permitted more extensive training of pilots?

LEE RAMAGE: Well, I think we're very cautious in who flies our aircraft. I think probably the least captain we have in any of our aircraft probably exceeds 5,000 hours of flight time. If we see people who are not to our standards, they won't work for us. So we think we do a great job of training and the way we operate our aircraft.

MR.: So more training wouldn't have reduced the chance of having those five accidents that were due to human error?

LEE RAMAGE: Perhaps we could do more training. We do every year bring the pilots in and give them refresher training.

JIM HALL: Do you have a simulator for the aircraft?

LEE RAMAGE: No.

JIM HALL: And you've had the certificate since '92?

LEE RAMAGE: Yes.

JIM HALL: Do you have any plans to have a simulator for the aircraft?

LEE RAMAGE: No, we don't.

JIM HALL: Is that a financial problem or --

LEE RAMAGE: It would be a financial issue of developing something like that. I think it would be very, very costly.

MR.: Do any of your pilots train with the Forest Service or any of the firefighter academy kind of work?

LEE RAMAGE: Yes. All of the pilots that are initial attack have gone to that training.

MR.: But no recurrent training is done?

LEE RAMAGE: I don't know what the Forest Service requirement is for that.

MR.: It's not required on the part of captain, no.

KEN JOHNSON: Can I ask you a question about maintenance. When you're doing heli-logging do you count extra cycles for dropping the logs?

LEE RAMAGE: The S-64 does not have that. It's a very sturdy machine and with the upgrades that we've done it's a really reliable aircraft in that regard. I think it's the most sturdy of any helicopter that does helicopter logging.

KEN JOHNSON: So is your maintenance not tied to cycles at all then?

LEE RAMAGE: No.

KEN JOHNSON: Okay.

JIM HALL: You're familiar with the government program for oversight of the helicopter operations?

LEE RAMAGE: I'm not sure I'm following you.

JIM HALL: Under the contract that you have, is there oversight by the government?

LEE RAMAGE: Oh, yes. Yes, there is.

JIM HALL: Is that different than with the air tankers?

DAVE KELLY: Not really.

JIM HALL: We were briefed and told they were two different programs and I was just going to see if that's --

MR.: My background is one that I spent 32 years in the Forest Service, and I helped develop a lot of the programs that they use, so I kind of have to speak from both sides, I suppose, a little bit. But essentially they're about the same, I mean for all practical purposes. There's maintenance inspectors that inspect the aircraft initially and then they do follow up on scene inspections and that sort of thing. So it works about the same as for the air tankers. They have different titles and things like that, but --

JIM HALL: Well, there's 32 years of experience with the Forest Service. Can you tell us why, in your opinion, the accident rate appears to be so much higher on firefighting than other forms of flying?

MR.: Well, it's an occupation that's not without risk. Very simply put, you don't take airplanes or helicopters and put them in big mountains in hot days and high winds and not incur a little bit of risk. I do think the time has come maybe though to look at a more equitable distribution of the appropriate aircraft in the appropriate place. Helicopters have always been a redheaded stepchild in my 37 years with them.

JIM HALL: And everybody tells us that. Why is that the case?

MR.: Well, if you look at the history it took --

JIM HALL: And I did work at the NTSB and not being a pilot I've never understood there are people that feel much stronger about a blade that goes that way than one that goes that way.

MR.: Well, everybody has their opinion.

JIM HALL: But why is that? And if it's biased, tell us why it's biased.

MR.: Well, airplanes were around a lot longer. They were there first and that's good. I mean, airplanes are perfectly great machines for a lot of things. But I can relate to you that in the helicopter world it took 20 or 30 years to get them accepted as a normal daily transport, moving crews around, doing tactical initial attack work, that sort of thing. And they were in direct competition with smokejumpers, fixed wing transported air firefighters.

So if you take that same equation, that's where the type 1 helitankers or any type 1 helicopter for that matter is today. There are some things that helicopters do a hell of a lot better than any airplane can ever do, but conversely there are some things that airplanes do a hell of a lot better than any helicopter can ever do and the equation is the same: close in within a hundred mile radius there's nobody can beat us, nobody can beat a helicopter, no airplane can and I'll bet my life savings on that. But you go beyond a hundred miles there's no helicopter that can keep up with an air tanker. They both have their place. And if they were mixed appropriately I think you'd have a much better program.

JIM HALL: And what is the appropriate mix?

MR.: Well, that's kind of tough to say. You know, you'd have the air tanker study from a couple years ago that dwelled heavily on air tankers, gave a cursory look at helicopters. It was no more than a cursory look. It was kind of like an afterthought, quite frankly.

JIM HALL: Well, a lot of that, isn't it the fact that all the helicopters are on an hourly rate, which makes them, what, three, four times more expensive than fixed wing aircraft?

MR.: It's only because of the way the government contracts. Right now the government does not put out contracts that --

JIM HALL: And why does the government make that decision? With 32 years with the Forest Service, can you tell us?

MR.: I'd say it's tradition, embedded tradition in a program that is an excellent program in its own right, but times have changed and the program needs to change.

MR.: If I could get back to just a moment the appropriateness of the aircraft for the mission, our impression is that a lot of the air tankers are used in an environment and for a mission that they were not designed for. Now, the S-64 was designed for heavy lift and moving things around. Would you say then again with 32 years of experience that the helicopter in the firefighting role is much closer or if you can quantify it, great, much closer to the role it was designed for when it's doing a firefighting mission, carrying retardant and/or water versus a C-130?

LEE RAMAGE: I would answer that by yes and in particular the S-64 is unique that I am not aware of any other helicopter that has its capability. The way it's certified we have to be able to take off vertically with the load that we're carrying, and so we're capable of making a vertical takeoff. At whatever altitude, temperature we're operating at we have to be able to make a vertical takeoff. If we were to suffer an engine failure, by jettisoning the load, in this case water, which you can do by a salvo button you've reduced the gross weight of the helicopter, that you have to have the ability to hover with one engine inoperative. And so it makes the S-64 unique to the helicopter industry that it has that capability to do that. I'm not aware of any other helicopter that has that capability.

MR.: And somewhat to answer your question there, I think they both have their place, as I said. I think fixed wing air tankers do a job that nothing else can do for certain things, but there are certain things that large helicopters can do that airplanes, planes can't do.

MR.: And I understand that. I want to get back to what the aircraft were designed to do versus what they're being asked to do.

LEE RAMAGE: And I think the S-64 and a lot of helicopters, you know, they have the ability to hover, which is an asset if visibility is bad and this sort of thing where obviously a fixed wing can't do. But the Skycrane is unique in its capabilities.

AL HYDE: Gentlemen, in the interest of time management here I'd like to go back to Dave and give you five minutes to close and five minutes to you and then we'll take a quick break and move on.

DAVE KELLY: Okay. You know, we had five topics here and we're kind of stuck on the first one, aren't we?

AL HYDE: But you got the most important one. That's what's really important.

DAVE KELLY: Let me skip around a little bit here and talk a little bit about air tanker history and I can include helicopter history in there, too. The air tanker business or the operation wasn't invented by the Forest Service; it was invented by what we'd call entrepreneurs that came up with an idea that maybe they could help out on these fires and drop water on forest fires and my first experience with that was with the old biplanes that carried 125 gallons, the N3N and the PT-17, the old World War II biplane trainers and they came on up through, oh, the TBMs where I started, the F-7F, the B-17, the DC-4, 6 and 7, the P-3 and the C-130, they kept getting bigger and better.

But all of these airplanes are based on the availability of surplus or excess military equipment, which were obtained by pennies on the dollar, if it was even pennies, because they were castoff equipment.

So when we started in the business the depreciation was practically zero, because we didn't pay anything for the airplanes. Even the ones that we traded for, which we got in a lot of trouble for and we still may be, but didn't really cost a lot of money. If we had to go out and buy new airplanes, we'd be in the boat that the helicopter people are in. It would cost a lot more money because the only ones that are available right now -- let's see, I had a list here -- well, there's the P-3 and the C-130. You could buy those from the manufacturer, but they're going to cost you a lot of money, somewhat over \$50 million a piece. The Russians have an airplane that they're trying to push over here, which is suited to our business, it's an amphibian water scooper, carries 3,000 gallons and I heard that the price is around \$20 million. We've got the Canada Air 415 that's build in Canada, which does not meet the Forest Service requirements because the Forest Service minimum requirement is a 2,000 gallon airplane and I think they're only 1,650 or something, but they're up in the \$20 million and \$30 million range.

So if we get new airplanes, the Forest Service budget is going to have to increase by tenfold in order to support the industry. If the government bought the airplanes and then somehow transferred the title to the private operator for a dollar, for instance, over a period of time the government would have bought the new airplanes. If the operator bought the new airplanes new over a period of time through depreciation the government would still have to pay the same amount of money, plus maybe a little profit margin there.

So we're kind of stuck with the same old airplanes unless we can get something new.

Then the question comes up whether these old airplanes that they talk about, the investigation focuses on using old military airplanes to fight fires. That was in the paper. They are the only airplanes that are at all suitable for firefighting. When you look at the modern airplanes none of them are designed for that purpose and most of them are not even adaptable to that purpose for a variety of reasons. There are things in the way on the bottom of the airplane, landing gear is in the way and the airplane, maybe their stall speed is too high or whatever. People didn't think DC-7s and 6s could operate in the bottom of a canyon, but they can and we're all surprised when that happens, so I wouldn't be surprised if somebody didn't take a 747 sometime and find a way to get it down to the fire. But that hasn't happened and it probably won't happen until the 747 gets so old and nobody wants it anymore and they're willing to sell it for a couple of dollars and then we can spend a million dollars on a tank system to put in it.

But anyway, that's what's happened over history and I want to tell you about the helicopters. The first time I knew about helicopters on fires at all were when somebody wanted to, particularly a county ranger or somebody wanted to go out and have a look and see what the fire was, why, he'd see if we could order up a helicopter, maybe get a Bell-47 and go out and look around and see what the fire looked like, recon the fire.

Then a little bit later somebody got the idea that maybe they could haul a bucket of water underneath there and work on the fire, but they were all pretty small helicopters.

When you get up to the newer ones like the S-64, they're capable of doing some real work and they can outwork a fixed wing tanker probably ten to one under the right conditions, and he mostly stated that's within a hundred miles. Provided that the air tanker has a base to operate from or the helicopter has a water source to drop from, they're both good machines and the both do their job.

Now, the aircraft, fixed wing aircraft is most efficient in an initial attack phase where they can respond to a fire almost anywhere within sight of the airport clear out to 300, 400 miles and get there rather rapidly. Let me say that they're most efficient during initial attack phase, when the fire is small and maybe they can surround it or hold it back, keep it small until the ground people get in there. When the fire gets big, a fixed wing air tanker is just an expensive dump truck. It's a very expensive way to build fire lines and it may be possibly the only way to do it, but it is very expensive and it's best suited to the initial attack role. And that's why they have air tanker bases strategically located around the country.

Now, lately, why, the airplanes have been dispatched out of their home areas for extended periods of time to respond to large fires somewhere else, but that leaves their home base sort of unprotected and particularly in the last five years I've seen that happen and sometimes it makes the home folks feel uneasy because that air tanker they've been counting on is somewhere, and particularly when it's on loan to another agency, well, I know we had an airplane that was supposed to be based in Fresno, California spent a month in Longview, Texas sitting there because somebody wanted it there, was probably paid for by FEMA or somebody, but the home base was relatively unprotected unless they brought somebody else in there.

Let me skip around here a little bit. Of course, I don't want to take a whole lot of time.

On the topic of sustainability, well, we have old airplanes. Our airplanes are 40 and 50 years old. So they're not manufactured anymore. The supply of spare parts was tremendous for a while, but those spare parts get used up over a period of time. There are no new parts and we're getting to the point now where some of the old parts are no longer available and they have to be manufactured and when the cost of manufacturing one part is almost equal to what the airplane is worth, why, then they get pushed off on the side and not used.

Another thing that affects sustainability is we have a problem with hundred octane fuel. Right now it's a potential problem, but it's becoming increasingly more important because that's going to go away pretty soon. That's why the emphasis for the Forest Service to convert to turbine fuel because turbine fuel is available everywhere and I foresee within the next ten years there won't be any hundred octane fuel because they've attempted to find replacements for it and so far not successfully.

And the other thing is that these old -- old, old, old airplanes here with radial engines consume what you might consider prodigious amounts of oil and oil is at a

premium now. It's hard to find. One of the reasons is that a local operator that sells oil may not want to stock in his inventory several thousand dollars worth of oil for an airplane when it might not be used this year or next year, but when you need it you need it. And where automobiles use it by the quart, we use it by the gallon and it's not unusual to use a 50-gallon barrel of oil every day.

I see you standing up there. I got the clue.

So I'm going to close with this strategic guidance. Over the years the Forest Service has developed plans and you're probably familiar with what they call NATS 1 and NATS 2. They haven't worked out because they didn't look far enough into the future and didn't follow up on that. So we still have the same problems we had ten years ago.

And I have copies of that and I don't know, do you have copies of all those? Yeah, okay.

JIM HALL: We got the joy of reading both NATS 1 and NATS 2.

DAVE KELLY: Well, there's some very interesting material in there. They analyzed every possible airplane.

JIM HALL: If that was the only material we had to read, we would have been in good shape.

DAVE KELLY: Yeah, but it is interesting to see how many they've considered, what they consider the cost and how many they rejected as not being practical and ended up with the ones that they wanted in the first place, I think.

But anyway, that is good reading and it gives you some realistic figures on what it costs to run these airplanes and then we add in a little inflation factor. It is real, but the airplanes that they want turn out to be not available. We know that we want excess military airplanes and they don't have any. They need those right now. As a matter of fact, there was a call earlier this year, the first fires they wanted eight mass airplanes, the military C-130s. Only four were available because the other four were in Afghanistan, which is where they belong. That's why we have them. So if you want to consider that it should be an entirely government operation, you might end up with a big fire with no airplanes, no fixed wing airplanes available because they're doing what they were supposed to do.

So I guess that will finish my part. If anybody's got any questions, I've got a couple of books here with answers in them.

MR.: Can I ask one short one?

MS.: One quick one.

AL HYDE: One short one.

MR.: Compared to 20, 30 years ago, Dave, is there twice as much recurrent pilot training going on now during the year as 20 or 30 years ago at most contractors?

DAVE KELLY: Yes, I think there is.

MR.: Twice as much roughly, 50 percent more, 300 percent more?

DAVE KELLY: Well, I think years ago we didn't have annual recurrent training because that wasn't required. Now we do. All of our initial attack pilots have to go to this Forest Service academy and as time permits we let the copilots go through the same training so that they can be upgraded when they get there. But we don't have anybody that's gone there repeatedly year after year because there's a limit on how many people that they can accommodate. I think it's limited to 60 or so and they want to distribute those throughout the industry so it's not available to everybody. There is a limit on that.

JIM HALL: Dave, are you familiar with this flight safety study on crew error, April, 1990 that focused just on crew error on U.S. aerial firefighting fixed wing aircraft?

DAVE KELLY: No, I don't think I've read that.

AL HYDE: Lee. The last three or four minutes to close.

LEE RAMAGE: Again, we'd like to thank the committee for allowing Erickson Air Crane to brief you on our S-64. If I go through these five items here and address each of them I think without question the S-64 has an excellent safety record in the 30 years that we have been operating them. If you talk about operational effectiveness in Italy and in Greece where the aircraft is used as an initial attack resource, in the four years that we've been over there I'm not aware of any fire that got away from being put out as an initial response, so I think it has effectiveness.

The cost of the aircraft, if you look at it from an hourly and daily rate, certainly it is more expensive than any other of the helicopters or fixed wing, but if you look at it from a cost of delivered retardant on a fire you'll find that the S-64 is probably the most cost effective aircraft that's available to you.

JIM HALL: Do you have statistics to back that statement up?

LEE RAMAGE: Yes, we do.

JIM HALL: If so, we, the panel, would like to see them.

LEE RAMAGE: There are statistics that address that.

JIM HALL: And in Italy and in Greece are there any independent studies over there or information that you can furnish the board?

LEE RAMAGE: I'll see what we can get for you, but I think there are.

JIM HALL: My colleagues are well versed and they read many foreign languages.

LEE RAMAGE: Very good.

Yes, in Australia it is the same. I mean, it's one that we're sending three helicopters to Australia again. If any of you were aware of the Black Christmas in Australia last year, well, the S-64 is one that controlled all those fires.

JIM HALL: And do you pay by the hour over there or is it fixed?

LEE RAMAGE: It's paid on a daily rate and an hourly rate and that's the same way in Italy and Greece and the other countries we operate, other than the United States.

Sustainability: As far as old aircraft, we feel that when this aircraft is remanufactured in our facility, because we are the type certificate holder, they are a standard category aircraft that from that date of manufacturer they're as good as new. And we've upgraded these aircraft where it's as good as anything you can get your hands on.

And strategic guidance: I don't know how really to address that. The Forest Service does have some projects, the exclusive use contracts that they have. They seem to be interested in developing more of that.

Unless, Lani, if you have anything, we'd again like to thank the committee for allowing us to participate.

JIM HALL: Well, you gentlemen have a lot of experience and somebody with the government, let's assume you go to a clean sheet of paper, has to sit down and say we've got this amount of dollars to contract for so many type of aircraft. Now, right now we know what's being spent on their program, for their own government-owned aircraft, we know what's being spent for the air tankers and the helicopters. Now, how would you come up with a new formula, assuming I believe you said you really ought to have more helicopters, you still need air tankers is what you're saying, but the percentage ought to change. Now, how would you go about if you were a contracting officer coming up with the factual basis to make a determination of how many of each type of asset you'd need? Do we have information out there in the type of fires or how the fires are changing? How were those decisions made in the past and how should they be made in the future?

LEE RAMAGE: We would like to suggest a pilot program, if you will, where you took -- because it's not done in the United States. As you place some heli-tankers

and there's other heli-tankers besides Erickson heli-tankers, you're placing where they're going to be used as initial attack and you do a pilot program for three to five years and then you track the cost of what it was in the past, where only an air tanker was out there as the initial resource and how you have a heli-tanker out there and you track the cost, the total cost to fight the fires, control the fires in that radius of action and I think you'd find that the S-64 in the total cost to the government would be less if you were using these aircraft as initial response.

JIM HALL: Any other solutions? This panel has read lots of material describing the problem. We haven't been out, but we're familiar with, as much as you can be with the problem from reading, but what we're looking for is solutions and suggestions from any of you gentlemen before you leave the table. And obviously if afterwards you say, well, gee, I wish that's something I had mentioned, we're not going anywhere. We've got e-mail addresses and we'll all be glad to get any additional information you have.

LEE RAMAGE: And I feel that's a possible solution at least to do a study to prove or disprove that this particular aircraft, this particular concept would be effective, as effective here in the United States as it has been effective in these other countries that use it that way.

EARL MCKINNEY: If you provide that kind of information, I can see how Italy and Greece are geographically quite a bit different situation than we have here, so maybe you could provide to us how many aircraft would it take, your cut at how many heavy air tankers it would take and how many helitankers it would take to do the job.

JIM HALL: And are they available and do you have pilots that are trained and would you consider putting recorders on your equipment.

LEE RAMAGE: Yes. The answer to that is yes, we would. I mean, doing cockpit voice recorders is a pretty inexpensive way. I mean, it's not costly to put those in aircraft. Depending on what kind of data you want to record as far as the data acquisition kind of thing gets quite expensive.

JIM HALL: How do you -- well, we'll ask this after the break.

AL HYDE: Gentlemen, thank you very much. We're going to take a ten-minute break and then we'll come back here.

(Break.)

AL HYDE: We're going to do essentially about 20 minute formats. (Off mike.) We'd ask that you would open up with your -- you know, say your name and who you are for the record and we'll go from there and then we'll do what we can in terms of everyone's schedule. Please.

TIM WALBURG: Good morning. My name is Tim Walburg (ph). I'm the president of Evergreen Helicopters. My aviation career started in the Army in 1963 with Army helicopter maintenance and I've been with Evergreen since 1969. Also with me is Roy Bell, our contracts administrator.

I'd just like to maybe give you a brief about what happened this last year and probably bring up a topic that really impacts us as the operators and maybe leave you with some possible solutions. That would be my hope today.

Anyway, to start off with the introduction, we're currently providing the U.S. Forest Service and state agencies with safe, dependable helicopters for firefighting and we've been doing this for the last 40 years. Evergreen flew over 3,600 hours, accident free hours this year in the 2002 fire season while providing exclusive use and Call When Needed aerial firefighting services in Alaska and the lower 48.

We use all types of aircraft for the state and the federal groups to fight fires and some of these are support aircraft like the Lear 35, Cessna 206, DC-9s. We use these primarily for shifting parts and crews as they're needed to support the helicopter fleet and to maintain a superior operational readiness while we're on the fires.

And we'd like to bring your attention to one of the most significant factors affecting the aviation industry today, and that is insurance rates. The airline industry is being hit with a 80 percent higher hull and liability premium and the helicopter industry has experienced about a 60 percent rate increase, depending on who the operator is and what he does. Underwriters are warning us next year that it will be worse due to increased reinsurance costs, because they're not available.

So we have three examples we're going to show you and unfortunately we don't have overheads so we can't show them to everybody. But I just wanted to start with Evergreen flies light, mediums and heavies, types 1 to the very lightest helicopters. Like Erickson, we also fly the S-64 Skycrane, and I just want to show you what's happened between this season and last season.

Now, we're seeing that this Skycrane, and this is just for evaluation processes, these numbers with regard to the hull are not exact. So if you look at the first graph we're talking about a 64E and in the graph we're saying that it's got a \$6 million hull value. Really it's got a \$12 million hull value. And again this is just for your evaluation.

But if we look at last year, use this revenue last year at \$4.5 million, our insurance cost was 3.38 percent or \$202,800. That represents about, if you look at the hours we operate, about 4.4 percent. So if you take the insurance out, that leaves us with a net of 4.3. That doesn't look too bad.

You go this year and our insurance costs went up to 6 percent, so we go from \$202,800 up to \$360,000. The rates don't change as far as what we're being paid, but the insurance rates are being changed. This has about a 7.9 percent effect. This doesn't

include all our other costs that we incur like depreciation, spares, interest, fuel, labor and things of that sort.

I'm going to very rapidly go through these and I can come back to them if you wish.

The second type of aircraft is a Bell 212. This value of this aircraft is more representative of what the Bell 212 is. We have it at \$1.7 million. The revenue and again this is probably with our average fire season is maybe 300 flight hours. So we have 300 flight hours to spread these costs across, and as I'm sure you know cost is a function of utilization. And to make the aircraft available for the Forest Service in the state of Alaska and all the other agencies we have to pull them out of other markets. So we can't take off and fly down to the Gulf of Mexico and then jump back in their busy season, which is also the summer, and go fight fires.

So really what we're doing is we're pretty much dedicating a fleet of helicopters to the Forest Service and firefighting program, which we like. We're not complaining about that. We like the work. We like the opportunity. We like the revenue.

But we're getting hit by things -- I'll take you through these next two aircraft, which really kind of point that out.

So if we look at the 212 revenue, last year, if we use the same revenue we had this year, which is \$418,000, we look at our insurance costs last year of 5.3 percent, this year it's 8.5 percent. So basically we're going from 90 to \$144,000 for that one aircraft.

So effectively the insurance is 21.6 percent of our operating revenue because again that's mostly what we use this aircraft for is fighting fire.

You can see that this really affects our net revenue. It comes down to \$327,000.

Now, if you jump over to this year we got our new insurance rates of 8.5 percent. It's the equivalent of \$144,000, which now becomes 34 percent of all of our costs, because again of the amount of utilization we have on these aircraft, so we have a net revenue of \$273,000 to try to cover our other costs with.

Then we jump down to the next aircraft is an AStar, which is a very popular aircraft today. Evergreen has been adding these to our fleet. I think the Forest Service appreciates them. We use \$270,000 for the revenue of an AStar this year. Last year insurance was 5.3 percent, which is the equivalent of \$66,000. This year it's 8.5, which is equivalent of \$106,000.

So if you look at this year at 8.5 percent interest, if we only did the firefighting, the effect of the insurance on our revenue would be 39 percent. I mean, it's tough, it's really tough.

So the next page talks about a cost curve and here's how we're talking about cost as a function of utilization. So you can see that if you only operate 100 hours a year you should be somewhere around \$36,000 an hour, which is wild. Have you got the cost curve there?

So if you look across the bottom you've got the hours, 100, 200, 300, 400 hours. We're going to move out to 400 hours, which is about the most we've achieved on these firefighting programs. This is a real busy season for us to get 400 hours on any helicopter.

So with 400 hours we're figuring that again it's using that old \$6 million chart, which this is really a \$12 million helicopter, because this is a commercial helicopter. It should be about \$13,000 an hour and the Forest Service, that little red dot there points out that they're paying \$11,000 an hour.

So here's our point. There is a similar program that we do. We don't only fly helicopters; we also fly big airplanes, 747 and DC-9s. We work for a group called the U.S. Air Force or the Air Mobility Command. The only reason we're bringing it up is because they have a demonstrated system that works. And I'm not looking for more intervention of federal employees or anything like that, but I think we should look at this.

The Air Mobility Command really sets the quality standards and the price. They don't award to the lowest bidder and we think that could be part of your problem. We don't particularly care to do that, but it's a system that's set up like it is today. The Air Mobility Command goes back and they audit each carrier. I mean, they're looking at the quality of the service they provide, they're looking at their training records, they're looking at their training program, their on-time reliability, their equipment, their aircraft, their safety record, everything that's really important to know about an operator.

They annually adjust the price based on each operator's cost. So the way they come up with this price that they pay you is based on all the operator's costs. So that means all these secrets that all these helicopter operators hold close to their chest would have to come out, but I think overall it's probably for the best.

So all the operators come forward with what their actual costs are and the government picks what your average cost is and they set a price accordingly. And that's what we fly for. We're not out there having a fist fight to see who is the lowest operator or who comes up with the lowest bid.

I think that when something happens with insurance we don't have this program to where the government is looking at all the costs and setting the price. Today we're caught in this program with the lowest bidder. And I know the government can still select which carrier they want to take, but quite often it goes to the lowest bid because again they've got a budget to deal with just like we do. But when something like insurance comes along, we have no way to come back and escalate our price for the insurance. I mean, we're stuck, that the operator has really got to take it on the chin.

And insurance is just one cost, it's just one that I picked. I mean, parts and pieces are going up in price every year, labor costs are going up every year, I mean, all these different things, interest on money. You try to go out and get a loan on an airplane today as an airline you're in trouble, you know, because they don't like aviation because of what's been happening with all the carriers.

So anyway, the Air Mobility Command sets the price. Again, if you can't qualify, you don't fly for them. If you do qualify and you become non-eligible because of performance, you're taken off their lists; I mean, you're out. And it's a tough program but it holds the operators accountable, but the operators have the assurance that they're going to be paid the correct price that carries them forward.

So basically I think a lot of the problems with the operators and at least with us continually is to go back and really understand what your true costs are. And you might say, well, there again you go back and you use this example of your insurance is 8.3 percent, but if you're only operating that helicopter 500 hours a year your insurance is really about 34 percent of your costs.

So I think it would be a good exercise for all of us, and it is at Evergreen every day. We keep going back and beating ourselves up about discovering what the right cost is.

EARL MCKINNEY: Tim, excuse me. Can you get us a copy of the contract that AMC has given you, just so we can get a sense of how that compares to how the Forest Service is doing?

TIM WALBURG: I'd be happy to, yes.

So the low utilization is probably our biggest enemy when it comes to all these costs.

Again, cost is a function of utilization. The other thing that we run into on the cost side with fighting fires primarily as compared to flying off shore, I mean one area, except for the salt water, you're flying in a very smooth, clean environment. In the mountains and these heliports you're flying in a very dirty environment and there's a lot more wear and tear on the machines than what you'd see anywhere else.

So your costs are somewhat not in accordance with the direct operating costs that most people can see, and I think for the most part the Forest Service has done a very good job at determining what the direct operating costs are.

But anyway there's two different environments and this is what I want to bring to your attention and just appreciate maybe you taking a look at it.

The other thing is in the case of the AMC if you go to war, they cover the insurance. You don't deal with hull and liability insurance. If you have a terrorist attack they take care of your extra war and ex-pro insurance.

So there's a lot of things the government is doing for the airplane guys that I think we could probably do for the helicopter guys. And I agree, the helicopter industry really hasn't been probably recognized quite like the airline industry has and that's primarily just because of the amount of utilization of this ability.

And that's the end of my two cents. Thank you very much.

JIM HALL: I've got some questions, but I'm going to hold them and let everybody speak this time so I don't get us derailed.

AL HYDE: Let's do it then and we'll come back.

CAREY ALLEN: My name is Carey Allen and this is George Warren and we're here to represent Columbia Helicopters. I'm the assistant chief pilot at Columbia Helicopters and George is the Vice President of safety.

I learned to fly in the Army. I still fly on fires. I flew the CH-47s in the Republic of Vietnam for 18 months. I act as a designated pilot examiner and a pilot proficiency examiner. I also do type rights for our pilots.

We supply type --

(Audio break, Portland 1 to Portland 2.)

CAREY ALLEN (?): -- We operate several model Chinooks. Our Chinooks are the largest FAA certified helicopters in the world. They can carry up to 26,500 pounds of cargo or 3,000 gallons of water or up to 44 passengers.

Our VRTOLs can carry up to 10,000 pounds of cargo or up to 1,100 gallons of water.

We deliver our cargo using long lines, up to 300 feet in length, and our water buckets are suspended at 200 feet below our airframes when we're flying water or retardant. And these loads can be placed with pinpoint accuracy.

And we've flown over 16,000 hours in the last ten years under the Call When Needed contract.

I have a big list here of stuff I was going to read and I imagine it will fall by the wayside, but the primary section we're going to talk about or attempt to address the five

concerns that we're after here is safety and we feel that the current system holds safety in high regard. There's a safety meeting every morning and a debriefing every night and they spend a lot of energy trying to conduct a safe operation.

The air traffic control, when we're up there working and flying on these fires, seems to be adequate and the operations out of the heli-bases are for the most part orderly.

There are a few areas that could use some work. One of them that we see is radio frequency control. Our ships generally work on an air-to-air frequency and we use this frequency for location and intent information. We talk to each other up there. Air attack also guides us up there.

It's a vital link for the air operations on the fire and occasionally it can become quite congested, but for the most part pilots are adept at time on their calls and letting everybody know what's going on.

The problem can arise sometimes when the heli-base or some other logistical need gets on the frequency and can talk for three, four or five minutes over sometimes important, sometimes not so important issues, but the net effect is to block the frequency for minutes at a time.

It's not a serious problem, easily solvable and the same case can occur -- and this is generally on large fires. On small fires it's not much of a problem. The same problem can happen on an air-to-ground frequency. We tend to use one single air-to-ground frequency for the communication and the work. We do retardant work, we do close support with the crews on the ground with these buckets, and talking to them is vital and occasionally the entire fire incident will try to run their logistical needs.

And so our solution to this, and to us it seems simple, is that recognize when the problem is developing and isolate the working aircraft frequencies from the rest of them. I know this isn't an earth shattering problem but if you want to know about safety, that's one of the areas that we see.

Another issue is we do check rides for our pilots and in most cases it's very simple for us to do this. We talk to the heli-base manager, tell them we're there. I'll arrive on a fire to give a check ride to some of our pilots and we fit it in. We remain available by radio and we accomplish the work. We have run into cases where I was told that if I wanted to do a check ride during the active portion of the daytime of the fire that we would lose one-half day AV, which is an AV day, availability day is based on 14 hours with the Forest Service and that was 7 hours, half a day for some short periods of riding, but we'd be in radio contact. It's not a big problem but it does arise.

And we've run into some issues on training our PICs on fires. How do you train a pilot to fight fire unless it gets out there and does it? And so we've put the newer pilot with an experienced pilot in the right seat and he guides them through the process. In

most cases we're allowed to do this. On some incidents we're told that, no, we cannot do that and so we do not. And so we have to fit in our training according to the needs of the particular fire we're on.

JIM HALL: Are there simulators for any of the aircraft that you fly?

CAREY ALLEN: The military has simulators, but we've attempted to do a simulator with long line vertical reference --it's called -- flying and it's very difficult and expensive. It's not an easy thing to learn, so people that do it well are in high demand and very skilled pilots.

JIM HALL: And what about your aircraft, any simulators?

MR.: No. No. We use simulators for the big airplanes because they're available and they're competitively priced and as part of our standard, but really there aren't that many helicopter simulators out there. Commercially there are none. It would probably be on an instrument or something like that, which you don't really use.

EARL MCKINNEY: Carey, is it in the contract that specifies old and new pilots can't be paired together on particular size fires or is that done ad hoc or --

CAREY ALLEN: I don't believe that's addressed in the contract, but I couldn't be sure. We've found it's mostly up to local interpretation.

JIM HALL: And you stated that safety is held in high regard?

CAREY ALLEN: Yes, it is.

JIM HALL: Who by?

CAREY ALLEN: By the people we work with, the guys --

JIM HALL: The government?

CAREY ALLEN: The structure of this fire, as far as we see, is we get called out by the --

JIM HALL: But help me with the contract. You sign a contract with the government; there should be some sort of safety oversight built into the contract. Can you relate the contract to your day-to-day operations or are you just saying Joe's doing a good job out there, we like Joe?

CAREY ALLEN: I don't believe there's any text in the contract that addresses giving check rides during the availability day. I've read the contract. That's my job to know my way around it. But I tend to deal with the operational aspect of the contract.

MR.: But do you not have a Forest Service helicopter representative that works with you?

CAREY ALLEN: Yes, we do and that's a highly sensitive issue that's going to come up a lot today is the helicopter manager system. I'm not how sure you guys are familiar with the system as far as the national interagency coordination.

JIM HALL: Help us. Educate us.

EARL MCKINNEY: Yeah, it's different than the air tankers so it's worth going into.

CAREY ALLEN: Yes. Yes, it is. We're under the Call When Needed contract. We make ourselves available if there's a need. When the need arises, a request is made through the system and it ends up at the National Interagency Coordination Center, commonly referred to as NICC, N-I-C-C. They process a request and then they call the vendors. And that's one of my primary functions as well as when I fly is I act as liaison between NICC and our pilots and we dispatch our type 1 helicopters.

You can't dispatch, you cannot make the request for a type 1 helicopter unless there is a manager available, helicopter manager. And we've sat for literally days waiting for this manager to be assigned before we go to work on the incident.

So the manager's function, from our viewpoint, and we're type 1 helicopters, there's not much for them to do, is to check our helicopter, just generally keep an eye on the situation, make sure no one is getting out of hand or doing anything crazy, I suppose, and mainly it's record keeping.

JIM HALL: Is that the same situation on the larger helicopters?

MR.: Yes, it's the same.

JIM HALL: So you have to have the manager's advice.

MR.: Right.

JIM HALL: And you get called by the dispatcher. Is that the person that calls you?

CAREY ALLEN: There's the coordination center has a dispatch --

JIM HALL: In Boise?

CAREY ALLEN: In Boise. And they call us up and request one of our type 1s and we say okay, if it's available, and we then get a hold of our crew and we arrange to have our helicopter meet when the manager arrives.

In terms of the safety aspect and the briefing, the manager attends a briefing, but when we show up there's a heli-base created and there's a heli-base manager, air operations, there's quite a structure of control out there and they're the ones that call and conduct the safety meetings.

JIM HALL: How does that work?

CAREY ALLEN: They tell you to show up at 8:00 for the morning briefing and then they go over the tactics for the day, any safety messages and tell everybody to be safe, talk to us and then send us out on our missions. We go back, stand by our helicopters and then when a request comes to actually go out to the fire the manager will relay that to us and give us the coordinates and location mission and we depart.

JIM HALL: So your dispatch comes from the manager not the dispatcher?

CAREY ALLEN: The initial dispatch comes from NICC to an incident. Once we arrive on the incident our liaison becomes the manager between the incident organization and ourselves.

JIM HALL: And you're paid by the hour?

CAREY ALLEN: We're paid in a couple of different configurations. It's not quite that simple. For the U.S. Forest Service we're paid a daily availability rate based on 14 hours of availability plus an hourly rate.

JIM HALL: Do you have the same 60-minute rule that was mentioned in the air tankers in terms of maintenance?

CAREY ALLEN: We all operate under the Call When Needed contract. I believe that text is in the same Call When Needed contract.

JIM HALL: Are you familiar what the contract?

MR.: Yeah, it's the same.

JIM HALL: Is it a problem with you all or not?

MR.: Probably not as much. I don't think it's quite the problem with us.

CAREY ALLEN: If we thought that we could just start working on our aircraft in the middle of the day and told our manager that if you need us we'll be ready within an hour, that's not a common practice at all. We don't believe that exists. Although it may be the text in the contract, that's not something that occurs. If we're down for 45 minutes, we find a light not working and we want to change this transmitter out and we're down for an hour we're docked 1/14th generally of our AV.

MR.: And I think it depends on who the manager is on the location. I mean, some are more lenient than others. It all comes back to how hard a line somebody wants to interpret the contract. Some are saying, fine, fix it, if it's a light it's not going to make any difference probably anyway, but if you're not ready to go when I call you, then you're off, that type of thing.

JIM HALL: On what basis are they making that decision? Are they trained in terms of the safety and do they know the model of the aircraft and the operations or are they dependent on you all whether it's safe for that aircraft to take off or not?

MR.: I think they're probably dependent more on us. I mean, I think that if it's a safety of flight item it's a different story. You want to shut the aircraft down. If it's not a safety flight item, then because the fact is the mechanic is sitting out there all day long and sometimes he likes to work on some things. We don't like him to work on too many things, again because he's on standby. At a moment's notice you may be dispatched to a fire. I don't know where the 60 minutes came from, but it's in there and I think it was to maybe differentiate between heavy maintenance and light maintenance. That's my guess anyway.

CAREY ALLEN: It may be in the contract in theory but in practice this is not occurring.

In terms of the managers we believe this the operational effectiveness. There's a critical shortage of qualified helicopter managers. This shortage contributes to large delays in assigning type 1s to the incident or utilizing when they've arrived. I can give you a clear-cut example that we had just finished a construction job for ski towers in Atlanta at a local airport and a fire had broke out just less than ten miles away from this airport. The local Forest Service folks wanted to put us to work. I was there. But they could not because we had no manager. We had another logging job to go to but we held at this airport thinking, hey, we can help out in the initial stage of this fire. A little later in the day two type 2s showed up, 212 or similar models with managers and crews, and we thought, hey, maybe we can share the manager and then we'll put this type 1 helicopter on the fire. We could not. We left the next day for a logging job and a few days later we were assigned to this same fire. It was significantly larger.

JIM HALL: How does your operation differ with the states of Oregon and California versus the Forest Service contracts you have? Any important distinctions or any lessons to be learned in how we might improve the federal operation or the states might improve their operation?

CAREY ALLEN: There is. I'd like to offer you a solution to this manager problem before I move onto that.

JIM HALL: We're looking for solutions.

CAREY ALLEN: Okay. Well, one of them is to train more managers or to allow them to manage multiple aircraft.

JIM HALL: How come they don't let them manage multiple aircraft now?

CAREY ALLEN: I can't answer that question for you.

JIM HALL: Well, you need to find out the answer, don't you?

CAREY ALLEN: I'd like to. We don't have direct access to policymaking on the contract. We would like that. We would definitely like to participate. A lot of these small problems could probably easily be solved if we were allowed to participate in the contract language or at least our viewpoints in a meaningful way.

The other way to maybe solve the manager problem is there is the National Firefighting Academy, Aerial Firefighting Academy and there are initial attack cards. I don't know if that relieves you from having a manager, but it's a difficult course to get our pilots into. There's only so much room. It would take 10 years to get all our pilots run through there.

If they were to make available training to certify Call When Needed type 1 pilots to fight fire on initial attack without a manager, the coordination center could call us out as soon as a request is made and we could go to work when we got there while the structure of the organization of the incident built, which generally takes a couple of days.

JIM HALL: But as a taxpayer, how then would I be sure you were using my dollars appropriately if you were just unfettered from anybody at the federal level?

CAREY ALLEN: Other than thinking you could just trust an honest operator, I suppose you could track through transponder the activity of the helicopter. It wouldn't be all that difficult. And we don't have any interest in violating our contract in the slightest. There's no gain for us to fly an un-airworthy aircraft or to try and get an extra nickel out of the government.

JIM HALL: No, I understand that and nobody's saying anybody is dishonest. The truth of the matter is we're dealing with tax dollars here and there has to be some logical system of accountability. And obviously maybe the current system can be improved. You made one suggestion but there has to be some way to provide accountability in terms of the operation.

CAREY ALLEN: I certainly understand the cost control. One thing you need to look at is stepping over \$10 to pick u a dime. While you're worried about us charging an extra minute of flight time, the fire has grown 4,000 or 5,000 acres and it's going to take another three or four weeks to put out.

JIM HALL: But we're trying to find is there anything that is a way to document that, because this is all word of mouth is all we've heard is people say that. It may be perfectly true, but in terms of anybody having any documented information to be able to justify that, how would you go about, let's assume that we wanted to have a program to look at whether what you're saying is correct. How would you go about making some sort of evaluation that would stand up in terms of scrutiny?

CAREY ALLEN: When a request is made through the system to the National Coordination Center, that is logged in. And when the dispatch call is made for the aircraft to leave, that's put on the resource order. This is public information. This is the delay between the request and the actual call-out.

JIM HALL: So is that information kept anywhere?

CAREY ALLEN: I imagine it's kept at the Coordination Center, isn't it?

JIM HALL: So the Coordination Center could tell us -- Al, could you see if we could get that type information, make that request?

So I understand we're looking for the difference in time between when something is dispatched and when the initial call is made, it's dispatched and then put into service?

CAREY ALLEN: Yeah. We're talking about a few different things but the example we're talking about right now is the time to --

JIM HALL: Well, maybe you could give us a sheet of paper that would help me get that type of information --

CAREY ALLEN: I could certainly e-mail you.

JIM HALL: Just e-mail it to us.

MR.: I think one thing the operators could do that are out there firefighting could give you a list of the times and the situations they run into when there was no manager available. They were called, they're read, they're standing by, the fire is going like crazy and there's no manager. And maybe go back to Ken's point here a little bit, there's always a Forest Service person out there. Maybe he hasn't been through the academy and doesn't have all the proper training but maybe there's some leeway to have some type of a bond or a trust or maybe something controlled out of the NICC that says basically, yeah, these guys are out there for five hours --

JIM HALL: Do you have the same problem with your contracts with California and Oregon?

CAREY ALLEN: No. California, the state of California, the state of Oregon to a lesser extent, and the state of Florida, the state of Florida and California have large

firefighting organizations and I guess the best way to put it is from our viewpoint they don't mess around. The state of Oregon is also very effective.

JIM HALL: Well, if you could give us some specifics there other than generally that one is better than the other, we'd like that and we'd appreciate it. If there are ways that we can improve the federal system, that's one of the purposes this panel has been formed.

CAREY ALLEN: That's what I'm offering up is that everything is based on training and certification. If there's training and certification available to allow the pilots to make an initial attack without waiting for the manager to be assigned and then without waiting for the manager to go to work, then the net result was these fires -- type 1 helicopters with large buckets or large tanks can significantly slow a small incident until the organization gets there. What we're offering is you need to get these things working sooner if you want to avoid a half a million acre fire.

JIM HALL: So you're saying the type 1 helicopter should have more flexibility than the big Chinook or the air tankers in terms of contracting?

CAREY ALLEN: Well, this is a big Chinook I'm talking about.

JIM HALL: It's a big Chinook.

MR.: It's the big helicopters.

JIM HALL: No, the big helicopters.

CAREY ALLEN: Oh, big helicopters. Maybe I should talk a minute about -- the fixed wing tankers, of course, can be loaded and dispatched and fly at high airspeed long distance but they have to return to their base to reload. We're a little slower getting out there, but we have this bucket, 3,000 gallon bucket hanging from a 200-foot line. All we need is an eight-foot deep hole in a stream and we can load and return to the drop sometimes under two minutes. Then you're getting a lot of water where it needs to go. We also have portable tanks that we can take a shallow source and fill these tanks so we don't need the large body of water or even a deep pool. So it's the sortie time or turn time, if you will, is where the helicopters become extremely effective.

MR.: I'd like to ask if you are going to provide us some data, as the chairman requested, at least think about the idea of an effects-based contract. In other words, if the contract was set up such that you guys are responsible for getting the fire out or controlled or whatever before it gets out of hand, there will have to be some monitoring, controls or whatever from the Forest Service involved. But if you had that situation, you got paid X amount, you got paid a bonus somewhere along the line if the fires all go out before they get big, would you give us the industry's ideas of how something like that might work?

CAREY ALLEN: I don't know how you track that other than the average size of the fire has gone down significantly after you put it in place. You have to realize that sometimes when the tankers are out flying and your remarks earlier do we participate with lead planes, we do occasionally, especially when we're reinforcing retardant flying, we fly a lot of long-term retardant. And sometimes we are held off the fire in orbit for 20 to 30 minutes while the tankers clear and we are out orbiting.

So when you try to put a gallon of water versus an hour of flight time cost you can't really just have a straight across formula. That will not work.

MR.: I'm talking about the effective as the fire goes out.

CAREY ALLEN: I suppose that would be the average size of the incident has gone down significantly by some change you made. The size of the incident has greatly -

JIM HALL: That's that stepping over the \$10 bill to get a dime, right? So that's what we're trying to do. How do you make that? You know, it's wonderful, that's a good argument but how do you support the situation?

MR.: I think one more thing I'd like to say on the helicopter manager is that this year was probably the heaviest fire season we've had in many, many, many years, but I think with the fuel as it is and the climatic conditions that are changing like they are, this should just be a good heads up to figure out how we're going to get more of these managers in place so that we can be more effective out there at fighting the fires.

JIM HALL: Well, and again we're looking at a system and we need you gentlemen's help and what are the things. You all are taxpayers.

MR.: Oh yeah.

MR.: Oh yeah, especially in Oregon.

JIM HALL: I mean, this is all our money we're talking about and the question is what is the most effective way to get the job done safely, effectively with the type of accountability you have to have when you're dealing with tax dollars.

CAREY ALLEN: To date we haven't been allowed very much to participate in the organization --

JIM HALL: Well, how would we do it? Tell us how to do that. I think if you've got the government on one hand doing contracting and they're not talking to the people they're contracting with, I don't know that that's very constructive. But how would you then go about, are there forums? How should the government interface with you more effectively?

There are limited forums but the effectiveness I'm not too sure about. For us to offer you concrete solutions sitting in front of this microphone today will probably not come out correctly, but we're happy to participate and that's one of the problems is the level -- we have some other contract issues. There's a 2.5-hour shutdown rule. There are hot refueling issues. There's a one size fits all that is not working out there today at all.

JIM HALL: I feel sorry for you, but the Forest Service has given us 90 days to figure out a 30-year old problem.

AL HYDE: (Off mike.)

JIM HALL: And shutting off even the participation from you all on this panel. So give us some ideas.

TIM WALBURG: Well, there is a forum. It's called the HEI, the helicopters association. But I can't tell you how effective that forum has been. In fact, I'd say it's not been very effective. I mean, we try, we get things where we're kind of moving things along here a little bit at a time, but I don't know. There probably needs to be a stronger body, and maybe with some input from you folks.

JIM HALL: Well, I appreciate your comments and I appreciate, if you remember, we leased a 747 from Evergreen for the test on the TWA-800 accident and I always appreciate your company's cooperation on that.

But if this was under the Department of Defense, as the program you referred to is, we wouldn't have a problem with money. But the realistic problem here is we're dealing with the United States Forest Service with an assignment that unless we get an active war declared is not going to get the type of funding that the Department of Defense gets.

And so we're trying to look or at least I'm trying to look and I think all the panel is trying to look at these five issues but understand if we can make some findings or point some directions on structural changes, everybody tell us we pretty well know the problems and we know that based on trends that things are changing, but then specifically what are some of the things that we could be pointing to that might be solutions. And if you all could give us any input after this is over we'd appreciate it in terms of any writing or --

AL HYDE: And there still may be some more time in the afternoon after our next sub panel. Okay, thank you very much and I'm going to throw you out.

MR.: I would have liked two minutes. Can I just say this one thing, that there's a reoccurring suggestion that the military firefighting might be better left in the hands of the military, and despite the obvious problem with the government and private enterprise, the effectiveness --

JIM HALL: Listen, in Tennessee the Highway Patrol wants to do it. Everybody wants something. I understand.

MR.: Thank you.

JIM HALL: We're dealing with reality here.

(Break.)

MARK LINDIMUD: My name is Mark Lindimud (ph). I'm the Vice President of Carson Helicopters. We operate large type 1 aircraft, the Sikorsky S-61, which is the same S-61 that the president flies. And we operate them all over the world. We just finished a job in Gabon, Africa. We work in Pakistan and we work in terrible places and good places. And we're the leaders in the 61s and re-modification and upgrades and, in fact, we just completed a new rotor system for the S-61, which gives us about 20 percent more lift capability but the same horsepower using NASA and the help of Princeton University and it's in the final throes. We've been working on it for about ten years and part of that was to help with the firefighting effort.

We're loggers and we're construction people, but we also do geophysical survey work for oil all over the world.

I'm also a business owner in Medford, Oregon and I'm also a citizen. And as a citizen I own a share of the property that we're talking about and I don't want my share turned to ashes. I'd like to see it utilized, I'd like to see it maintained properly and get some money out of it. It's mine and it's all of everybody's in here and all 288 million of us own share in this public land.

Over the years, myself, I got my training in the Army. I grew up in a small mining town in Ohio and when I saw this rescue effort that they did in Pennsylvania of the miners, of course, we never saw anybody walk out of a mine when I was growing up, but when I watched that state and federal and local and private citizens and commercial industries working together to save those miners it really renewed a state of patriotism in me that started on 9/11 but really hit me hard watching that. I was glued to the TV with that.

And patriotism just isn't saluting the flag. We have public lands that we own; they're ours and I'm patriotic about those. I felt more patriotic than I did when I raised my hand to take an oath as an officer in the military. And it caused me to get a little bit angry about what was going on and I got in the radio here in town and started at home and I got here and it brought a lot of attention to some of the problems that we've talked about this morning.

And one of the things I'd like to talk about is these managers that these guys just brought up. The rapid deployment of the type 1 helicopter should be our first defense in fighting fires. Now, the Forest Service wants to manage them, the states that realize the

value of our natural resources, we want to stop them, we want to fight them. And I believe that the first line of defense should be helicopters. And the type 1 is an excellent helicopter to begin, because we can carry 1,100 gallons of water for the smaller type ones and the Skycranes and the 234s can carry much more large capacities. But nevertheless we're fast and we get there and we have dip sources everywhere and we can move an awful lot of water for a very good price.

Our company flies 2,000 hours a year per aircraft logging and firefighting plus the survey work and others and that's a lot of time on a helicopter. And we do it because we maintain the thing properly and we have an active safety program. We spend millions of dollars on safety. We have an annual training program like Erickson does. We keep everybody up to speed. Our chief pilot, Steve Metheny (ph) here travels around with each of the aircraft and flies with all the guys all summer. If we see something that needs to be changed we change it. And we offered for five years in a row 100 percent availability and 100 percent on time arrival for the Forest Service on their Call When Needed. This year we're down to 99.2 percent availability. We had a blade problem and we couldn't get a blade there soon enough. It's the only time we've been down for availability. You don't do this without practicing good safety.

So, this one gentleman earlier talked about training more helicopter managers for type 1s. I say get rid of them completely. They have no purpose whatsoever in safety. They have never demonstrated -- I've got 23,000 hours of flying helicopters in the past 35 years, been on a lot of fires. I've never once seen a U.S. Forest Service helicopter manager, and I want to say the word manager is a problem in itself, because a 23-year old person that's working a summertime job thinks manager means boss and in my mind it could mean liaison, if it was used properly it might be safety liaison or something like that, but his primary duty is to take the Hobbes Meter reading in the morning and the Hobbes Meter is a little meter on there that tells how many hours you're putting on your aircraft and he takes that in the evening and he fills out the paperwork. And if he's a really exemplary he might go get us some lunches, because we can't leave to go get them.

I'm not joking when I'm telling you this; this is crazy. So I don't think the guy, the person is even necessary for type 1s. He has absolutely no idea that --

JIM HALL: Are most of these full time or part time people?

MARK LINDIMUD: That's a good question. Some of them are full time. Some of them are part time. I think most all of them are part time. I mean, they do other functions, they do other functions in the government. They might be counting fish or counting owls or doing something like that, but in the summertime they go on as managers. And they go through a couple weeks school, but the school doesn't teach them anything about the theory of rotor wing flight and it doesn't teach them anything about what to do if you have a flex shaft failure, none of this stuff. They couldn't tell you what makes the aircraft fly, let alone any of the things that are inside of it.

MR.: But, Mark, isn't their purpose more accountability than it is safety?

MARK LINDIMUD: Pardon me?

MR.: Isn't their purpose more accountability than it is safety?

MARK LINDIMUD: Absolutely. That's exactly their purpose is accountability.

MR.: Right. You're sort of dinging them for not knowing enough to help make the system safer but I thought we were only paying them to help keep track of things and produce some oversight for large --

MARK LINDIMUD: They tell us they're there for safety reasons.

MR.: Well, my understanding is the primary reason is accountability.

MARK LINDIMUD: Well, we know the primary reason is to fill out the bill.

MR.: Well, and that bill could be millions of dollars, couldn't it?

MARK LINDIMUD: Well, that bill can be millions of dollars but let me give you an example here of what I'm talking about. The Oregon State Department of Forestry's company of people we work with, and I personally think they're the finest firefighting people -- the Oregon Department of Forestry just recently had a fire on a timbered rock fire. And there were five people running the heli-wings. There's 14 helicopters on that heli-base? Sixteen? Sixteen helicopters on the heli-base. There were five people managing that heli-base. Three of them were in training -- five people.

That same heli-base, run by the U.S. Forest Service, would require 44 people to run it. And you can't run it without those people.

Now, is it safer to have five people running it or 44 people? I think 44 people, with 39 extra people, stand a chance of getting run over by a pickup truck, twisting their ankle, walking into a tail rotor blade or any of those things.

So you have so many people to do a job that the Oregon Department of Forestry is smart enough to do with a smaller group of people, and they do it with a radio and a laptop.

JIM HALL: Who pays when Oregon --

MARK LINDIMUD: Pardon me?

JIM HALL: Is that Oregon paying or is that the federal government paying Oregon to pay?

MARK LINDIMUD: That's the Oregon Department of Forestry pays us.

JIM HALL: They pay you all direct.

MARK LINDIMUD: And if we -- I don't want to lose my train of thought because we're losing time here.

MR.: You said they run it with a radio and a laptop.

MARK LINDIMUD: Yeah. The primary thing that the -- Okay, we get inspected by Paul Markowitz (ph) and a group of guys that come in from the Forest Service and they inspect their aircraft at the beginning of the season. They do the maintenance inspection, plus we already have an FAA certificate of airworthiness. Plus our pilots are all commercial or air transport pilots. Most of them have 15,000 hours or more and most of them in vertical reference work. And we train this vertical reference work. It costs about \$400,000 to take a military pilot and train him into a helicopter to do logging and forest firefighting.

So we already have these certificates. We've got our card from the Forest Service, we've got our card from the FAA, we've got our card for our pilots from the FAA, we've got our card from the Forest Service and the FAA. There will be a fire break out two or three ridges over from where we're logging. We tell them to phone it in. They say, well, we're going to send somebody over to take a look at it. So they go take a look at it. And then we call them six, eight hours later and say, hey, we're finishing up here. Did anybody take a look at it? Well, we're going to evaluate and we'll get back to you.

So then the next day now the fire that was 30 acres yesterday is 300 acres today. Then they call in an order. It goes from the district up to (NFSE ?) or NICC and then they say, well, we've got an order for two type 1s to go in and start working on this fire but we don't have any managers yet. One is in Tennessee, one is Alaska, one is in Texas. As soon as they get here you guys can go.

The next day it's 3,000 acres. And so finally the manager shows up. What's he do or she? Spends a half a day inspecting the aircraft to make sure our paperwork is straight, we haven't over-flown our hours prior to getting there, but that takes a whole half a day usually.

Then we finally go start at our 4,000-acre fire, which now needs a lot more help than what it did at 30 acres.

So then we might leave that fire and go to another fire and get a new manager and he does the same thing. First we'll wait for that manager until he flies in from Texas or Maine and then he goes through the whole thing again. He does a complete inspection again. And so the fire is growing and growing and growing.

Now, we're ready to go seven days a week, 24 hours a day. When I get a call at 11:00 at night or midnight or 2:00 in the morning, I get on the phone right away and I call

the crew that's flying, wherever they're logging, and I call the pilot and wake him up and tell him, hey, get ready to go at first light in the morning, be at the aircraft and ready to lift off at first light. I launch the fuel truck, the support equipment, everything in the middle of the night and they take off. Now, we can get ready to go in that period of time and we're on time. If they want us there at 0800 hours, we're there at 0800 hours.

So here we are a Call When Needed program and we can get ready to go instantly but we've got to wait two or three days for a manager.

As a matter of fact, our company is located in Grants Pass, Oregon. We had the Biscuit fire, which was only 23 miles from our place. I have a pilot working for me. His house was seven minutes from our facility and we waited for two days while his wife waited at home for a 30-minute evacuation notice, and we're waiting for a manager to show up from someplace.

So these managers, when you think about this now, are they promoting safety. Because if you're waiting for two and a half days when the fire burns from the U.S. Forest Service property and doesn't stop at its Forest Service lines, and burns into a guy's ranch and starts killing his livestock and burns down his barn and maybe his dad who can't get out of the way gets killed or some firefighter trying to help gets killed, this is not safety, this is not promoting safety.

One manager, one manager for type 1s -- I'm speaking only of type 1s -- can handle a minimum of a dozen aircraft. It would be very simple for him to do that, check the paperwork and get on with the program. And if he's not there, start it without him. I mean, there's no reason in the world why somebody couldn't call our company and say the coordinates are such and such, go drop some water.

When I work for the Oregon Department of Forestry or Washington DNR or any of these other states, they call us and say -- the first thing they ask is what time can you guys get started in the morning. Well, we can start at first light. Well, what time do you have to shut down? Dark. Really? Yeah, sure.

The Forest Service is not that way. They're not interested in how much you can fly. Trust me on this, they're not.

The Oregon Department of Forestry or Washington DNR, the CDF or any of these states that realize the value of that precious resource they have out there will tell you, hey, we're not quite set up this morning but here's a list of frequencies, engine numbers and people to get a hold of; go out and assist them, targets of opportunity, give them all the help they need while we get our heli-base set up. That sounds reasonable to me and it works. And the Oregon Department of Forestry puts out fires.

MR.: Mark, we had somebody here from the Forest Service. Wouldn't they claim a 99 percent initial attack success rate or something like that? So although we can't doubt your --

MR.: And they've got a 500,000 acre fire to prove it.

MARK LINDIMUD: Yeah, we've got a fire out here the size of Rhode Island. If you guys rented an aircraft to fly around it, you'd have to refuel to get around it.

MR.: I'm not disagreeing that there are anecdotes out there that show that the system sometimes doesn't work, but it sounds like it works 99 percent of the time, does it not, for initial attack? I mean, so I agree that we could improve management and some of the oversight things, but --

MARK LINDIMUD: I think we need to improve is the answer. I mean, I'm not looking for perfection just progress. And maybe 99 percent of them do work, I don't know, I don't have the statistics, but I know of the ones that don't work that we wait for two and a half, three days for managers for type 1s and we know and here you just heard all this testimony how well a type 1 aircraft, what it can do to a fire.

Now, Jim Hall is from Texas and he knows of the Subine National Forest where they had a blow-down down there and it blew down about 300 million feet. If it hadn't been for Vice President Gore and the Yellow Dog Democrats that live down there, they would have let that stuff stay there like we're going to let this stuff that burned out here stand until it falls down and becomes fuel for the next fire. But they logged that.

Now, can you imagine -- Jim can tell you -- there's 300 million feet of timber that was just laid down. If there would have been a fire started in there with the Toledo Bin Reservoir right next door to it and everything and they had to wait a couple of days for managers to show up before they could use an S-61 or an S-64, a 234 to start dropping water on it, it would have burned every neighbor's property.

There's a joke that goes around: How does a United States Forest Service employee handle a fire in his house, in his living room? He lets it burn until it gets to the kitchen and then he backfires his garage hoping that it doesn't catch the neighbor's place on fire?

And as a citizen I'm outraged about this, I really am.

So while we wait for this safety person livestock and property is being burned and that is not safety, that is not safe when we've already proven with the Oregon Department of Forestry and the Washington DNR and California the person is not necessary as a safety person. And if you want to keep track of the pay, what the aircraft is doing, radio in your Hobbes Meter, like we do with the Oregon Department of Forestry and they must enter it on a laptop or a piece of paper and then when we land we radio it in and then if you've got any problems they radio and ask you what the problem is. Just one person can handle all that. But we've got to wait for all these people.

I'll give you one quick other example about ODF and I want to let these guys talk. ODF is just super about this, because their mandate is to put out the fire. And this is what I think we should do. We must put out these fires immediately whether they start in a wilderness area or whatever, until we get our forest clean.

(Audio break, Portland 2, side A to side B.)

MR.: (In progress) -- we have to keep these fires at a very minimum. And I have a solution here I'm getting to, but the Oregon Department of Forestry on a timbered rock fire found an area that was an old pond and it was dry, so they dug it out a little bit with a cat, knocked down a couple trees and they tended it with the water tenders and it cut down the flight distance for the helicopter from about -- it cut about 80 percent of the flight distance out, you know, moving from the dip site, instead of going clear over to the lake they just had to --

Well, the Forest Service came up after a couple days of that and they shut it down because it happened to be a few hundred yards over into Forest Service property, it wasn't on BLM property and they didn't ask for permission to do that, to use it. Plus there was no dip site manager.

Now, I don't know what a dip site manager does, but when I was a kid we knew what a dip was.

So I think there's a solution to this problem and it ties in with President Bush's new initiative of forest management, and that is we need to start cleaning up our forests. We all agree with this, that the fuel loading is the problem. It started 30 some years ago with NEAP. It's gotten so bad in the last ten years that lightning goes by in Texas, it starts a fire in Oregon. And there's so much loading of fuel out there; you can't hunt anymore in our country because you can't walk in it. You couldn't pack out an elk quarter or anything because you'd be climbing over so much stuff it would kill you.

And what we need to do is start cleaning it up and we need to clean it up with all forms -- mechanized, animal, human and helicopters. And if we use these helicopters -- he's talking about cleaning up 190 million acres of really threatened area -- if we use the helicopters in these areas and if you could draw circles on your map in the western states of areas that we're going to clean and these areas that are outlined as extreme fire danger, urban interface, and we need to clean up around the borderlines of the wilderness areas, too, clean this up while those helicopters, those type 1 and medium helicopters are out cleaning up the forests, that's keeping them paid the nine months out of the year. And then if a fire comes up in your working circle, they give you the coordinates to it and go start dropping water on it. While your people are moving into it and while you're assessing it, at least start getting some water on it and keep it down in a manageable size and then if you get a handle on it go back to your Forest Service cleanup.

And eventually -- eventually over a decade or two we would have the areas cleaned up enough that then we could start doing our prescribed burns, and if there were

wildfire burns we wouldn't have to worry about them moving into state property, private property.

Because when we measure the cost of a fire we measure it in \$200 million to put out this fire, but we don't take into consideration the billions of dollars of lost timber and the critical habitat. I mean, nobody wants fried owls or red-legged frogs getting fried or red-tailed salamanders, we don't want California pond turtle soup; we want to save our habitat. I want to save my section of land. I want to save it. I want to clean it up and utilize it.

So I'll let somebody else go now.

CHRIS HARTWELL: Good morning. My name is Chris Hartwell. I'm chief pilot with Helijet Corporation out of Eugene, Oregon and accompanying me today is Dave Bowden, our company training pilot. Dave and I are both check airmen for the company and training pilots, and we appreciate this invitation here today.

Overall, Helijet, we've been very pleased at the relationship it's had with region 6 and all the other regions in the Forest Service as a whole. As with any organization there's room for an improvement. It is imperative that more organizations and operators recognize this and I think we're working in a step in the right direction with this panel here today.

Safety is one of the most important things to our operation. We fly four Bell 205, super 205s. We put about 2,000 hours a year just on fires, on those four aircraft. We fertilize pine trees in the south in the winter and we spray for gypsy moth and tussock moth in the spring.

Last year we started a recurrent training program and we invited the Forest Service to attend. We felt that this was important for them to witness and see what type of safety and what type of program we were running, giving the best information, the best training to our pilots so that they can go out and have a safe season. It went over very well. It's expensive to do, but it is a price that we are willing to pay to provide the best pilots and equipment available. This is our way of giving back to the industry and it's our wish that the rest of the industry will follow suit.

Fine tuning will not be easy, but it is necessary, and I'd like to pass it on to Dave to bring up a few more topics.

DAVE BOWDEN: Yeah, I'm Dave Bowden. My primary duty with Helijet is as a line pilot. I have been given additional duties as training pilot and check airman, so I'm out there on the ground every day -- well, in the air, watching them on the ground.

And we have concerns that have been addressed by all of us, but those are again managers and helibase managers. To train more of them would be one way of doing it,

and I agree with our Carson VP over here that type 1s could be managed several aircraft to one manager instead of having one per aircraft.

We've had helibase managers actually pitting pilots of different companies against each other. One pilot will turn down a job because he thinks it's unsafe. The same manager will go to another company pilot and say, "Well, we have this job to do; will you do it?" And usually they go the lesser experienced pilot to see if he'll get to do it.

That's unacceptable. If one pilot turns down a job because he thinks it's unsafe, it should stay that way.

MR.: What are the characteristics that make it unsafe, the altitude or the winds or what?

DAVID BOWDEN: Whether it's done with a long line or an internal load, whether it's altitude, wind, thunderstorms, any of the variables that we have to deal with on a daily basis. If I say that I don't want to go out there because of a thunderstorm between me and the destination, they shouldn't ask anybody else to do it either because it's just as dangerous for a type 1 to fly into a thunderstorm as it is for our type 2s.

And we come down to things like closed circuit refueling. Type 1s in many instances are allowed to what they call splash refuel while they're running; in other words, it's an open port with an open nozzle being refueled. Some of them are. Not all of them are, but some of them are and they're still allowed to operate and do that. But if I do that, I have to shut down. But then I provide the Forest Service an aircraft that has a closed circuit refueling system, which costs us more to gear up the aircraft and we're actually given a hand up basically on the contracting process because we have this extra piece of equipment, but then they tell us you can't use that. And we're gearing up with it, because we can save cycles on the aircraft engine by not shutting down every time we fuel. Well, that saves us money and it eventually pays for that nozzle in the aircraft and the nozzle on the fuel truck.

CHRIS HARTWELL: Besides being safer than a splash type refueling.

DAVE BOWDEN: Besides there are no fumes that escape from a closed circuit refueling system, so it is therefore safer than splash refueling a shutdown aircraft.

And now I'm going to kind of tick off some of our heavy guys, but out on the fires you'll find that you'll have 12 helicopters on a helibase, since of them type 1s, three of them type 2s and three of them type 3s. The type 3s fly doing reconnaissance several times a day, get a lot of flight time. The type 1s go out and they fly all day long and the type 2s sit there and don't do a darn thing. We've got a bucket. The type 1s are very good at what they do. They put a lot of water out in a very short period of time. They drop from a higher altitude because they have a longer line and they also have a lot more rotor wash. And so they drop from a higher altitude to mitigate the problem of rotor

wash on the fire. We have less rotor wash, a little smaller bucket, but we can be just as accurate or more accurate and from a closer distance.

But the air attack platforms, the people in the air attack fail to recognize the utilization that they could have with a medium. We can work right in with the type 1s. We do it all the time.

And a lot of times the type 1s will ask us what we've seen in there because we're down closer and sometimes they get a little bit better view because they're above the smoke and they see a 2 and they say, well, if you would extend your drop a little bit we'd be more effective. So it works hand in hand.

But if they're not going to use us, why pay us to be there? I mean, that's kind of shooting ourselves in the foot because we want to make money.

But I think that they could reduce their costs and be more cost effective if they utilized all of the aircraft at a fire to their maximum capabilities. Don't fly me an hour a day when I've got eight hours a day to fly.

And it was brought up about this 2.5-hour time limit of flight. What the contract reads is you will fly two fuel cycles or 2.5 hours, whichever comes first, before you have a rest period.

That doesn't work real well if we're working with an hour and a half worth of fuel on board that is usable for us and we still have to land with our reserve and I have to shut down because I can't go through another full fuel load before that 2.5 hours is up.

And then they don't enforce it on some aircraft and they do enforce it on others, and on the same helibase. If it's good for one, it's good for all.

And we have Call When Needed versus exclusive use. This doesn't happen too much with the type 1s but with us it does all the time with our type 2 helicopters. We'll get on a fire and because we're exclusive use, which we're a little bit less expensive because we have a guaranteed economic base there. The fire is winding down. Call When Needed aircraft is still there and the exclusive use aircraft is turned loose. Or it goes the other way around; the Call When Needed aircraft just goes to another fire and the exclusive use aircraft sits on the ground twiddling their thumbs because they want to rat-hole them. That's a term we use for what they do to us. They'll say, "Well, we've got them assigned to this fire; we can keep them and use them if another one pops up," so we just sit there. And our exclusive use contracts we are a national type 2 resource. We're supposed to be used for large fire suppression. We haul people, we haul water, we haul equipment, we haul food to site camps for the crews that stay out overnight. We do everything that they can do with them.

So then as we sit there at this fire that's out, assigned to one of their P numbers, so they can rat-hole us, then we're not being utilized for what we're supposed to be used for, and that's to go out and fight fires.

CHRIS HARTWELL: This happens a lot.

DAVE BOWDEN: And it's happened to me. I can qualify at least four times this year, in Arizona, New Mexico and in Utah and in Oregon.

JIM HALL: Do you all work for the state, too?

DAVE BOWDEN: We do work for the state.

JIM HALL: Have they got the same kind of situation?

DAVE BOWDEN: No.

MR.: Like Carson, here we've also had very good dealings with Oregon and California as well and Florida.

DAVE BOWDEN: And they never seem to have a problem coming up with managers.

MR.: And they don't dip site managers in Florida because they get eaten.

MR.: Dave, you mentioned that you were having some recurrent training this year and invited the Forest Service. Did they actually come? You didn't specify that they --

CHRIS HARTWELL: Yes, they did. We invited Kim Reed, who's the helicopter program manager for region 6 and he did show up. And one of the reasons we invited him was we wanted to show him our operation, our long line training, our recurrent training our type ratings, show him what type of program we're running. We go through a ground school in the mornings till lunchtime with our younger pilots all the way up to our senior pilots. Then we fly in the afternoon. We do about four to five hours of emergency training and then we do a minimum of two hours of long line training with bucket. It's very expensive to do but we've found it's necessary.

MR.: And you put this together on your own?

CHRIS HARTWELL: Absolutely.

MR.: There's no industry clearing house that suggests sorts of things you should practice?

CHRIS HARTWELL: Well, there is a Forest Service that says you're supposed to give your guys two hours of recurrent, ten hours of initial vertical reference training. Like Carson, our guys long line all the time. Our contract pilots don't. Dave and I, we fly full time all year round. We fly an average of 500, 600 hours a year. A lot of it is vertical reference.

So our training recurrency isn't as extensive as our contract pilots, but Dave and I give that training and it's very beneficial.

JIM HALL: But it's not a contract requirement?

CHRIS HARTWELL: No.

JIM HALL: The contract says two hours.

CHRIS HARTWELL: The contract says two hours. The contract also says that you're going to supply qualified people, and this is our way of doing it.

Now, the Forest Service has never invited us just out of the blue to come and join in on one of their training programs. It just doesn't happen. We did it because we wanted them to come and see what we're doing to make the industry safer and better.

MR.: Could there be some economies of scale if they did it together for the entire industry?

CHRIS HARTWELL: Well, that's where I'm kind of heading for is to try to get some sort of a program where they send someone out. What we did at the same time while we were doing this whole thing was we have a national contract out of John Day, Oregon that's rappel. So what we did was we invited the John Day rappel crew to join us during the recurrent training session as well, which they were very eager, and we rappel carded and forestry carded all of our pilots at the same time during recurrent training, which was very nice because in the summertime what happens is you go out there, you're carded for a year. It's usually done in July and you get out there on a fire and it's hot and heavy and you have a guy come in, whisk you through a recurrency on rappel and gives you a checkout and signs your card, okay, you're good to go. Well, are you really good to go? Some are, some aren't.

We did it so we could get hands on, everyone in the group, it generates discussion, it's quality time and you get the training. It's not pencil whipped. It's training. And we wanted the Forest Service to see how this works and to let them know that this is what should be done and what could be done in the future.

JIM HALL: You know, the air tankers have an association. Do you all have an association?

MR.: No, we're too individual.

MR.: Well, there's the International Helicopter Firefighters Association, which is just a budding group, and I don't see them really doing much. They're just kind of talking about it and they're trying to get up funds for survivor benefits. But that's their focus right now. I don't see them focusing on the training issues and the safety issues as yet.

JIM HALL: Are you all familiar with the Public Safety Officers Benefit Act?

MR.: No.

JIM HALL: Okay.

CHRIS HARTWELL: Okay. Another problem we have is the contract ambiguity. If you have that in front of you, I'm sure you're well aware as an attorney that there's too much --

JIM HALL: I'd like to get a helicopter contract. I've got an air tanker contract. If you could get me a helicopter contract, I'd appreciate it.

CHRIS HARTWELL: And as a matter of fact, the helicopter contract, both Call When Needed and exclusive use that we have eliminates our aircraft, which they want to use as something that can be trained in, because it's not mentioned. It's eliminated by omission. It gives certain aircraft that you can be typed in or rated in, but ours is omitted. That's really funny since we're contracted to them.

And it's not just there; it's the issues on closed circuit refueling, on manager presence, on crew member training. In the contracts it does state what the pilots training criteria has to be, how much time he has to have in total time last year, the last six months, in type, et cetera, et cetera.

But then there's the interpretation for other clauses that is different from manager to manager. And one manager, and again we've got to go back to a manager thinking he's the boss, and this is on the same crew they'll have three different managers for an exclusive use contact ship that has 25 people that rotate through on a constant basis. And one manager will say --

JIM HALL: And he does the dispatching, the helicopter manager?

CHRIS HARTWELL: No.

JIM HALL: What does a helicopter manager supposed to do?

CHRIS HARTWELL: He's a contract representative for the government to the contractor.

MR.: He's a liaison.

CHRIS HARTWELL: He's a liaison.

JIM HALL: The contracting officer's representative.

MR.: That's it.

CHRIS HARTWELL: That's right. And then as the pilot I am the contractor's representative to the government. So we're supposed to work together.

Now, in the FARs it states that the pilot is the final authority as to what happens to that aircraft and I've had managers tell me I'd have to or cannot do something when I'm supposed to be the one that makes the decision. And I've seen it happen to type 1s, type 2s, type 3s; it happens all through the system.

MR.: Can you give us an example of that?

CHRIS HARTWELL: For instance, I forget the name of the fire but it was up in Yellowstone this year, I had a manager that told me when I was asked to do a mission by the helibase manager I agreed that I could do that. The manager came up and told me, "No, you can't." And I said, "Why not?" "Well, there's a thunderstorm out there." I said, "Well, the thunderstorm is 22 miles that way and I'm going six miles this way. That thunderstorm is not going to affect me." "Well, you can't go."

The end result was that I got a SAFECOM issued on me because I went ahead and went because the helibase manager told me to go ahead and go, but the helicopter manager said I couldn't.

That's not a manager's decision; that's a pilot's decision by law. They haven't got that right and they're taking that right and they're encouraged to do that by the Forest Service. That's another thing that is not a safe situation because then you create a hostile environment to work in and I don't need to have myself or another one of our pilots thinking about something other than his flying when he goes out to do that job.

JIM HALL: But they don't have the right under the contract?

CHRIS HARTWELL: Under the contract nor under the FARs.

MR.: Dave, this may be a stretch, but could that sort of decision by the helicopter manager have been encouraged by the Forest Service given the attaboys for making safety decisions?

CHRIS HARTWELL: Exactly.

MR.: So this is a case where a good idea has reversed itself?

CHRIS HARTWELL: It's not a stretch at all. That is hitting the nail on the head as hard as you can hit it. And I know that I speak for hundreds of pilots out there that have run across the same thing.

And coming back to pilot long line issues, as long line pilots we are usually pretty good at deciding whether we need to use a long line to do a mission. On the Cottonwood fire near Marysville, Utah this year I was told to go to 11,200 feet with a long line and pick up three loads, three separate loads in a football field with no trees. Now, why would I want to use a 100-foot long line or longer to go get a load when I can land and pick that load up?

In their own interagency helicopter operator's guide they are telling them to mitigate the exposure and risk of long line operations and then they go tell you to do a long line mission when it's not necessary.

As it was, I said, "No, I'm not going to do that, but I'll go up there," because it was personal gear and some garbage. I wound up doing it in one load, putting all the personal gear internal in the aircraft, picking up the garbage on a net with a belly hook, which if the aircraft quits at that particular moment and you land you're not coming down from 100 feet, you're only coming down from 8 or 10 feet and you're probably not going to crash and kill yourself or any of the people on the ground. But I got in all of the three loads done in one load by doing it that way, and that was because I had a manager that allowed the pilot to make the decision as to what happened with that aircraft.

This other manager that was up in Yellowstone would not have allowed me to do that. You have to do it my way or the highway basically.

JIM HALL: Well, now, they might point out, I guess which they have, that the National Aviation Safety Program that has had a goal of reducing the accident rate and it's gone from 19.42 per hundred thousand flight hours to a low of 3.76 per hundred thousand flight hours over the past 12 years. So you're sitting in Washington overseeing the program and you're looking at those numbers. Comment to me on how you think what you're doing is going to make it safer or any comments on why those numbers have gone down so dramatically.

MR.: Well, you can look at the Oregon Department of Forestry and I don't know the exact number of flying hours, I can get that information for you, but they've had three accidents since 1965 I believe. So just in that and knowing what you know about the manager situation from the Oregon Department of Forestry we can probably deduce that the number of managers or having a manager for every helicopter doesn't increase the safety margin.

JIM HALL: So the federal government would be better where you have states with active programs giving the responsibility for putting out fires on federal lands to the state governments?

MR.: Either that or mimicking in certain areas what the state does in their efforts to fight fire.

JIM HALL: Now, it amazes me. My years at the NTSB I saw more pilot, organized pilots' associations and there's not one with you guys?

MR.: It's kind of hard to get us all together in one spot. We're gypsies.

MR.: We're working.

MR.: We're always trying to pay our taxes.

JIM HALL: Have you heard of the Internet? The air tanker pilots are wearing us out with the Internet. You guys need to organize.

MR.: It's hard enough to train a guy vertical reference than the Internet.

MARK LINDIMUD: I'd like to make two more quick comments, one, that George or somebody from Columbia brought up about using the military to come in and do this. Now, I'm a former veteran from Vietnam but I have a unique thing, I have a son who's a helicopter pilot in the United States Marine Corps. And I want to tell you he is highly trained and he's highly skilled and he's very, very, very serious about his job and he does a good job of flying around in the dark with night vision goggles, shooting up people and delivering stuff. That's his job. That's what he does. He knows firefighting and logging because he grew up with me and he knows that you can't just bring military people in and ask them to do this kind of work. We train military people. We spend a year or so training a military person into this kind of work. It's not the same.

And the other thing somebody mentioned earlier I think was about the forum to talk to the Forest Service. On the 2.5-hour coffee break that we were required to take this year, and I dubbed it the coffee break, we called our helicopter guy at NFSE 11 times and he never returned our call. And then finally after a couple more times he returned our call and left a message with my secretary. We had also written a formal letter that we didn't need this 2.5 hour break, it screwed up our fueling schedule and not only that our pilots fly 8 to 10 hours a day logging, which is much, much harder than firefighting. Don't let anybody tell you any different; it's a lot harder to log. Trust me. And this guy, he called up, finally left a message, after we had written this letter and explained to him that we fly this aircraft 8:45 without refueling in our survey work, 185 miles out of the ocean, the thing can fly for long periods of time if we want to fuel it up that way, but we keep our fuel loads real low for the firefighting. But anyway, he said if I wanted to change, he left a message that if I wanted to change this rule that I would either need to join a helicopter executive committee or something like that, which costs \$10,000, or hire a lawyer to lobby for this.

And this infuriated me. This is why I went on the radio, because why should I have to do that. I'm offering something that will save the government money and I'm a

vendor and the government is my customer. Now, nobody wants to have trouble with their customer. But Columbia Helicopters over here is a vendor of mine and so is Erickson. Erickson does our auxiliary servo packages, Columbia does a lot of our engine work. And when they call me up and say, "You know, we see something you're doing wrong here with your engines and you might want to try to do this," we say, "Hey, that's a pretty good idea, we'll talk it over," and we get back to them, "By gosh, you were right, we're going to do it that way." The same thing when Erickson says, "Hey, here's a suggestion for your hydraulic pack; maybe it will make it last longer." "Hey, it worked."

Now, if I had the kind of relationship with the government, wouldn't that be nice? But that's not what happens. For eight years we've tried to work on this manager problem and when the 2.5 hour thing came out this year we tried and tried and tried and finally went on the radio and got them -- I'm going to stop on this guy's toes.

AL HYDE: You said two minutes.

MARK LINDIMUD: Anyway --

JIM HALL: We can see why two and a half hours isn't --

MARK LINDIMUD: I finally got a call back to this guy on Saturday on my private phone and said I probably shit on the only friend I had in the Forest Service by going on the radio, by going public. So I called his boss and he agreed with the guy, I probably did.

MR.: I'd just like to say real quick we did invite the Forest Service back this year again and we will continue on doing that.

AL HYDE: Before we break (inaudible) get out of here, all of you.

(Break.)

MARK GIBSON: I'm Mark Gibson with Timberland Logging. I'm the general manager of our aviation operations. And with me is Bob Ferrara. He's the president and CEO of Timberland Logging.

We're a logging company engaged in trucking. We primarily do conventional logging. We don't helicopter log. We're your first type 3 light aircraft operators.

We operate light aircraft in emergency medical services, power line patrol, fish and wildlife surveys, law enforcement and then firefighting operations.

We contract with the U.S. Forest Service and are Call When Needed, Oregon Department of Forestry Call When Needed, California Department of Forestry Call When Needed, Office of Aviation Aircraft Services aircraft rental agreement. We've got exclusive use contracts with the Oregon Department of Forestry.

One thing that I thought of when you guys were asking questions about contracts earlier was I was curious if you'd ever seen the IHOG, the Interagency Helicopter Operations Guide. And if not, that guide technically is just a guideline from which to operate for the federal government in terms of the Forest Service and the BLM. But it outlines the duties and responsibilities of the helicopter manager, what a module is. I'm sure you don't want to read it; it's about three-inches thick.

JIM HALL: Have we seen that?

AL HYDE: Yes.

JIM HALL: Where is that?

AL HYDE: It's in your stack.

MARK GIBSON: It can't be there, because it's not thick enough.

MR.: Either that or you don't have anything else.

MARK GIBSON: But in operating light aircraft we provide air attack platform, crew transport to a certain extent. We do bucket work, mop up operations, long line work. We'll do fire evaluation, aerial ignition and then rehab in terms of seeding, fertilization, that type of stuff.

What we'll try to do here is cover some of the questions that you outlined and then I'll turn it over to Bob to kind of finish up for our portion. I'll apologize ahead of time. I probably won't be as colorful as Mark Lindimud from Carson, but we agree with the majority of what Mark has to say. A lot of these things have been issues and concerns, as he mentioned, that we've had for a number of years.

In terms of risk management, safety, I think one of the things that oftentimes overlooked is that it seems like the attitude appears to be from the part of the Forest Service to let the fire burn and we realize there are a lot of other environmental issues and a lot of other political concerns that come into play there, but you have to question when you do take sort of a hands-off approach initially and then come in to try and put the fire out if that really is truly a positive risk management analysis as opposed to just simply attacking the fire and trying to get the fire out immediately.

I've got a perfect example that relates to that and this helicopter manager issue in a fire in Eastern Oregon that involved our exclusive use helicopter contract. We were dispatched to initial attack. The aircraft arrived on scene, the first person on scene, the Forest Service arrived later. It was determined the fire was on Forest Service property. The Oregon Department of Forestry helicopter had an Oregon Department of Forestry qualified helicopter person on board. However, that person didn't meet the paper requirements for the U.S. Forest Service. Therefore, the Forest Service said it's our fire.

We'd prefer that you guys not fight it. So we sat down and we let the fire move along until the Forest Service had people on scene.

That fire ended up growing to 5,000 acres. I'm sure the Forest Service says we couldn't have put it out. The Department of Forestry says we could have. So you know how that works. But it's just a good illustrative example of what seems to be the Forest Service over regulating themselves to the point that they can't always function efficiently.

And I don't want to take anything away from safety and trying to provide guidelines to provide a safer operation. I'm sure everybody in this room wants to see safe operations. But on the other hand we are operating in an inherently dangerous business and accidents do occur and we try to do everything we can to mitigate those potentials and those possibilities. But it seems that sometimes it appears what happens is any time an incident occurs the Forest Service over analyzes -- well, I don't want to say over analyzes it, but analyzes the situation and wants to write a requirement or a whole list of regulations to make that accident never happen again.

Well, I see the point and the point makes sense, but it doesn't work that way. Until we get such a myriad 3.5 inch IHOG of regulations that begins to slow down and begins to really mitigate our ability to fight these fires, and then that circles back around to the initial point I had with risk management in terms of if you let the fire grow pretty soon you have a larger, more complex problem to deal with.

JIM HALL: Well, you're saying two different things. You're saying, one, that the safety regulations are causing them not to fight the fire and then I hear you saying that it's a Forest Service policy that we don't have really a risk management policy on the forest, the environmentalists don't want to burn anything or log anything, the president I guess has got a different viewpoint on that, you've got all the fuel out there. And so the Forest Service has a policy now of when you've got a fire that this might be a good fire to burn up some of that fuel if you can manage it and contain it.

MARK GIBSON: Well, no, I don't mean to say two different things. On the one hand --

JIM HALL: No, I mean you may not be, and that's why I was trying to get it clarified in my mind.

MARK GIBSON: Well, I think unfortunately it kind of goes back to what I thought about before I came here today. I thought to my self, what am I going to say? This is such a huge, complex problem and it brings in so much politics in terms of should we log forests, what should we do in terms of the National Fire Plan? Should we prescribe burn, should we log more forest, should we let it burn on its own? It's such a myriad of complications.

In terms of what I was trying to say, I guess it seems that the Forest Service has taken sort of a hands off approach in a lot of situations to fighting some of these fires

until they reach a certain point and then try to throw everything at it. Well, some of these fires grow to the point where this Biscuit fire in Oregon, for example, 500,000 acres, you've got 7,000 firefighters, 60-some aircraft, where there's great potential to have extinguished that fire earlier on had it been --

JIM HALL: But I'm trying to understand, and maybe Jim can help, I'm trying to understand is that happening because we can't get the equipment on the fire or is that happening because there's a policy where the Forest Service says, well, we want to let this burn and then it gets --

MARK GIBSON: I think it's a little of both.

JIM HALL: -- and then all of a sudden instead of being able to manage it then it gets out of control?

MARK GIBSON: I think it's a little bit of both, depending on the circumstance, the situation, where the fire is, whether it's in our wilderness area, just a number of issues.

JIM HALL: But somebody's got to make a decision to allocate resources whether it be federal or state and in the situation that you're talking about it was a Forest Service decision not to put your equipment on the fire.

MARK GIBSON: Exactly.

JIM HALL: But you don't know what was behind that decision, do you?

MARK GIBSON: The reason for that decision was our aircraft didn't have a U.S. Forest Service approved helicopter manager. It had an Oregon Department of Forestry approved helicopter manager.

JIM HALL: Not that the fellow wanted to let the fire burn?

MARK GIBSON: Oh, no, not at all, not at all. I'm sorry. No, that's not what I meant at all.

JIM HALL: Well, that's where I was -- but you know for a fact then that the reason they didn't put you on the fire was because of federal regulation?

MARK GIBSON: Yeah, that's what the pilot and the managers were told at the scene.

JIM HALL: That doesn't compute with what I've heard, but is that correct? Can that happen?

MARK GIBSON: Well, working for the Oregon Department of Forestry or any other state agency, those agencies have their own requirements and guidelines, which you

have to meet. Whether it's the pilot or the aircraft, they've got their guidelines and requirements, just as the U.S. Forest Service or the federal government has.

JIM HALL: But there's no cooperative agreement where if there's a fire on federal lands the state of Oregon's resources or decisions could be put to work on the fire?

MARK GIBSON: At this point I know there have been in the past and to be honest with you after this past fire season some of the things that we've heard and seen and heard and seen from people in the state, it appears no. And I probably wouldn't be the best person to answer that question, but --

JIM HALL: Do we have anybody from the state of Oregon that's going to be before us today since we're in the state of Oregon?

AL HYDE: Yes.

JIM HALL: Good.

AL HYDE: There's a meeting tomorrow as well.

JIM HALL: Well, maybe we can get an answer later on that then. I don't want to take this gentleman's time. Go ahead, please.

MARK GIBSON: Well, I'll go on to one area just so we don't take all of our time here. And I'll talk about operational effectiveness and specifically I'll talk about since we're talking about light aircraft, type 3s, I'll talk about modules and managers. Managers seems to be the hot topic.

Our aircraft, whenever we're dispatched to a Forest Service project or Forest Service fire we have to have what's called a module in place. The module consists of a manager, parking tender and then as many as five total crewmembers, including a manager and parking tender.

And I can give you two examples --

JIM HALL: Do you know why that structure was put in place? Was it because the accident rate was so high 12 years ago it was unacceptable or do you know?

MARK GIBSON: I don't honestly know if that was the reason it was put in place or not. I don't think so. But I honestly don't know. And I can go back to what everybody else has pointed out, the fact that the Forest Service is the only agency that we work for -- let's say we send a jet ranger to a fire. A jet ranger can carry three passengers. We can end up on a fire and we're required to have a module that had we had to fly them they couldn't all fit in the aircraft. Between a manager, a parking tender and as many as three

or four crew members, I don't honestly know why they require so many people to operate a light aircraft.

Like I say, the Forest Service, the federal government is the only ones that do that. We work for the state and that's not the case. And the states' safety record I think is pretty darn good, as was pointed out earlier.

And I can give you two examples just this year where we ran into that very problem. We were dispatched to a fire down in Reno. We were there for three days. The helicopter manager's period of duty ran out. They didn't have a replacement manager and we were sent home. We were home for three days. We were re-dispatched to a fire in the Tahoe area. We worked there for four or five days and two of the crewmembers' time of duty ran out and the module was broke apart and we were sent home again. And this is something that I know any helicopter operator that works for the Forest Service can tell you managers have been a huge problem in terms of their availability.

And I could offer a couple of suggestions that I think could probably help solve that problem. I know that's one thing you guys were looking for and these are suggestions that have been brought up in the past and really haven't gone anywhere, and one is that of using retired managers from the Forest Service. One of the big issues that was brought up about having non-governmental employees was somebody has to sign the paperwork. Well, I know that the Forest Service has programs in place to use -- I forget the term that they use, but to use private contractors or private individuals as representatives of the government. I think that retired managers, retired helicopter people would be an ideal situation to be able to operate under those situations, or even contract managers to meet certain requirements.

When you go out on a fire, when you've got a number of aircraft, a number of operators there, you've got a number of governmental employees who could sign that paperwork on behalf of the government, whether your manager is government contracted or not, who would still provide the service and maybe not necessarily sign --

(Audio break, Portland 2 to Portland 3.)

Portland 3

MARK GIBSON: (In progress) -- everybody in this room would be thrilled. That's the big question, because, like I mentioned, you look at other agencies and that's not the requirement. That's a federal government requirement.

JIM HALL: But even though you say that you're in a risky business, nevertheless, the accident rate has dropped dramatically over the last 12 years under this program.

MARK GIBSON: That's true. I don't know if you can contribute that completely to this program or not, to the helicopter manager program or not. I can honestly tell you I wasn't in the business 20 years ago, so I can't relate to what those accidents --

AL HYDE: We'll let Bob take a --

JIM HALL: This gentleman looks like he's a little older. Maybe he'll --

BOB FERRARA: Well, not forever. I'm only 60.

JIM HALL: That's young.

BOB FERRARA: The thing that were talking about -- that's why I say I'm only 60 -- but the thing were talking about is safety. Oftentimes, and I've written two or three safety programs, oftentimes safety can become over regulated and that creates a safety hazard in its own. When a pilot has to worry about so many regulations and not concentrate on the activities, then sometimes that becomes unsafe. If you've got four or five people on the landing, four or five people doing things, oftentimes like the radio communications, everything, that becomes a safety issue.

I think it's paramount that we decrease that down to a level that's more easily managed and more easily taken care of and work in conjunction with the pilots.

Mr. Hall, you asked a question earlier of where are all the facts. If that was my task to take care, I would start by picking a group of fires and asked the General Accounting Office to audit them. That audit would be defined by a panel of four service agency and private peoples so that they would look for the right things. That would give you answers on over regulation, that would give you the answers on inappropriate costs and that would give you the answer on lots of your problems. You asked that question: there's where the answer is.

If the program was my responsibility, I would make the consequences for the lack of accountability with respect policy and performance. My reason is that private industry and the state is held at a higher standard of accountability with regard to the bottom line. The bottom line isn't dollars and cents, it includes safety, it includes dollars and cents and it includes production; it includes all of those things, not just one.

The Forest Service had no bottom line, they have no accountability.

AL HYDE: We're going to the switch to Pat Kelly. I've got a statement from Pat, so I'm going to ask him and then at this point I'll turn it over to him until whenever we break for lunch, but, Pat, please, you take the last portion of the morning until we can take a leisurely break for lunch.

PAT KELLY: Thanks very much, Al. I've submitted a biography to the panel. I'd like to mention a couple of things just by way of background and that's that I'm here

strictly as a private citizen. I retired from the Forest Service after a 32-year career working at the Ranger District National Forest regional office and national levels. My career began as a firefighter. The foundation prior to that was several years as an infantryman in the 101st Airborne Division in Vietnam working in air operations.

Though I do consult for a number of parties, I have never consulted for any of the companies who will be appearing before you. I've never consulted for an aviation interest or for an aviation association.

However, I have a lot of problem getting aviation out of my blood, so that's one of the reasons I asked for the time with the group.

I appreciate the fact that you've invested your time and your credibility in taking this effort on. Successful firefighting, successful aviation operations are critical to the Forest Service and the other federal agencies. There's no doubt after this year's accident record things are broken, there's a need to support and fix things and I'm trusting that the panel will have the good judgment and clarity of sight to see what needs to be preserved and what needs to be improved. There is some of both.

In the past there has been a tremendous difficulty in Forest Service aviation and that's whenever it's been at a weak level or following an accident, a series of accidents it's been extremely subject to ideas from the outside, often well funded and often well advocated at a high level of government that don't necessarily meet its mission objectives. I'll talk about some of those a little later. But one of the problems that gives the agencies, it has to try and play offense and defense at the same time and that doesn't work very well. When you're playing defense, 90 percent of the time you don't score many points, you don't improve the situation very well, and that's been a tendency at times in the past.

I'm going to focus in my presentation today mostly on the heavy air tanker program, and that's not because, as my friend Lanny said, that helicopters are the red-haired stepchild, they're not, but right now they may be a more vital and a more successful -- in a business sense -- portion of the firefighting force and I think the part that's tremendously valuable but that needs some help is the heavy air tanker programs and that's where I'll put my energy.

I've got to mention how much respect I have for people who run and manage aviation programs. The heavy air tanker industry has paid in blood with a tremendous price from the 1950s on. They've also made a tremendous contribution to fire management effectiveness. That industry, in my view, properly provided with aircraft that are capable and a long stream certainty of maintenance for those aircraft and contracts, can do an excellent job of supporting the Forest Service.

I also feel there's a role for the National Guard and reserves. Currently they fly the MAFFs, Modular Airborne Firefighting Missions in three National Guards and one

reserve unit. I think there's a legitimate role for those. We need to talk about those a little bit with you.

That said, the aviation program and the resource agencies is complicated. Those of you who followed the events of the last two or three years, the National Fire Plan, know that one of the major strategies for dealing with wildfires in the future is to greatly increase prescribed burning. Sixty percent of America's prescribed burning acres now are lit aerially, and that's kind of a hidden story but that's one of the major contributions that aerial services make to the overall fire management program. Sixty percent is lit aerially and about 80 percent of the increase in acres in the last four years has occurred from aerial ignition; a key component, very quiet success story.

That said, from a firefighter's point of view, when you see an aircraft or a helicopter coming towards you, it fundamentally is not going to put out a fire. Firefighters put out fires. Aircraft, properly equipped with properly qualified folks are a tremendous assistance to that. They can get you 90 percent of the way there sometimes and some fuel types they get you 10 percent of the way there, but an aircraft alone can't do the job.

The supporting technology that goes with those aircraft is critical. The folks from Erickson mentioned this morning their heli-tank. That was a dramatic breakthrough in the early '90s in terms of efficiency. There have been a number of tanking systems that are developed for air tankers that are tremendously efficient. There are also some out there that are not very efficient. But in addition to modernizing the aircraft that are used particularly in the air tanker mission, maintaining and bringing forward the highly productive, highly efficient delivery systems is critical. So there's more to the aircraft; the pilot, the aircraft are critical, maintenance is critical, but the delivery systems itself is critical.

One handicapping factor that absolutely needs to be addressed and needs to be resolved, that needs to be resolved at an administration level above the agencies is the relationship between the federal firefighting agencies and DOD. That relationship has been fundamentally broken since the transfer of 35 C-130As and P-3As in the late '80s, which led to the lawsuit in Tucson, U.S. vs. Fox and Reagan, which led to two people who engineered that exchange being convicted of conspiracy, have ended up in then spending two plus years in jail only to have their sentences overturned by the Ninth Circuit after they left jail. That train in Judge Browning's court, and I hope you have access to some of the documents from that trial, poisoned the atmosphere with the U.S. military to the point where even though in 1996 the Congress passed the Wildfire Suppression Aircraft Transfer Act and extended it for five more years in 2000, not a single aircraft or part or supporting technology has been transferred to the industry since the original exchanges in the early '90s. That said, the military willingly helps with the Modular Airborne Firefighting program.

In looking at your headings, a strategic guidance, one of the things that's been absolutely critical to federal aviation programs and fire programs is to have programs that

have legs under it. And by legs under it I mean plans that are done in a thorough and professional but yet dispassionate way that supports the cost and the benefit of doing an activity. For type 3 helicopters and single-engine air tankers those aircraft are covered in initial attack plans on local units. For the national air tanker program, the most current study is the National Air Tanker Study, phases 1 and 2, done in 1995, in my opinion, a very user based, mission based, thorough analysis for the state of the time of the needs for heavy air tankers.

That said, as the folks with Erickson mentioned, the heavy heli-tanker went into test assessment at that same time, so it's only cursorily covered here. One of my recommendations to the group is to consider this as a viable document and consider the needs for its updating adding in current generation and capable aircraft and also considering the possibilities of heli-tankers.

One kind of hidden but very important component of this analysis was a basing strategy, and without bases that handle large aircraft, can safely process chemicals and store chemicals, and we know the controversies that resource agencies have had with chemicals over the years, the air tanker program wouldn't be a possibility. The agencies thought enough of this report to invest about \$50 million, and I believe the figure is 32 bases around the country to get them up to standard. The components now that need to come online to make that vision a reality is the aircraft side of it, and that's where the industry I think is struggling.

In safety, of course, the outcome of every flight has to be a safe return and a safely effected mission. The natural resource agencies have a philosophy called the aviation triangle. I hope you become familiar with it as you make your rounds, reinforcing that, adding a good layer of risk management into every thought and every decision. It's absolutely critical. And my experience has been that where risk management is overlooked we tend to have problems. Those are lessons and messages we can't trade off, that we can't talk often enough about to enough folks.

The helicopter folks have a point I think with the difficulties with obtaining managers, the role of managers. I think that's worth looking at. As a non-agency person, Mr. Hall, I'd make a comment and that's that I do think there have been contributions by managers to the improved safety record from 1989 on. That said, I think the program could be improved rather significantly.

Like a lot of things that happen in reaction to fatalities, they become rather rigid and there is a point where we need to move beyond a rigid standard into a standard that has some room for judgment into it. And I don't think the agencies will disagree with that.

An absolute cornerstone, and I've used the word Forest Service throughout the discussion but I'm really not talking about the Forest Service; I'm talking about the federal agencies that fight wildland fires and that's the Park Service, the Bureau of Indian Affairs, the Bureau of Land Management and the Bureau of Fish and Wildlife. The

USDI agencies, using an umbrella group called the Office of Aircraft Services, which contracts for their aircraft, have a firm policy that aviation directives nationally are adhered to. That's if they can't be amended at the local level. The Forest Service has a very decentralized culture and has suffered at times from some attempts to impose local policy where national policies really apply. And I'm not talking about judgment; I'm talking about how things are done. In my view, USDI has it right; a step in maturity in the Forest Service aviation program would be to further join with OAS, USDI in having the policies that they cared most about fixed at the national level.

In looking at operational effectiveness, several key elements -- aircraft availability, base functionality and compatibility, which we talked about, retardant delivery effectiveness and aircraft interoperability. Because the U.S. Forest Service contracts for these 41 air tankers for 56 bases in all parts of the country, one of the objectives of the agency is to provide the maximum number of days per contract aircraft for economic efficiency and so that the companies that contract those aircraft can be effective economic entities.

That means the aircraft start in the South, migrate to the Southwest, migrate to the Northwest, California as the fire season changes around the U.S. As Jim Hall can tell you, it's fire season in the U.S. somewhere about ten months out of the year.

What that sort of basing pattern allows is the addition of aircraft to meet needs that aren't already anticipated. A good example of that that was very effective, the state of Texas in 1998 and the state of Florida in 2000, which on a normal day have zero contract air tankers, had in one year 21 air tankers, in another case 14 that were brought there based on the emerging fire station, prepositioned with portable bases in response to the state foresters' needs. And the Forest Service wears a hat called state and private forestry, where it supports states and their missions. I think this is a classic example where having a flexible program can do that, but the bases have to be interoperable, the aircraft have to be interoperable.

Two cornerstones that in my opinion have to be kept and enhanced, one is the standard-setting group, which is the Air Tankers Screening Board. That's the board that sets the standards for the heavy air tankers, the light air tankers and the helicopter industry. It sets the standards for the delivery system. The exact standards themselves may need to be revised at some point. They usually are about every two or three years. But what having those standards has prevented is mischief that would have in my opinion crippled the federal air tanker and heli-tanker programs.

A couple of quick examples of mischief: one, a bill in Congress that came within a couple of votes in the U.S. Senate of forcing the Forest Service to buy four aircraft that it didn't want in 1988. Those aircraft are fine aircraft. They also achieve coverage level two on a scale of 1 to 10 in terms of being able to put materials down. A heavy air tanker in U.S. would have to meet the capability of any range along that continuum, because there are fires burning heavily enough that need coverage level 10. But there are places

out there and times out their and efforts out there to impose systems, well funded, politically well connected in some cases, which don't necessary meet the agencies' needs.

JIM HALL: Can you explain coverage level to me, 1 through 10? I've had it explained. I need to have it explained again.

PAT KELLY: Coverage level is a measurement of the number of gallons per hundred square feet affected by a certain drop, controlled by the pilots. There are other folks in the room who are going to talk later -- I believe Gordon Koenig may be here -- who can give you a better explanation than I can of it. But it's controllable by the pilot. The amount of coverage is determined based on the need on the ground, whether it's a very light fire in grass fuels possibly that might need coverage level 2 or a very more intense fire that may need up to coverage level 10.

JIM HALL: Is that the amount of gallons that's delivered?

PAT KELLY: Correct. The gallons per measure of square foot, per hundred square foot.

JIM HALL: This gentleman has got his hand about. Are you going to be on a panel later?

MR.: I will but just a quick answer is one gallon per hundred square feet is coverage level 1. Two gallons is coverage level 2.

PAT KELLY: Thank you, Scott.

The key to that is that the aircraft are tested, there are books developed of their capabilities, so when agencies are contracting they know exactly what production they might expect.

JIM HALL: Who tests them?

PAT KELLY: There's a group in Missoula, Montana and San Dimas, California, technology development centers, and these TDCs or technology development centers have an aeronautical engineer and staff on the hand. They have field-testing protocols that are peer tested and they do cup drops and produce that material.

JIM HALL: So we have testing to see whether the aircraft can drop the retardant, but we don't have testing programs, or do we, to see if the aircraft is airworthy for the mission it's supposed to perform?

PAT KELLY: There is a testing program to determine the coverage level and the footprint of the aircraft. The aircraft certification, of course, is deferred to the operating specifications and their certificate of airworthiness from the FAA, which is done by the agencies.

JIM HALL: Which on the public use aircraft is the FAA just saying this was the finding of the military, it's certified. There's no independent certification that it's --

MR.: It's not a public use aircraft.

PAT KELLY: Their contracted under federal aviation regulation 137 primarily.

MR.: Are you talking helicopters or fixed wing there? I mean, large air tankers that are ex-military, that's a different situation than the helicopters or the certified --

MR.: But you see it's not public use.

MR.: It could be public use.

JIM HALL: It is public use.

MR.: The contract specifies 137.

JIM HALL: That's the FAA exclusion.

MR.: Public use aircraft don't have to fall under any FARs. But the contracted aircraft have to be operated in accordance with the FARs. Here in the state of Oregon all aircraft if you're publicly operated still have to fall under FARs. We put that law into effect in Oregon and it's really helped out with Oregon's private use, commercial helicopter business.

But my understanding is public use aircraft, you can have anybody do anything with them and they don't fall under any FARs. They'll look at accident reports every month and you'll see the crashes of public use.

But I'm sorry to interrupt the panel.

JIM HALL: No. Go right ahead.

PAT KELLY: Should I proceed, sir?

JIM HALL: But I just was not aware that there is a group that actually certifies the aircraft's ability to drop the retardant or the water.

PAT KELLY: There is, sir.

In terms of sustainability, my personal preference is to see a private industry operated heavy air tanker program supplemented by the Modular Airborne Firefighting Systems flown by the Guard and reserves. I think this alternative matches up best with current federal law, without OMB policy and with administration direction.

That said, there are people with lots better backgrounds in maintenance than I have and I do think there will be some people who will present you with some alternatives that may describe an increased role for the military in maintenance of the heavy air tankers.

One other point that I need to make that's critical on the sustainability side, and that's --

JIM HALL: The military supporting the private industry in the maintenance of their ex-military aircraft?

PAT KELLY: I think that's a very possible thing.

JIM HALL: Is that a model anyplace else? Does the military do that for anybody else?

PAT KELLY: The example that occurs to me is the TRACON mission with F-4s being flown by private parties, maintained by the military to a large degree. But I think that's one example that we could think of. And that's a baled aircraft.

JIM HALL: Well, if you have any particulars on the program, if you'd send it to us, I'd appreciate that. I haven't heard of that.

MR.: Who specifically are you referring to there?

PAT KELLY: I'm thinking of the bailed program where the F-4s are baled to -- and I'm forgetting the name of the corporation now, but they fly the F-4s on a baled basis back for the military in a training mission.

MR.: Yeah, I'm familiar with that. I used to work for that company. You're thinking of Flight Systems that became TRACORP that became BA Systems. So I'm familiar with that.

PAT KELLY: Right down the road I think.

And one issue that also needs an administration-wide perspective on it and that's the ability of the operators who have these 35 exchanged C-130s and P-3s to receive clear title to them. And I haven't stayed totally current with this issue. It may have been resolved. I tend to doubt if it has. But it's a case where the Department of Justice's interest, the DOD's interest, the Air Force and Navy's interest and the firefighting interest hasn't aligned itself. And I think having these aircraft or those that can be made flight safely capable in the future, flying is in the national interest and having these clouds over these business entities has prevented succession planning, prevented sale of the companies and it leaves them less healthy economic entities. In my opinion, they need to

be healthy and vital to receive the kind of aircraft and do the service they can in the future, so anything the panel could push ahead on that I think would be helpful.

JIM HALL: Well, I think that's outside the panel's scope, but we'll take a look at it.

PAT KELLY: A final couple of comments, and that's in the cost area the vision of this report is that the benefit to cost is a 8.6:1 for the heavy air tanker program. I think that that assumes bases-implemented aircraft implemented and program success. That would make it on a model basis the most effective single resource fighting fires in the U.S. today. When you add the heavy helicopters industry into it fully as it should be, I think you'll see an expansion of that number. So I think there is extremely high payoff, though there is an apparently high cost at the same time.

I think the final recommendation that I would make is the Forest Service and the USDI agencies are very closely aligned in their aviation programs, and that alliance needs to continue. I do think there's an opportunity to look very heavily at the Office of Aircraft Services USDI model for aircraft procurement and there may be additional opportunities for the Forest Service to join with OAS to do common procurements, so the federal government when it's procuring aircraft with common vendors can speak with one common voice, and I think having those multiple voices at the national level hurts the program.

JIM HALL: Well, now, the federal government with the helicopters they don't go acquire them, do they?

PAT KELLY: Say that again.

JIM HALL: Why should it be the responsibility of the government to acquire the aircraft for the air tanker industry? I'm just asking a question; I'm not being adversarial.

PAT KELLY: No. I didn't hear it that way.

JIM HALL: I mean, you have the helicopters are all privately owned, if I understand correctly, you have the situation here where the federal government in the past has been providing the surplus military. You're saying because of this DOJ think I guess, at least according to our briefings is still ongoing and that's a cloud, so why should the federal government not say to a contractor -- and I understand the cost, but the standpoint is why should you have helicopters treated in one fashion and the heavy air tankers treated in another in terms of contracting for the same service?

PAT KELLY: That's a great question and I think I can give you a pretty clear answer. The Wildland Fire Suppression Transfer Act of 1996 does not say air tankers, it says aircraft. So it envisions a possibility that depending on market supply and demand and other conditions that any aircraft that the U.S. DOD has in its whole reach could at

some time be transferred. It's up to the agencies to determine the sufficiency of availability of aircraft to contract.

In 1993 the Secretary of Agriculture at the time and Secretary of Interior signed a four-part finding that I would hope is part of your package that determined that seeking legislation to have military aircraft transferred was the only economically feasible way to achieve a heavy air tanker industry. That was just at the time NAFTA was being passed, which has its implementation issues and opens the door for additional aircraft that weren't within the reach of the U.S. contract at that time. But it was based on a 1993 finding of insufficient availability at reasonable prices, so that was what led to the two hats. It appears inequitable and on the surface might be.

MR.: And our understanding so far is the DOD is saying we don't have any available. Is that right?

PAT KELLY: I've been out of the federal government for three years and haven't stayed close to the issue, but I think that's correct as my sources have it. There may be other people on the subsequent panels who have better information.

MR.: Pat, you mentioned the aviation triangle model. Can you say some more about that? I've not heard about that before. You were talking about risk management and that it's not factored into the aviation model.

PAT KELLY: I'd hoped that it would be in your package somewhere and AI may account for it, but it's a model that has three cornerstones, and that's safety is the foundation. The left axis is cost effective and the right axis is the right aircraft for the job.

And the model of that is in the firefighting triangle there's heat, water and fuel are the three measurements of the firefighting triangle. If you remove any one of the three and the fire goes out. So the attempt of the aviation triangle was to have a parallel to the fire management triangle.

MR.: It's a Forest Service aviation training model device, concept?

PAT KELLY: That's correct, sir.

JIM HALL: And the right aircraft for the job, who make that decision?

PAT KELLY: In a programmatic sense, studies like this do when they make them available and dispatch them, but in decentralized organizations on a real world day a dispatcher gets a fire report and responds with the aircraft within their --

JIM HALL: But, I mean, the Forest Service has the authority to contract?

PAT KELLY: Yes, sir.

JIM HALL: And what I'm trying to do, when they go contract a particular aircraft, what are they doing to ensure that that aircraft or any of the federal government agencies is airworthy for the mission that it's asked to perform? I mean, were taking the military aircraft to perform a military function, some of the aircraft without even support from the manufacturer and putting them to use in a service that is not what they were intended and certified for.

PAT KELLY: Correct.

JIM HALL: So it is there any additional certification or should there be in determining that, say, the C-130A or any of these aircraft are able to perform the mission, are airworthy for the mission they're supposed to be performing? I mean, we've all agreed that it's a risky business. I haven't personally flown in it, but I've had enough pilots tell me obviously it's a risky business. One of the risks should not be the aircraft falling apart -- or should it?

PAT KELLY: Mr. Hall, I think no it should not be. And my suggestion might be this, and that's that I have no pilot or mechanic maintenance skills. You will have folks this afternoon and all day tomorrow who specialize in this. I could give you an opinion, but it would be a layman's opinion that wouldn't have the technical basis and I think I'd insult the panel with my lack of knowledge on it.

JIM HALL: Fair enough. I read that somewhere. I've read so much now I don't know where it is, but I've seen your three -- and the right aircraft for the right job, who is responsible for making that decision?

AL HYDE: You get the last word.

MR.: Mr. Hall, you have asked a question numerous times today: Is the aircraft approved for the mission? One thing I want to assure you it is that none of us fly an aircraft beyond the manufacturer's regulations. The manufacturer sets the limits. I don't know of any individual who flies those aircraft beyond those limits. So if you stay within the limits, you can use it for almost anything you want. And I've noted you've asked that question numerous times to numerous people and that's the answer.

JIM HALL: Well, and I don't dispute that fact. I however do believe that we are spending quite a bit of money with the aging aircraft programs in the commercial industry because people got in and flew aircraft that they were confident, thought could perform the mission that because of the age of the aircraft there were basically problems with the aircraft itself. There's an investigation going on right now in aging looking at an aircraft that may have fallen apart in the air.

MR.: Is it the age of the aircraft or the quality of the maintenance? And I've flown aircraft that are --

JIM HALL: Well, I don't know. Those are things that we're obviously looking at because the aging aircraft program is obviously saying that older aircraft need more maintenance and to have schedule of maintenance for older aircraft.

MR.: It may not be the age of the aircraft. It may be the maintenance. I have a Jet Ranger that has 16,000 hours on it. Almost every bit of it is external load. That aircraft is probably in better shape than most aircraft because it's had all kinds of updates, had had all kinds of tender loving care taken to it and I'd rather flight it than a brand-new aircraft that hasn't had updates and hasn't had areas that you work on through that experience. And so I don't think the age of the aircraft or the hours of the aircraft would be an issue when you talk about qualifications for an aircraft for a job. I think it's more you want to look at the maintenance and who maintains its.

AL HYDE: (Off mike.)

(Break for lunch.)

AL HYDE: Okay. One clarification: A couple people have asked me and my colleague reminded me that it's unclear about there's two tracks with regard to provide input to the panel. Obviously, everything that we cover here today, any materials that are provided will go into the record of the meeting.

There's also in the back of those cream sheets with the information, there's also a public comment address, which goes to Salt Lake City and that becomes another part of the official record as well.

So if you want to submit material, a letter, follow-up, anything else you want to do, or even the material that you provide in here you want me to officially submit that for that comment letter to that contact point, I will do that, as part of the process, because that's going to be analyzed, put all of those views together for people who came to the meeting and didn't come.

So I hope I made that clear, but the point really is there's two different channels. If you want to get material to me or the panel directly, you can do so. You can also use that channel to Salt Lake City to send us material to us there. Okay, and that's on the back of that cream sheet, which has the bio info on the panel.

Okay, without further ado, Gordon, your first.

GORDON KOENIG: Thank you. My name is Gordon Koenig. I'm an air tinker pilot, fixed wing heavy air tanker, just finished my 13th season. I've flown for four different operators. Most recently I was flying a PB4Y2 for Hawkins and Powers, assigned to the big Elk fire where tanker 123 crashed. And I'm a member of the faculty of the National Aerial Firefighting Academy, which I think is an important body. I'd like to put a little plug in for it and I might later in the notes here.

But it seems to me that the problem that we have in the industry is directly tied to contracting. It seems to me that we have a private enterprise system that has been more or less forced, but not strong-armed, more or less forced to offer its equipment up fairly cheaply and contracting can't be persuaded to be more for the equipment, and that forced the contractors to cut costs wherever they can come and one of places that they cut costs that I've seen, especially this year, was in maintenance. Some operators don't and some operators do. I think I've worked for the best of the outfits and I think I've worked for the worse. And the best of the outfits spend the money where it's necessary to not only keep the airplane flying but to keep it properly maintained.

And in aviation -- I'm also an A&P mechanic -- in aviation there's a difference between fixing it and fixing it right. If you're an A&P mechanic you know that there's only one way to fix it and that's with the attitude that somebody's life is in your hands when you sign off that aircraft or when you safety-wire that last bolt someone's life is in your hands. Or you can do it like a car mechanic does and say, screw it, we're just going to fix it and get through the day and we'll fix it next week when we can afford it or when we can find a new starter or whatever it takes. I mean, there's two different attitudes about mechanical abilities.

And like I said, some of the operators, very few of the operators have what I'd call the right attitude and some of the ones, particularly the one I worked for this year, their attitude about maintenance is let's just get it back in service and keep collecting that revenue and that's really the problem is that the paycheck is tied to performance and the more you perform the more money you make and anytime the airplane is out of service it is not making money. I don't really have a solution and you know that's the problem.

But anytime your safety considerations are driven by revenue considerations you're going to have a series of crashes like we have had this year. Our accident record in the industry is abysmal, it's terrible. An air tanker, a fixed wing air tanker group has a 1 in 40 chance of not coming home at the end of the season. Statistically, that's a fact we can't get away from. And there aren't many professions where you stand a 1 in 40 chance of not arriving back home to your loved ones.

Is it because we're poor pilots, is it because we're poorly trained? I don't think so. I think it's because we're flying old junk equipment in very, very hazardous, rough conditions, conditions that are very trying on the equipment. We fly in severe turbulence frequently. We fly in heavy, strong winds. We don't even get called out unless the winds are blowing over 25 knots, you know, we rarely do. By the time we get called out in an air tinker, the fire has gone, and the reason it's gone is because the wind is driving its and all of those cycles in moderate to severe turbulence is very, very hard on the equipment.

MR.: Gordon, can you be more specific? How often would you say you encounter severe turbulence?

GORDON KOENIG: Well, it all depends on the conditions of the fire, but anytime there's wind in excess of 25 knots on a fire that's in mountainous terrain you're going to have severe turbulence. That's my opinion.

The 5200 that the Forest Service uses to guide us all through aerial firefighting tactics says that at 20 knots rethink your decision to use retardant, aerial delivery retardant and at 30 knots cut it off. Well, we frequently fly in 45, 50 knots of wind. That's because we're all mission-oriented, we're mission driven, we're guys that want to do the job, we want to get it done and we take a great deal of pride in doing a good job and putting the retardant where they need it and being as much help as we can come and it's difficult for all of us to sit back and say, well, shoot, it's too rough for me, I'm not going to go out there because we don't want to be branded a chicken. And we're always afraid that there is some other guy who's going to set up to the plate when we refuse to and that might give us a black market, and I think that's part of being a pilot and it's the same thing in the military.

JIM HALL: Excuse me. Who's dispatching you into those types of conditions?

GORDON KOENIG: Well, the dispatch system is an interesting system. There is no provision in the dispatch system to measure the validity of the request or the need or the conditions over the fire that requested the resources. The dispatch system's job is to fill the request. It's up to the pilots --

JIM HALL: So these aren't FAA certified dispatchers?

GORDON KOENIG: No, not at all. The Forest Service dispatchers aren't licensed by any body. It's kind of an industry joke and a Forest Service joke.

JIM HALL: Are they trained at your facility, your aerial firefighting academy? Do they have any courses for dispatchers?

GORDON KOENIG: Well, dispatchers go through courses to learn how to track resources. They have several very good classes on dispatching that more have to do with how to procure a particular piece of equipment, if it's a bus or if it's a shower unit, it's a caterer, it's an air tanker, it's a helicopter; the dispatchers are responsible for getting all that stuff, not just air tankers.

JIM HALL: So they're dispatching caterers as well as airplanes?

GORDON KOENIG: You bet, the whole thing. Whatever the fire asks for goes through the dispatch center. If it's an initial attack, usually all they're asking for its firefighting resources, three engines, two tankers and a helicopter. If it's an extended attack, then they build what's called an expanded dispatch and their only job is to supply that fire with everything it needs to continue fighting the fire or to mop it up.

JIM HALL: The role of the dispatcher I'm familiar with and commercial aviation is not anywhere related to this gentleman's or ladies role, right?

GORDON KOENIG: No. A dispatcher, their job -- and I sympathize with them, even though some of them are a bit arrogant about it -- their job is really just to fill the request. And if the request comes down and the fellow hands me a resource order that says they want you to go to a fire in South Dakota, and I check the weather I say there's terrible thunderstorms between here and there, I looked at the radar, I'm not going to go, it's not safe for me and my crew, usually that's the end of it, but occasionally the dispatch will say okay, well, we'll go see if someone else will do it. And that's a bit of a safety problem and it's something that needs to be looked too, but it doesn't happen that often, but when it does you can sure be leading an unsuspecting fellow into a trap.

(Audio break, Portland 3, side A to side B.)

GORDON KOENIG: -- There was an incident a couple years ago where it was 60 knots on the fire and all the local guys close to the fire said, hey, we're not going. Well, the dispatcher got on the phone and called the region next door and said we need an air tanker on this fire and so they said, yeah, we got one, you can have it and the dispatcher fortunately explained the situation to the tanker base manager and the tanker base manager passed the message onto the unsuspecting pilot and said we got a resource order for you to go over to wherever it was then they said but I think you should know that four guys have turned down this dispatch because there are 60 knots winds over that fire. And if they hadn't told him that, he could have been led into a trap. I mean, he would have gotten out there with a heavily loaded air tanker and might not have been able to control it. I think that's not a major problem.

JIM HALL: So safety is not a factor in terms of dispatching aircraft?

GORDON KOENIG: No. I think they talk more about it nowadays, and the agency people are very keyed up nowadays about safety. If a pilot refuses a dispatch, 99 times out of 100 they're going to say okay, the dispatcher will say okay, that's your call, because it is the pilot and command's call. It used to be just a few short years ago the dispatchers would throw a fit and threaten you with being put off contract or they're going to dock you half a day today or whatever, any kind of strong-arm tactics they could to get you to go to the fire because they needed to fill that resource order. But nowadays most of the agency people are very, very keyed into safety.

The problem really isn't I don't think in the agency. I think it's in the industry in that the only way an operator makes money is if that airplane is available and responds to the fire.

JIM HALL: Well, let me -- I hate to -- the Forest Service -- are you saying in terms of turbulence and conditions, if you're in a mountainous area you have a much more difficult situation?

GORDON KOENIG: Oh, it's much more difficult. I mean, if you're over flat terrain in a no-wind condition, the drops are fairly straightforward. You just have to be careful; flat terrain drops can be deceiving. But in mountainous terrain --

JIM HALL: Well, I guess we'll find out from the Forest Service people when they're looking at a controlled burn are they factoring in the terrain whether they're letting something burn.

GORDON KOENIG: I don't know. I can't speak for them.

The Forest Service, the agency pilots that I've worked with are all very, very safety conscious nowadays. It didn't use to be that way 10 years ago, but nowadays they're all very cued up into it and we'll sit and talk about it. They'll say, hey, it's blowing 40 knots, do you want to go, do you think we should go, and most of us nowadays say no, why should we go, why should we go out there and risk our neck for a fire that's going to burn anyway? What are we going to do with a couple thousand gallons of retardant in a 30-knot blow or a 40-knot blow when you're just throwing away? And most of those guys in the agency, the pilots especially, lead plane pilots, they're really up speed on that. They realize it's a waste of time.

MR.: Gordon, can you give us an idea of the performance limitations or restraints that you deal with in flying these ex-military old tankers? Can give us an idea of the kind of bank angles you deal with, the gees you deal with, stall situations, et cetera?

GORDON KOENIG: Well, it depends on the platform your flying. For many years, for 12 years I flew the P-2B, which is a rather tricky airplane, especially in a loaded situation, heavily loaded, in turbulent, windy conditions. You can stall a P-2 in a heartbeat. I mean, it will fall out from underneath you when you're least expecting it, when you're just sitting there back, fat, dumb and happy and waiting for your turn to go in on the drop. You would just be making a turn behind the hill and getting the lee side of a hill, if the wind is strong enough and rotors are strong enough, the P-2, the wing is going to give up. Just the design of the wing, it's not a high-lift wing, it's a very high aspect ratio wing that's designed for economy, long-range and economy, whereas contrast that to the 4Y I was flying this year. The 4Y is very easy to fly. It's a piece of cake. It clearly was designed to take a 200-hour pilot and throw him into combat and he could survive. It's a wonderful airplane to fly. It's very difficult to stall. You can put it into some pretty unusual situations and you're not going to get into trouble in a PB4Y and in a P-2 you're going to be in trouble and very quickly.

But like I said earlier, we're all mission driven, mission oriented. You show up on a fire and the guy on the ground really needs some help and he says, hey, I really need it from this snag over your down across this rock pile, can you get it in there. And you say,

well, sure, I can get in there, even though you think, well, I don't know if I can our not. But you'll go down there and give it a try and give it your best shot and sometimes to get in there you do some pretty interesting maneuvering to get in there.

But that's because most of us have a great deal of confidence in our abilities. We've been flying the airplanes for a long time. We feel that we really can do it. We don't do anything that's really foolish, although people looking on the outside think it's foolish, but there are times when you get down in there and you realize that you're in over your head. You know, you get down in there and you lose an engine and that engine is carrying half your hydraulic power, you lose one hydraulic, and that means that one of those guys that throws the gear out to get down in the hole, his gear is not going to come up that quick, you're not going to speed up that fast, you've lost 25 percent of your power to get out of that hole.

A guy taught me years ago don't ever go down in that hole unless you plan to come out with one engine out and no hydraulics. It was very sound advice and I've tried to do that, but that kind of sage wisdom doesn't really get passed on nowadays. I think it depends on who's training you.

Anyway, let me stick to my notes rather than ramble on. I think it might be quicker for you folks.

I said that the current system of contracting forces the operators to give safety a backseat to revenue concerns. I mean, I think revenue is driving the safety considerations. And many operators and everybody I've worked for will do this, you'll patch an airplane together. It breaks, the fire is going, you'll patch it together to get through the day so that it can be fixed that night or you'll patch it together to get through the week so it can be fixed during the day off.

At least one operator will patch it together and it will stay that way for the rest of the season. Well, it worked this week, it will work next week, and it will fly the whole season that way with --

JIM HALL: Now, who in your -- who in the Forest Service is responsible for safety? Who do you interact with? If you had to answer that, who when you flew this year, who was the person that was accountable?

GORDON KOENIG: In Colorado there is an aerial safety officer. Mike Davis did a good job as lead plane pilot that came out of region 8, very interested in doing things safely and correctly. Other regions don't have a regional aerial safety officer. They have a safety officer that deals with incidents, SAFECOMs. You blow an engine on takeoff, you've pitched the load off the end of the runway and staggered back in and come in and deal with your blown engine. They fill out a lot of paperwork and then you get contacted by the safety officer and he goes over with you what happened, what could you have done differently.

I really honestly think the agency does a pretty good job of tracking safety. Like I said, it comes down to us as operators, as contractors to accept or reject the mission.

JIM HALL: Well, they do a good job of tracking safety. Do you know whether they have anyone that determines whether the contracts have enough dollars to provide for safety?

GORDON KOENIG: Well, that's the real problem is that there isn't the money. One of the biggest problems in the contract I see is the postseason rate. For instance, if you're being paid \$3,000 a day availability for your airplane, at the end of your normal availability, your manager availability, your postseason rate drops to \$800 a day. I don't know why it does that. It seems to me that if the need for the government is greater that the rate ought to be greater, but if the need is greater we need to extend your contract another three weeks because we have this fire going and you're contractually required to stay on a total of 45 days. It's 30 days preseason, 15 days postseason, a total of 45 days outside the normal contract period. And if it's on the end of the season your rate drops to less than a third of what it was during the normal season. And the first place the contractors cut the cost because of that is in maintenance. If you had a mechanic with you all season-long, the first thing that happens to you when the postseason rate goes into effect is your mechanic goes home because they don't want to pay him to be there every day with you when they're only making \$800 a day.

And several operators a couple years ago tried to bid a higher postseason rate. Their bids got returned by contracting as unacceptable. They said, I'm sorry, that's not an acceptable rate. For years we've had this postseason rate and it's the operators fault, not the government. You must understand that the operators were so hungry to get that work that they would agree to anything.

JIM HALL: But the government is responsible for safety.

GORDON KOENIG: Indeed. And the contractors are too. I mean, they should be. I mean, they're the people that own the aircraft and train the crews.

JIM HALL: I understand. I'm just saying that the government has got to independently verify somehow that there are adequate funds there for the safe operation and have it in the contract what the requirements are. I mean, it's the government who is making the decision to use the private sector to contract this work out and the government is responsible for public safety and therefore they have got to have some way of justifying, and maybe we'll hear that tomorrow, how they make the decision that the funds in the contract, that the requirements in the contract are adequate for safety, and you do that obviously with contract provisions and then with oversight.

GORDON KOENIG: Right. And the oversight I think is a big problem in that, for instance, David Kelly spoke earlier about we don't know where the one-hour rule came from for the maintenance. I can tell you where it came from. It was because for years operators would keep an airplane on deck that was not available to respond to a

fire, but as long as it didn't get called to a fire they got the availability rate. As soon as they got called to a fire, they would go oh, well, it's broken, sorry, we can't respond.

And they had to come up with a rule to keep these guys honest, to say, well, are you available or not. We'll give you an hour to work on this thing and if you can get back in the air in an hour, great; if you can't you're out of service, and I think that's fair. I don't see anything wrong with that. I think they did a good job on that.

I've used it a lot. And some tanker base managers are very generous. I'll go to them and say I need an hour maintenance break, I've got to change a tire or coming in off that last run, that number four was running rough, I want to change a few plugs. The tanker base managers a lot of places are very generous and they'll say, well, there's nothing going on later this afternoon, we've got no requests for you, just let me know when you're back. If it goes three hours and there's no requests for you, they'll bend the rules for us and they work with us real well that way. I think that system works quite well. I don't see anything wrong with it.

You've got to realize that for years there were operators that pulled the wool over the government's eyes and took as much money as they possibly could through devious means, they really did. We flew with broken equipment for years. We flew with equipment that you should never have flown with but we knew we could get to the fire. Some guys I know they did this. They'd take off, they'd feather the bad engine, they'd take off with four and it would look like they had four good and as soon as they got out of sight of the tanker base they'd feather that bad engine, fly to the fire on three, start up that bad engine and let it idle, look like it's working, make the drop and come back just to make the revenue, just to make that money. And that's the system that we have. I mean, clearly that's not in the interests of safety. It's in the interest of revenue and that's what's driving the safety considerations is money drives the safety considerations.

MR.: Gordon, along that line, can you talk about sustainability of the tanker fleet as you see it now?

GORDON KOENIG: Well, I have in my notes here under sustainability that the industry cannot afford to invest in newer equipment given the low rate of availability pay. I mean, these tankers are rented out to the government for about half the rate of what other operators will rent a C-130 to a foreign government for cargo work for instance. The ATA or someone wants to lease them a C-130 for cargo operations or whatever with a flight crew, it's nearly double the rate that the contracting is currently paying for heavy air tankers of that type, C-130s, P-3, a type 1 air tanker.

I don't know why we've got into that nickel and dime situation with the low postseason rate and the very tight reins on costs, but it certainly wouldn't pencil out for an operator to go buy a \$25 million airplane, spend a million dollars to tank it and then only get paid \$3,000 a day for it. It just doesn't pencil out when he's got to buy engines at \$650,000 apiece and he'll go through two in a season, I can guarantee it.

JIM HALL: And I gather the Forest Service controls through its policy how much the aircraft are used as to whether they have a policy to put the fire out as soon as they see the fire or let the fire become larger?

GORDON KOENIG: I have that in my notes as well. It seems to me that we use the air tankers in the most least efficient and most expensive way possible. We're not called to the fire -- 9 times out of 10 -- I'm not exaggerating -- 9 times out of 10 we're not called until the fire is well out of control. If we were used -- and helicopters as well -- if we were all used as an initial attack tool, if you truly want to put the fire out then the way to do it is to jump on it. I mean, don't drive out there in a truck and take 45 minutes to get there and say, well, yeah, it really is a fire, I think we need some help, which is the way we do it.

If you use an air tanker the way they use them in California, which is a true initial attack rule, if you really want to put the fire out that's the way to do it. But if you just want to build a retardant line and spend a lot of money, do it the way we're doing it now.

MR.: Gordon, I'm not you, but I guess I'm just parroting what I've heard elsewhere though, that you can't put fires out from the air.

GORDON KOENIG: Oh, sure you can. I've done it hundreds of times when they're small. If it's a quarter-acre lightning strike and I've got an eight-door, 2,000-gallon tanker I can make eight passes on that thing. I can box in, I can snuff it, I can wash it off the hill at a quarter acre. But at 15 acres I'm going to probably get two sides of it and I'm going to have to go back for another load. And at 30 acres I need help from two other air tankers. That's as a fire progresses in size it becomes almost exponentially more expensive to fight and more difficult and takes more resources obviously.

JIM HALL: Do you know what the Forest Service's policy is on fighting fires out in this part of the country?

GORDON KOENIG: It depends on where the fire is and whose land it is. In other words, the Forest Service doesn't own all the government land out there. The BLM owns a lot of it and the BIA is responsible for a lot of it. But on U.S. forestland it depends on what the area looks like. Is it an area that burned last year? They'll probably let it burn. Is it an area that hasn't burned in 100 years? They're probably going to take a look and see what's out downwind of it and say, well, are there any structures threatened, is there any watershed? Maybe this place needs to burn. That's the policy now. They take a look at it and say maybe we can use it as a prescribed burned. It's a case-by-case basis and it's determined by the FMOs on the forest, the Fire Management Officer makes that call.

JIM HALL: On a prescribed burned, do you still have to put that out?

GORDON KOENIG: No. As long as it stays in prescription. In other words, it stays within the parameters that are set for the prescribed burned. No, you can let it burn.

MR.: But you say California doesn't look at it that way?

GORDON KOENIG: California has a whole different way of operating. You operate in concert with the state there. Obviously, the federal resources and state resources sometimes work hand in hand and sometimes they fight each other, depending on who owns the land. But in California when there's a smoke report they launch everything.

They launch all the engines, all the helicopters, all the air tankers to that smoke and then the first guy there becomes the incident commander, is usually an engine and sometimes it's an air attack and an airplane if he's faster, and he decides what of all that equipment they're going to need and the rest of it they can send back home.

So in California you have a lot of what we call cancelled dispatches. You'll get launched and just get the wheels in the wells and they'll call and say you're canceled because the first guy to the fire said well you only need two engines. It's only an eight of an acre and it's smoldering.

In the rest of the world the way they fight fire on federal lands is that they take the least expensive resource that they have and it's budget driven again, which is usually an engine, and they'll say we've got a smoke report in the southeast corner or wherever, engine 23, I want you to respond and dispatch will say that.

Now, there are conditions where they'll launch more than that but under normal conditions the engine will drive out there, he'll take a look and say, yeah, it's three acres so we can handle it with or it's three acres and we'd like engine 21 or 22 to come with us, and that's fine. Sometimes they'll drive the 45 minutes to get to the fire and by the time they get there, for instance, which happened in Colorado and numerous times this year, by the time the engine gets there it's already 2,000 acres and going. Under conditions of red flag, there is such a thing as automatic dispatch of all resources and dispatchers know those rules usually. If it's red flag conditions and they get a smoke report they'll launch everything toward it usually.

The Hayman fire in Colorado this year, which I made the first drop on the Hayman fire, I got there about 4:30 in the afternoon. It was about 400 acres by the time I got there and I figured it had been burning for about two hours. And it grew over the next several weeks to the largest fire in Colorado history and it went to 108,000 acres and got what is it 200-some homes I think. I don't recall the actual statistics on that.

MR.: One hundred thirty seven thousand acres.

GORDON KOENIG: Is that what it was, 137,000 acres? It was a big fire. If under extreme conditions like we had this year, if the dispatch system launched everything and sorted it out when he got there, well, okay, we don't need all five of your air tankers, send them back home, pay them for the round-trip, that's fine, it's cheap because if we paid four air tankers to go there and you only needed two of them you can

put the fire out with two, the two go back home and you've only spent \$10,000, but we spent, what is it, \$27 million on that fire I think in air resources. I'm not sure those are real problems for you guys to look at, but that's the way the system works.

And let's see, I covered costs. I know I'm way over my time here. I'm back up to operational effectiveness. There's one other point I'd like to make. If we are to be operationally effective why are we being forced to haul inferior retardants like the Astaras HV? And I've been in a lot of trouble for calling a spade a spade on this one, but there is a product out there that's under government contract that doesn't work. It's highly corrosive yet we're forced to use it. Several of us have looked at the corrosive damage that that retardant did to the tanks at Rapid City, South Dakota and we said we're not going to haul it, we don't want it in our airplane, and we were told by contracting that if we refuse to haul it we'll be sent home.

MR.: What was the name of that?

GORDON KOENIG: Astaras is the company that produces it. It's just not a very good quality retardant. I know that they would argue up-and-down that it actually meets all the requirements of the government and perhaps it does.

JIM HALL: How you spell that?

GORDON KOENIG: A-S-T-A-R-A-S. It's used to be a division of Monsanto. It's a separate company now and is called HV, which is High Visibility I think. It's their version of liquid concentrate. You know, there are issues in that too. I mean, the amount of water it takes to clean up HV off an airplane you're talking probably 2,000 gallons of water to wash it off. If you use the competitor's product, you're talking about 100 gallons of water. In a drought year that's a big difference. And we all brought those concerns to the people in the government and we were told it's really none of our business. That's the product you're going to haul so haul at.

MR.: Gordon, when you say you bring that up to the government, just you called the contracting people?

GORDON KOENIG: I went to the contracting officer representative, who's a tanker base manager and I said this stuff is dog dirt, why are you hauling this stuff. He said I know it. It's all been documented. Everybody knows it but we're stuck with it. The people in Missoula or wherever the fire lab said it passes all requirements that we've set and we gave those folks a contract to provide it, so we have to do it, we have to use it. And he said I have to tell you like they told you over the radio that if you refuse to haul it you'll be put off contract, you would be put out of work. And I got a little upset. I said, well that's brilliant. We're trying to make a decision that will help you guys fight fire and we're trying to be honest about it and the first you say is well, if you tell the truth you're going to be put out of work. That's no way to handle it I think.

And I guess lastly under strategic guidance currently the requirement for air tanker captain upgrade is you either have to watch the videos or attend the NAFA classes. I think that all air tanker captains should be required to attend the classes and get recurrent training at NAFA. I think it's an excellent school, an excellent course. We can do a lot of firefighting, a lot of safety, a lot of tactics and strategy about aerial firefighting, because it's not just simply a matter of going out there and dropping a big lot of liquid on fire. I mean, there's actually some tricks to it that you need to learn. And I think NAFA is a good program to get those ideas across.

JIM HALL: And you say you're on the faculty there?

GORDON KOENIG: I'm on the faculty there, have been for three years now.

JIM HALL: Tell me a little about that academy, how it's funded, how many people there are.

GORDON KOENIG: It's funded by the Forest Service. I think there are 15 of us on the faculty. We're volunteers. We get our expenses paid. I think there are three of us from industry and the rest are agency people on the faculty. It's a one-week course held once a year. It's down in Morana, Arizona. And we cover --

JIM HALL: So it's not an academy? It's a one-week course.

GORDON KOENIG: It's not an academy at all. The course is actually several classes. Its limited I think to 55 students and sometimes we'll take some extras in. We have classes in safety, accident statistics, tactics for firefighting strategy.

JIM HALL: So it's one-week once a year?

GORDON KOENIG: One-week once a year.

JIM HALL: When I heard that academy I was thinking --

GORDON KOENIG: That was a school.

JIM HALL: -- walls and a school and people coming and going, but it's a one-week course.

GORDON KOENIG: It sounds greater than it is. You're absolutely right.

MR.: And, Gordon, we understand that people typically get through there once during their heavy air tanker piloting career perhaps?

GORDON KOENIG: Usually once. It's at the expense of the contractors to attend and that's part of the problem is the contractors have to convince a guy they've got to pay him, pay his way there and pay him some kind of stipend to be there for that week.

JIM HALL: So there's no requirement?

GORDON KOENIG: The requirement is either that or watch this set of videos that the Forest Service has on aerial firefighting if you're going to become an initial attack captain candidate.

JIM HALL: Have you watched the videos?

GORDON KOENIG: I haven't watched them in quite a while, because I'm pretty spooled up on NAFA. The videos, they're trying to come up with an updated version. We used to collect it Dick and Jane Fight Fire with an Airplane, because it was very basic. It was better than Somonex if you have trouble sleeping. You can just sit down in front of that and you'd be done. But they've been working for several years. I don't know what the progress is on that on a new set of videos, an updated version, something that's a little more up-to-date, because that set we used to watch is more than 20 years old I think. The films and videos are more than 20 years old.

MR.: Gordon, have you been following much of the Forest Service attempt I think to centralize the training of lead pilots over the last five to ten years? We get the impression that that whole management of training and standardization is kind of changed and become much more professional and consistent.

GORDON KOENIG: I think the lead planes, I think they do a great job and I'm glad they're there. I'm very often glad there's a lead plane there, because that guy will go down there in a little bitty Baron and sniff out all the holes and bad spots and wires and dead-end canyons before I ever get there. And when I arrive, he says don't go that way, don't go that way and your only escape is southbound off this canyon. Now, I don't have to go sniff it out in a loaded air tanker. They do a wonderful service for us. They're very safety oriented. They're well-trained. It's much better than it used to be. There were some people I think that got through the cracks a few years ago that probably shouldn't have been out flying fires, but you don't see that anymore. I think they've gotten pretty serious about it.

MR.: Could there be an equivalent sort of improvement to air tanker pilot training? Is that possible that we specify that under the contract? Or do we not know enough about what --

GORDON KOENIG: You'd have to pay for it.

MR.: I mean you'd assume that the Forest Service would put that in the contract. Would that be money well spent?

GORDON KOENIG: But then you'd have to make sure that the operator actually spent that money, because what happens is that the operators get paid this money to train and several of them don't train that much. They all say, they'll swear to it, yeah, this

guy's got eight hours in this airplane this month and he did this many approaches and we dropped this much water; and he didn't do a bit of it.

MR.: Could be academy be spun up a little bit?

GORDON KOENIG: That was the original intent.

MR.: That's when you get the local DA involved and then people pay attention and that's why you've got to have some oversight.

GORDON KOENIG: That's the oversight we're talking about. Precisely.

MR.: Because that's called stealing.

GORDON KOENIG: Well, that's what's happened in the industry for years. I mean, I've worked for an operator years ago that bid seven hours per crew member training every season, got paid that in the contract but we flew not seven hours but 45 minutes. And I'm sure the Forest Service knew that. I mean, it's been a good old boy system for a long time. They're trying to change that but again its oversight and how many people can you afford to be out their overseeing it. And in terms of maintenance oversight we know maintenance issues don't get addressed the way they should.

And I've got one other point I'd like to make on that, too. But the Forest Service doesn't have the personnel to oversee it. When Paul Markowitz and the guys show up to inspect an air tanker, a group of air tankers for contract availability, they don't really know what they're looking at. They don't know a PB4Y from a P2. They know if something is safety-wired backwards, they know if that the bolt is not tight or that cowling is bent or this latch doesn't work, but they don't know the ins and outs of a 3350 or a 2600 or any of those engines and they don't have the budget to have that kind of personnel out there. So it's up to the industry to be self-regulating, self-policing and they haven't been clearly.

MR.: Gordon, on the maintenance issues, is there pencil-whipping going on now?

GORDON KOENIG: Absolutely. The point I want to make, as I said a moment ago, is that what we saw this year was the failure of the progressive inspection program. The progressive inspection program in theory is a great thing for the operators because it saves them money, it allows them to do the inspections, the annual inspections progressively in the field while we work. In other words, you don't have to bring all 12 air tankers back at the end of the year and do 12 annual inspections, which is a lot of work and sometimes can't be accomplished because the fire seasons go so long into December sometimes that come January you're called out again and you can't handle an airplane in that short a time.

So the progressive inspection allows you to do the inspection in pieces over so many hours of flight time, but what happens is that if you're allowed to do it in the field --

I know I'm cutting my throat by telling this, but that you've been flying that airplane so hard and heavy all summer long that when it comes time for your C check in the field you've got so many operational squawks that need to be taken care of that that's all the mechanics can do is take care of those squawks and the inspection just gets signed. In other words, the operators don't have and cannot afford to because they're not paid to have a dedicated crew come out to just do your inspection and another dedicated group just to do your squawks. Because the list of squawks I have at the end of a long day of firefighting is it's multiple points. I mean, it's a lot. It's an all-night work job for a mechanic just keep an airplane going. I broke every day this year. Every time I flew that airplane it was broke at the end of the day -- exhausts tacks falling off, oil seals blowing, you name it.

I didn't seven three-engine landings in three months in a four-engine airplane and one three-engine ferry to get two new engines changed. When I got those changed, one of the new ones lasted two hours and blew up on takeoff out of Jefco. That's kind of to me indicative of the level of quality of maintenance you sometimes see. There are other operators that do a wonderful job, a great job of maintaining their airplanes and there are some that they don't because they don't want to spend the money.

MR.: Gordon, why isn't there more reporting of this sort of, you know, a number of three-agent landings, that sort of thing? Is there not a viable safety self-reporting --

GORDON KOENIG: That's in the SAFECOMs. If you track the SAFECOMs, if you pulled out PB4Y2 tanker 121 that I was flying, you'd see this many engine shutdowns in flight over the fire, this many loads of retardant pitched. I don't know that it's collated anywhere into some usable information, but it's there. You can pull it out. You can just pull up that number if you want and look at it and see how many SAFECOMs are against that particular airplane, how many different mechanical breakdowns.

MR.: One of the things we've heard elsewhere is that we get more SAFECOMs generated by lead pilots and their sort of Forest Service owned airplanes than we do from the contractor and pilots from contractor tanker pilots.

GORDON KOENIG: That may be a political thing. It may or may not be. I don't know. But I know that the guys would like to have new equipment. They'd like to have new airplanes. And the more they squawk them the more the pressure is to replace that fleet of well-aged airplanes. I mean, they're pretty worn out too.

MR.: This phased inspection, is that the inspection cycle that these airplanes were on when they were in the military or are they something special?

GORDON KOENIG: I don't know what the military did. The phased inspection is used by the airlines a lot.

MR.: No, but I mean the ones that are used for the airplanes you're flying, the air tankers I mean. Who established this maintenance cycle and what needed to be done on each inspection?

GORDON KOENIG: The operator does it through the FAA and they present this inspection program to the FAA as part of their repair station certificate and say this is what we'd like to do. At 100 hours we'd like to do an A check, at so many hours more we'd like to do a B check, which involves this many inspection things, and at so many hours a C check, which is the big one.

JIM HALL: At our meeting with the FAA, and correct me if you all were there, that's only based on the military usage of the aircraft and how it was previously used. There's nothing in terms of how it's presently being used, is there?

GORDON KOENIG: I don't know the answer to that. I know that it's presently used by air tanker operators.

JIM HALL: But, I mean if somebody has an inspection it's got to be -- somebody's got to have approved it and you're saying the FAA has approved it.

GORDON KOENIG: Approved that inspection manual or those procedures for that repair station certificate, they did definitely. But whether the inspection gets done or not is another story.

JIM HALL: As it was used in the military?

GORDON KOENIG: I assume. I don't know what the criteria was.

MR.: They didn't even have progressive maintenance in World War II.

GORDON KOENIG: Well, no, they didn't. The airplanes weren't around long enough.

MR.: So this is kind of thought up.

GORDON KOENIG: I think in theory it's probably a good deal but like I said when my B check came up this year I was in the barn for a double engine change and that's where all the labor went was into that engine change and they came back and said well on the upper wing there's this many stretched and loose rivets on that airplane, and I said, yeah, I know. And they said, well, they wrote it up in the B check, we've got to address it. And they said, well, we're going to address it this winter, but then the other 4Y crashed and so whether that will be addressed or not I have no idea.

MR.: You started off today with the staggering statistic that the odds were 1 in 40 that you wouldn't come back.

GORDON KOENIG: That's an absolutely ironclad -- I can pull out every accident and show it to you and add up the figures. And actually the rate has gotten a little better because we added a couple of air tankers the last couple of years, so it's maybe 1 in 42.

On average for the last twenty years we've lost one airplane every season. This year we lost two. In '94 we last two. In '98 we lost one. But the average is one airplane per season. For years we operated with 40 contracts, 40 airplanes, and that's where the statistics comes from.

But it shouldn't be that way, but when there's only 40 captains and 40 copilots and you all gather every two years in Reno you know that two years from now two of those crews aren't going to be around. It might just be the guys that you're sitting next to. At Jefco the guys we had breakfast with that morning and had a beer with that night, they weren't there at the end of the day. We sat all together and watched the video on TV of that C-130 with the wings folding up and all shaking our heads and saying, God, those poor guys, wouldn't that be a terrible ride? And here three weeks later Rick and Milt on 123 they did the same thing, did the same ride.

MR.: So why do you do it?

GORDON KOENIG: I think we're all probably adrenaline junkies. It takes quite a bit of skill to do the job and it's a matter of pride and it's also fun flying, and for a pilot you get to do the kind of flying that you can't do anywhere else. I mean, nobody's going to let you take a World War II era airplane down into a canyon and fly it around like a J-3 Cub. I mean, no one is going to let you do that. It's exhilarating and once you become good at it it's a source of pride. It makes you feel like you're doing something worthwhile. Maybe you're not, but it makes you feel good about your job.

MR.: Gordon, what's a reasonable -- it's always hard to figure out what reasonable means -- safety rate, fatalities per 100,000 hours? We've seen members for heavy air tankers around 10 per 100,000 hours I think. With the best maintenance, the best sort of -- we had just ideal airframes. It's still a hazardous job. I'm trying to figure out what the target ought to be. You can't say zero, that would be artificial. So would it be a quarter of what we're doing now is the best you can conceive of industry accomplishing or is it half?

GORDON KOENIG: I don't know. I don't know if I can speak in terms of a 100,000 hours. I don't know the answer to what's acceptable. I've lost 16 friends in 13 years doing this job. I think that it would be more acceptable to see one crash about every five years. I think that would be the norm. To me that would be like, yeah, about that many hours some guy is just going to go into the wrong place at the wrong time and that's it. But that's just a guess for me; I don't have any idea.

MR.: Gordon, the use of retardant, how long have you said you've been doing this?

GORDON KOENIG: Thirteen years.

MR.: What is the reason to use retardant in one place and water in another? Are those decisions made rationally?

GORDON KOENIG: I think so. And we don't make that decision. It's made by the guys on the fire. We really work for the guys on the ground. They know more about that fire than we do. We can get a good look at it, but we don't hardly ever haul water with a fixed wing air tanker. We almost always haul retardant. Water doesn't work real well for long-term. With a helicopter you can make multiple trips in an hour, you can make 15, 20 trips or more in an hour. You can keep the spot wet and all that. But frequently we're an hour or more turnaround with a fixed wing air tanker because we have very few bases to load out of. And retardant just lasts longer, just stays wet longer.

I'm sorry. I saw you stand and I ignored you.

AL HYDE: (Off mike.) but the panel would like to thank you for coming.

GORDON KOENIG: Well, thank you for the opportunity to let the workaday guy put his two cents in. I appreciated that a lot. Definitely.

AL HYDE: Earl, do you have one last question.

EARL MCKINNEY: Nothing.

Thomas, where are you?

GORDON KOENIG: Well, thanks for coming.

THOMAS: I didn't intend to testify and I'll present myself as an idiot savant. I'm a freelance writer. I specialize in writing aviation and aerospace topics. I've done a number of stories about aerial firefighting for *The Oregonian*, working on a story now for a government executive magazine.

And I originally came in and I wanted to ask why it is so difficult to find a record of all accidents involving aerial firefighting aircraft. I spent a good part of the day last week going through the NTSB monthly summaries, because after talking to an analyst at the NTSB who said he could write a program for me, which would take some time. There was no way to pull out those accidents.

The only way, they were federal airplanes and they were state airplanes and unless -- and I'm not sure, there's a part 137 menu on the NTSB Web site, but the only way that I could find to get a complete record of accidents involving all aircraft, state, federal aircraft was to simply go through a year of reports, line item by line item. I know a C-130, I look for that, PB4Y I would look for that.

JIM HALL: Now, the agencies should be able -- you know, we didn't do public use until the press revealed it. Are you familiar with that?

THOMAS: Yes.

JIM HALL: So, you know, the board, so the NTSB does not do the public use accidents.

THOMAS: Well, that's perhaps another issue that has been resolved. That's an issue that's been resolved because no one was keeping the records.

JIM HALL: Right, exactly.

THOMAS: Right. But I mean --

JIM HALL: You know, prior to that I don't know where you'd look. Now, since then the board should be -- who'd you talk to?

THOMAS: I have the analyst's name at home. I can send it to you.

JIM HALL: And you let me know because they should be able to sort out for you the public use aircraft accidents. And within those accidents they would not sort out by category yet I don't think the firefighting accidents.

THOMAS: No, they don't.

JIM HALL: But the public use accidents within the public use accidents should be the firefighting accidents.

THOMAS: That would give a smaller world to look at. But still the issue is when I asked people at the U.S. Forest Service and Bureau of Land Management and the Aerial Firefighting Industry Association for accident reports or records, well, the Aerial Firefighting industry said, well in 2001 we didn't have any accidents. Oh, that's quite true, they didn't, but CDF is not a member so the mid-air collision between those two S-2s was not listed on that database. The only way to find that was to look on NTSB under the aircraft type or to go to the Associated Air Tanker Pilots association and look under their memorial chart. And quite frankly that's sort of a morbid way to do it.

So I think that's an issue that if it hasn't been resolved, and as far as I can tell as of last week it wasn't easily accessible. I started going through the 2001 reports and literally ran out of time.

That was my major question.

A couple other issues and I'll be brief. I want to thank you for coming to Portland. I think we're a center of major helicopter companies. There are a number of heavy air tanker operators and SEAT operators, so thank you for coming to the northwest.

I think the issue of lead planes needs to be discussed. It's only been mentioned once here. My conversations with Tony Kearn indicates that that's an important issue in the Forest Service. While they can't build their own airplanes to replace the Berings they're going to use the Bell Huey Cobras as a possible solution, I think that issue needs to be looked at.

I think the Associated Air Tanker Pilots is a well organized group and I think they're forming their own study group to look at this issue of safety issues. And again the International Association of Helicopter Firefighters I think it would help the whole panel to proactively reach out to those organizations and ask for their input, not simply to expect them to come to these hearings, which I'm sure they will, but to proactively reach out to them and ask for their input. They have a lot of knowledge. They have very strong opinions. But I think it would help the panel --

JIM HALL: What are the groups?

THOMAS: The Associated Air Tanker Pilots.

JIM HALL: Have we heard from them?

MR.: We've already reached out to that group directly through e-mail and have solicited over a half dozen responses.

THOMAS: And then the International Helicopter Firefighters Association, which is a small group.

Finally, there's been some consideration or talk about the role in the military and I think that in Portland last year there was an example of how the military can work with private contractors, and that was the Portland Heights fire where a contractor was the first aircraft on the scene and then within about an hour a Fire Hawk from the Oregon Army National Guard and a Blackhawk from the National Guard came up and were very instrumental in fighting that fire and hopefully there will be somebody from the Guard to testify. They were also involved with the Biscuit fire. And during the Biscuit fire and during research for a story for *The Oregonian* I talked to a Chinook pilot who said that as soon as the contractors came on the scene the Chinooks were sent home because the contractors had priority even though the fire was still burning.

That's all I have to say. Thank you for coming.

JIM HALL: What is your interest in it and give us your background and how long have you been looking at this issue?

THOMAS: I've been writing about aviation and aerospace for about ten years. I've done a number of stories for *Rotor and Wing*, *Smithsonian Air and Space*, *New Aviation News*.

JIM HALL: Could you furnish us copies of your stories?

THOMAS: Yeah. I'm not a pilot, so that may be --

JIM HALL: Well, neither am I.

THOMAS: And again I'm sort of an idiot savant. I've covered stories like the Oakland Hills fires in '91, the use of aviation response to the Loma Prieta earthquake, again the Portland Hills fires, written a number of stories for *Sikorsky Lifeline*. And in the last month I've become sort of an expert on this.

But I asked, in all innocence I asked questions like where are the accident records, why aren't they all in one place so you can get an accurate idea of where things are. And in some ways I sort of represent the public because I'm not a pilot, I'm not with an industry group. I'm just sort of a taxpayer. But I write about it and so I have some knowledge and some background.

I think the role of the National Guard in Oregon has been extremely valuable in firefighting and that relationship between the military, both active and reserve and the National Guard is critical because there's nothing around Portland in terms of a tanker base. There's a closed base at Troutdale. There's one in Medford, maybe in La Grande, but still on a fire like that the Guard was here very quickly and very effectively, was right among the river. They were able to refill quickly, as was the private operator, so that --

(Audio break, Portland 3 to Portland 4.)

Portland 4

THOMAS: -- National Guard, so those are expensive aircraft. There's a guy in central Oregon who's trying to raise \$42 million to buy one to replace the Blackhawks that went overseas from the Oregon Army National Guard that was assigned to Fort Bragg. And so he's trying to raise \$42 million to buy one. I mean, lots of luck. But that type of resource, that's an excellent aircraft. It's very expensive. It's very complex but it's also very efficient.

In looking at this story I get involved with the IL-76 people and the blimp people and the CL-215 and 415, and my observation is that some of these people are sort of extreme. But I think there's a real serious not invented here syndrome at work, and I'm not blaming anybody; just it's an organizational tendency. And I think the Europeans and the Russians have a lot of firefighting experience and perhaps we could learn from them.

We teach a lot of the world how to fight forest fires and wildland fires, but the Europeans have been using the 415 and the 215, they have about a hundred of them. The Russians at one time had the world's largest fleet of firefighting aircraft. Perhaps we could learn from them and I think you need to look beyond our own resources.

JIM HALL: Well, we're trying to. We had a presentation from a group representing a Russian aircraft.

THOMAS: They are driven.

JIM HALL: And we're going to hopefully go to Canada. And Mr. Johnson is a Canadian citizen and a British citizen and he has experience with their systems.

THOMAS: There's a guy down in Arizona --

JIM HALL: You might want to look at this fire safety digest --

THOMAS: I did. I did.

JIM HALL: -- because it's got -- did you find any accidents that aren't here?

THOMAS: Several.

JIM HALL: You did?

THOMAS: And I can submit those to you.

JIM HALL: Yeah, if you could, because fire safety usually does it right.

THOMAS: Right and that's actually fairly old.

JIM HALL: It might be now.

THOMAS: Yeah.

JIM HALL: Have you looked at the statutory reasons for contracting --

THOMAS: Yeah, it goes back to the 1920 Economy Act and I think that HR 5102, which is probably going to die in subcommittee, would be a partial resolution of that issue. Again, what we've heard today is that if you're going to fight a fire effectively you need to attack it in the early stages and that doesn't seem to happen. Again, sort of an idiot's view, it doesn't seem to happen. So if those aircraft are available or if the National Guard aircraft are available now, apply them in the initial attack role instead of waiting for the fire to burn or waiting for Columbia or Evergreen to show up. If they can provide the service right away, great, but if it's a matter of a half hour or 45 minutes, in the

Biscuit fire that probably would have made a difference. It probably would have made a difference in the Hayman fire.

So I think that the application of the appropriate resources at the earliest possible time is really critical in preserving the natural resources that we're trying to protect.

There's a guy down in Arizona, a PhD named Steven Pyne, P-Y-N-E, who has written an absolutely brilliant series of books called *The Fire Cycle*, including a book called *Fire in America*. He is brilliant. I mean, I need to read his books with a dictionary and a thesaurus and a guide to mythology and poetry.

MR.: How do you spell the last name?

THOMAS: P-Y-N-E. Steve Pyne. He's a PhD at Arizona State, absolutely brilliant. And he takes this larger issue of natural resource management and the relationship with fire. I've never heard the term anthropogenic fire, which means man-caused fire, before. Brilliant man and has written very incisively about fire prevention and the role of fire in natural resources. He would be a superb resource.

JIM HALL: Well, we appreciate very much your interesting in coming forward and speaking to us.

THOMAS: Thank you, and I'll go.

JIM HALL: Like we told the other folks, we would welcome any additional input you want to provide.

THOMAS: Thank you, and I'll go away. Thank you.

AL HYDE: We're going to take a ten-minute break. I'm going to move some chairs up here and then we're going to open it up for a larger discussion.

(Break.)

AL HYDE: Well, I thought we were ready to turn this over, but, in fact, we have one more little item -- not little item. We have two officers from the Oregon National Guard who have flown in for this or driven from the nearby airport, wherever you're headquartered, and I promised them a chance for some quick remarks and then we're going to throw it open to everybody else.

And by the way, if you want to get into the informal part of this, you have to be sitting back there. That's spectators. This is participants.

Please introduce yourselves.

LT. COL. DAN HOKENSON: Just briefly, my name is Lieutenant Colonel Dan Hokenson (ph). This is Captain Sean Pierce. I'm the airfield commander in Salem, Oregon and currently we have 15 Blackhawks assigned there. Twelve are currently overseas but should be returning within the next six to nine months. Sean is a commander at the flight facility in Pendleton, which has eight Chinook helicopters.

Just there's really three points that I want to get across before I just go into a couple of brief notes and then Sean will interject as he sees some points that he'd like to cover. First of all, the firefighting mission is tasked to us through the governor of the state of Oregon. Governor Kitzhaber through the adjutant general, which is General Bergen, has given that as one of our recurring missions and so we train for that to perform that mission before the season and then throughout the season and then we basically try and do an after-action and increase our capabilities and experience over time.

JIM HALL: How long has that been going on? Is that just this governor or has that always been the way?

CAPTAIN SEAN PIERCE: I can only speak for about the last eight years, sir, and that's essentially since we've had modernized equipment here in the state of Oregon.

MR.: (Off mike.)

LT. COL. DAN HOKENSON: The one thing that we can provide, due to the fact that we have military personnel and we kind of have them on a rope all the time is we can provide initial attack at a very quick response time. Currently we do this through medical evacuation. We provide search and rescue, Medivac and military assistance to safety and traffic throughout the entire state and we get calls directly from the Air Force Rescue Center in Langley, Virginia or the Oregon Emergency Management, and we put crews and aircraft to get to locations immediately to get personnel to a hospital or to identify victims or last week we did on Mount McLaughlin, a crashed aircraft.

So we do have crews and aircraft standing by. The airframe is the same as what we use for firefighting; it's just the configuration is slightly different.

And finally the one thing that we do is we provide a standard within our state. Our crews are trained to the same standard. Our aircraft configurations are standardized. And one of the goals that we're trying to accomplish in this is to get a standardized National Guard program so that whether you're in Florida or Oregon or Michigan or California when you call the National Guard you get the same standardized equipment, crews trained to the same standard and so the aircraft managers and helicopter managers can be familiar with them once they arrive.

Just a couple of points here.

JIM HALL: Standardized for emergency response or for firefighting?

LT. COL. DAN HOKENSON: For firefighting.

CAPTAIN SEAN PIERCE: That's actually a project we're working on right now, sir, is to develop in research a plan for the director of the National Guard bureau as to how to develop a national standard for employing type 1 helicopters in this wildland fire suppression mission.

Now, there are some other programs out there. As you're probably familiar, the Air Guard in the Air Force Reserve has the MAFFs program, in which they use the C-130s. It provides a pretty good model for us to begin to develop that type of program and also provides a good model for those states that are just joining that type or program to establish a basis for training and setting up that type of program itself.

So that's currently what we're taking on here in the state of Oregon this year and another reason why we sit before you today.

LT. COL. DAN HOKENSON: One of the points that we do, which is obvious to us but just to reflect on is that we are a public resource. We're not profit-driven. Safety is an extremely high priority within all military aviation assets. And in the time that we've been fighting fires we've not had any even minor accidents with our aircraft or equipment.

It is a very high-risk environment. I think that goes without saying. A lot of people don't understand that until you actually get into it. And like with many Medivac missions, I know it was mentioned earlier, pilots kind of get excited. They feel like they're making a difference and sometimes you have to be careful to ensure that they're well mature so they don't make rash decisions or get a little bit carried away with the situation, which sometimes can happen.

In the National Guard we try and understand the risks in everything we do and so we provide a standardized form, a risk assessment for every flight and identify not only the crew's experience, where they're operating, if they've operated there in the past, the weather conditions and any other conditions concerning the fire -- winds primarily, the weather, familiarity with the crew and the region.

One advantage we have is we operate pretty much solely within the state of Oregon. Crews have been flying in the state for years and so they're very familiar with the area and bad weather routes in and out of most areas. And I think that's a great advantage that we have here, but when you transport our crews outside the state or bring crews into regions they're not familiar with, they may not know exactly where to go, which increases the risk in that area.

Once we complete this risk assessment, if it's a low risk it can be approved at the lowest level. However, conditions can bring it up to an extreme or high risk. Therefore, that does not allow us to approve the mission but it has to go up our chain of command

all the way to the adjutant general of state. And what this allows us to do is identify to our leadership that this is out of the ordinary, we're taking on significant risk and it needs to be your decision that the risk outweighs the risk to the aircraft or the need to perform the mission.

When we do train our pilots we use Kim Reed from the Forest Service. He comes in and checks our instructors and pilots and command. The copilots are either on board at that time or they're trained later by our pilots and command. But all crews that show up to fires have been carded by the Forest Service and the aircraft have been checked and inspected.

MR.: Colonel, can I interrupt and just ask can you give us some more data on how many Chinooks and Skyhawks are involved here and the approximate ages of the airplanes and how many hours you might fly in a given year?

CAPTAIN SEAN PIERCE: Sure. We've got eight CH-47s located in Pendleton, which is in the northeast corner of the state here, and the range is we have an '82 model, which is the oldest, and a '91 is the newest. Most -- I say most -- six of the eight have been through overall in the last four years. And the CH-47 fleet in the Army and the National Guard is undergoing an upgrade model to the F model now, which is a complete re-modernization back at the Boeing plant that changes a number of the systems on board of the airframe, to include technology like digital fuel control, things that do enhance the safety measures for performing this type of mission.

LT. COL. DAN HOKENSON: In Salem we have 15 Blackhawks. They're all built in 1996. All of them have right at a thousand hours or less on the airframe. And one other thing is we do not perform progressive inspections on our aircraft. For the Blackhawk at 500 hours the airframe comes in, it's completely gone through the entire inspection before it goes back and the Chinooks it's every 200 hours.

CAPTAIN SEAN PIERCE: That's correct, 200 hours.

LT. COL. DAN HOKENSON: When our aircraft comes up for inspection it leaves the fire and returns basically to the hangar to go through the complete inspection, test flights and then returns when it's completed.

MR.: How do you fight the fire with these aircraft? Is it the same way that the civilian guys do?

CAPTAIN SEAN PIERCE: Well, I can answer that partially. The CH-47 we use buckets as well on a long line similar to most of the civilian contractors in this area. One significant difference is we do not do vertical reference flying. We don't have the equipment and it's not approved by the Army to do so. Nor do we really have the training or resources to try and convert our pilots to do that.

Our focus there is that we may or may not be as effective out there on the fire in terms of precision drops and our ability to support that incident commander in very finite situations. However, at the point that you're going to see us there it's been declared as a state of emergency and there are no resources available to back us up.

And one point that I'll make there is that we're not in any type of competitive situation here. We're only there before the governor has declared a state of emergency and we're trying to fulfill our role and our mission and our obligation to the governor and our adjutant general in such.

So in that light that's kind of the long and short of it, but it's similar although there are some differences in the way that the procedures in which that's followed through.

MR.: The only other question I had there is do you have a sense of how many hours per year is devoted to this mission compared to the rest of your missions? Is this 2 percent of your overall mission or is this 20 percent?

CAPTAIN SEAN PIERCE: No. Actually, I devote approximately 25 percent of our annual flying hour program to training towards this mission. We have what they call metal task in the army. That's our mission essential task. That's what we do to train to go to war. Now, we also have two state missions as well that couple with that. This is the major and by far the most risk comprehensive type of missions that we do and so therefore we have over the years developed more and more of a training program to support that, not only to endorse safety but to be able to go out there and to a professional job.

JIM HALL: Does the state have any other aviation resources like some of the states have their own Forest Services, their own airplanes?

LT. COL. DAN HOKENSON: No.

JIM HALL: So you all are it.

CAPTAIN SEAN PIERCE: We're the last line.

JIM HALL: Can you give us that risk management form, get us a copy of that?

CAPTAIN SEAN PIERCE: I sure can.

LT. COL. DAN HOKENSON: We sure can.

In Salem with the Blackhawks it's very similar also, what the one exception that we do have the Firehawk, which is a Blackhawk modified with a thousand-gallon belly tank and a snorkel, which allows us to get water from an 18-inch deep water source.

MR.: But it's also about 25 percent of your flying hours, you think?

LT. COL. DAN HOKENSON: No, it's actually less. It's about 15 percent. The majority hours are taken up through search and rescue and medical evacuation missions.

MR.: Do you calculate how much retardant or water you put down per year so we get some estimate of costing that out?

CAPTAIN SEAN PIERCE: I can actually provide you some of those statistics from this last summer, if you'd like.

MR.: That would be good.

LT. COL. DAN HOKENSON: Yeah, we do track that.

MR.: Okay.

CAPTAIN SEAN PIERCE: We flew roughly 280 hours on fires in the state this summer, and in the CH-47s alone and I can show you how much water was delivered and so on and so forth.

LT. COL. DAN HOKENSON: When you look at -- we actually addressed this out in the hallway -- the risks, I was a test engineer for the Army prior to coming to this assignment and in some of the research we did in aerospace engineering obviously when you load and unload an airframe in short periods of time and you look at the max performance, usually when we pick up water in a helicopter you're at a hover, you're going to max gross weight of the aircraft and then you're departing to a fire where you enter an environment with turbulence, winds, sometimes the weather is not that great and you unload the aircraft usually in a short period of time. The Firehawk is the only aircraft we have equipped with devices that actually measure any additional stresses on the airframe, and all the inspections on that airframe so far, and I think the aircraft has got close to 700 hours, we've got no indication of abnormal stress to the other airframes.

And not being a fixed wing person, I know that that obviously is a consideration there also, because you're unloading and loading systems and materials that weren't designed initially to do that.

Our aircraft are all fairly new and so we have a great opportunity in that aspect but long-term we haven't really been able to notice any significant change, but that's something that may come about in the years to come, especially as the airframes get older and we get more time on them.

MR.: From your test experience are you aware of any other studies done over fires of fixed wing airplanes and collecting data on --

LT. COL. DAN HOKENSON: That's just it; there aren't any. And the only way we find out is in the Army we have a safety flight anytime during an inspection if there's

something that provides an unsafe or hazardous condition of the aircraft they pretty much ground the entire fleet until they inspect every airframe to ensure that it does not have those indications of the same problem.

CAPTAIN SEAN PIERCE: And we're going through that right now. The entire world CH-47 fleet was grounded on Friday until a series of inspections can happen as a result of an incident that happened last Wednesday in Pennsylvania. So it's fairly quick and effective in that regard.

MR.: Excuse me, Dan. Just to clarify, you say that Firehawk is instrumented in terms it has the sensors there, but I think you said out in the hall that you don't record those things.

LT. COL. DAN HOKENSON: Right. It's basically indicators on the aircraft that you visually inspect and that aircraft has much stricter inspection criteria than the normal Blackhawk. Each of those as well as the hub and rotor system need to be inspected on a more frequent basis. We have the only prototype in existence in the Army right now, the Firehawk.

MR.: And what's different about it?

LT. COL. DAN HOKENSON: The difference is the tank is attached to the aircraft, the thousand-gallon. It has a pump system built into it and the console actually has all the controls so we know we can measure by gallons how much water is in the aircraft, how much we dispense. We can set the rate of dispensing. We kind of look at it like a World War II bomber, not nearly as fast, but we have the ability to spread it over a hundred yards or a quarter mile depending on how much water and foam, because we have the ability to inject foam in the water that we drop, based on the fire and the intensity.

MR.: And where did the justification for a tighter inspection program come from? You're just unsure of what you're going to encounter in this environment or is this based on some other studies?

CAPTAIN SEAN PIERCE: Any time we modify a standard military aircraft it's required to obtain an airworthiness release through in the Army it's AMCOM, the Aviation and Missile Command, and those airworthiness releases will contain instructions as to additional inspection requirements, additional operating restrictions or requirements, so on and so forth. So that's where we get the specific guidance and they have a team of engineers and liaisons that coordinate with both Sikorsky and with Boeing in that case.

JIM HALL: What's the entity you have to get the certificate from?

CAPTAIN SEAN PIERCE: AMCOM, sir, Aviation and Missile Command located at Redstone Arsenal in Alabama.

JIM HALL: Is the Army Safety Center still there?

CAPTAIN SEAN PIERCE: That's at Fort Rucker, sir.

JIM HALL: Fort Rucker.

Now, we've got some hands over here. Have you gentlemen got anything else?

CAPTAIN SEAN PIERCE: Just a quick closing statement.

JIM HALL: We were going to sit there and let you all have a part in the discussion. Don't leave.

CAPTAIN SEAN PIERCE: Just in closing, I think that what we're after here is to first of all again, I'll say it again, we're not a competitive asset here. We know we're going to have this mission, we're charged with that as leaders in this organization. So our intent is to go forth and do that professionally and safely. So we feel it's a process of education and if we could develop a better standard, a more standardized type of process from the ordering of an aircraft to the actual employment of them on a fire that would help facilitate the process for us to do a better job when we're out there.

So we've kind of taken the lead on that and we're interested in perhaps developing a proponent here to train other military pilots similar to what the Air Guard has done with the MAFFs program and hoping to get some of this product forward to the National Guard bureau level so that in the event that we had a year like we did this year where we needed more assets than we could provide from within the state, be it civil or military, that we can go out there nationally and get a product for these foresters to use that is standardized, it's the same thing whether you come from Illinois, Mississippi, Oklahoma, wherever.

And that was the scenario this year as the gentleman from ODF can attest to. That's where the assets come from. They don't come from the northwest and the other states that typically will perform this mission on a regular basis, because when we're in that situation they are charged to their fullest capacity as well.

LT. COL. DAN HOKENSON: And just the last comment, obviously part of the military is we try to standardize everything. The reason we do that is to mitigate risk and reduce it to the lowest level possible and by providing a standardized product we feel like we can control a lot of the risks and take the decision away or move the decision to the highest level so they can determine the basically risk and reward of assuming the additional risk.

As Sean had mentioned, one of the goals we had is to hopefully set up a regional program where you get a couple states together where they have an agreement that they've got certain amounts of trained firefighting crews to augment the civilian crews

and aircraft in the area if the conditions exceed their capabilities. By regionally doing this the guys are familiar with the area, they're close at hand, they're trained to the same standard and they can respond as fast as the mission dictates.

MR.: I have a question. You keep saying that you're not doing this to go into competition with us, me, my company and the other companies here and the couple thousand people that work in our industry, at least a couple thousand people that work in our industry in Oregon.

CAPTAIN SEAN PIERCE: That's correct.

MR.: So you're not going into competition with us but yet you're going to train other National Guard people to come in, you're spending 25 percent of your training time in this area with a couple percent of it using this, and then when we we're ready to go, you said that you have these people that are ready to go, I have loggers that I pay all the time to work and they're working out there and I shut that down and these guys don't get bread and butter when I'm shutting them down, they don't get paid for me when they're sitting in a motel waiting, I shut them down to go fight a fire and wait for two or three days for a federal employee who is not essential, in my opinion, to show up, and you guys can come in right away and make this initial --

LT. COL. DAN HOKENSON: That's not true.

MR.: No, you just said you could -- this initial response. And I've seen this National Guard and stuff happen in New York and everything and put companies that did aerial medical evacuation out of business. So I mean you do compete with us whether you like to think that in your mind or not. You do. So that worries me and it's not cheaper for the government for this to happen.

And the other thing I was thinking about when you mentioned this is you said you have 14 aircraft over in Afghanistan.

CAPTAIN SEAN PIERCE: Twelve.

MR.: Twelve aircraft, so you've got fly over there in Afghanistan.

CAPTAIN SEAN PIERCE: They're in various places that we can't discuss.

MR.: So what if you have them all over there in Afghanistan and we need our people, but in the meantime we've gone back to logging. We've said to heck with the firefighting because you guys are taking our business from us, so we modify our aircraft and we keep our crews working instead of shutting those poor guys down. My guys missed months of work this year and we lost a bunch of our crews. And when I said it before, I'm serious, they couldn't buy it this summer, and so we could go out and fight these fires.

So what happens if you're out doing your real mission or protecting our homeland and our homeland security for some other reason and then we need you but we're busy, the government needs you but now we've changed our mission, and our mission now is back what it used to be, it's logging and you're not there available for us?

And I believe it was mentioned earlier at this meeting that the fires in this country are a national emergency, it is part of our homeland defense. We don't know how starts these fires, some of them. Well, agencies start quite a few of them.

And excuse me, I want to jump on one other quick thing. James, you mentioned earlier with the guy that was talking, the gentleman from the tanker, the prescribed fires, you mentioned prescribed fires. There's a difference between prescribed fires and fires that start that they would like to burn, that they don't care if they burn or not. Prescribed fires are fires that they prescribe to burn and clean out the area. There is a perfect place for type 1 aircraft or aircraft to be stationed there at those times when they're doing those prescribed burns, for instance, Los Alamos. That was a prescribed burn where the guy was way out of line, starting it with winds the way they were, but nevertheless he did. But if they had had a couple type 1s sitting there, that would have stopped the fire from slopping over the line. It sounds like a lot of money when you say, well, I have a type 1 sitting there for \$19,256 a day. He may not fly. But if he does fly, he puts out the fire and keeps it from slopping over the line, then you're not spending \$50 million on your fire. That's a cost effective measure to have these things sitting by.

But I appreciate these young men, I really, really do. I love the military fellows and I just don't want you coming in and encroaching in our business. It's hard enough to keep people as it is in our business.

JIM HALL: Well, they might be your future employees, so you'd better be nice to them.

CAPTAIN SEAN PIERCE: Trust us, we'd rather be at home as well. It pays the same, trust me.

JIM HALL: And I understand that what you all said was you don't go in unless the governor calls you in, right?

LT. COL. DAN HOKENSON: Right. And we cannot provide initial attack. We're like everyone else there has to be a helicopter manager available. And in the case that Thomas brought up earlier about the fire in Portland, that was basically it was homes were in danger, we got a call immediately, we had the aircraft available. It was one of those calls.

And just so we understand --

CAPTAIN SEAN PIERCE: On the other side of that though we also sat down at the Biscuit fire for a week waiting on a helicopter manager. And nobody else is flying out of that heli-base at the time so really don't have an issue with that.

MR.: And then I want to bring up one thing that he brought up. I don't want to take the whole thing up here.

JIM HALL: Well, let's let others talk and then we'll come back to you.

MR.: Well, one thing you might explain too is when you're on the fire, when you go up on a fire, in your initial attack on a fire versus the state attack on the second day, because you do the initial attack, if Evergreen, Carson, Columbia or any other type 1s show up, you guys go home. They automatically send you home.

CAPTAIN SEAN PIERCE: Absolutely.

LT. COL. DAN HOKENSON: Yes.

CAPTAIN SEAN PIERCE: Last in and first out.

MR.: That's something that we want to make sure that the panel understands.

LT. COL. DAN HOKENSON: Yeah, and just one other thing, just so you understand that the process that we go through is like for the search and rescue and the medivac. I've personally gone to every medivac provider in Oregon, Life Light in Portland, Airlife in Bend and Mercy Flights in Medford and signed agreements with their managers that we will not go unless they turn the mission down. And Oregon Emergency Management and the Air Force Rescue Center are aware of these contracts and we have agreed in writing that we will never go until they have refused the mission or they can't perform it such as hoist missions. We're the only ones capable of doing hoist and especially above 10,000 feet elevation.

And I talk with these guys regularly so they understand that. We never, ever go unless they refuse it.

MR.: I think Jim has a question.

MR.: I stand corrected.

MR.: I have a couple questions for you. Have you with your training standardization training other crewmembers for firefighting (inaudible) into the public sector, into our world and asked our operators, hey, when we're up there how are we doing, what could we do better, how can we adjust to fit in better in the civilian world because when you're on a fire you are in the civilian realm, which we're the professionals, we do it all the time. And that would be nice to see as far as a safety aspect.

And just the second part of this question: Your pilots, do they meet the Forest Service requirements of 1,500 hours, 500 hours mountain time, snow requirements, things like that and long line?

CAPTAIN SEAN PIERCE: Yes.

MR.: But if you can't look out a window how can you (off mike)?

CAPTAIN SEAN PIERCE: That's a debate that we probably don't want to get into here at this forum, but --

MR.: Well, I'm just talking about this for the whole safety realm. We're getting into this whole thing.

CAPTAIN SEAN PIERCE: Sure.

MR.: The question is have you gone to other operators and do your pilots meet the requirements?

CAPTAIN SEAN PIERCE: Well, first of all I think -- and Jim could probably touch on that just a little bit there, this process has evolved for us here in Oregon over the last six, seven summers now I'd say, Phil. And to begin with, we were really kind of set aside and kept away, separate heli-bases, that sort of thing. This year we really started to kind of make some progress there. And, Phil, if you want to -- or, Jim, if you'd like to address that, I think they can attest to a lot of that.

JIM HALL: Yes?

JIM ZIOVER: Yeah, my name is Jim Ziover (?). I'm the staff fire (inaudible) specialist, Oregon Department of Forestry. I just want to say as far as the Guard goes we procure the guard through a compact we call Upland Smoking (?). We can only use the Guard when the governor declares an emergency. And when we call them up, that is after we've exhausted all our type 1 helicopters. We've gone out, looked for type 1 helicopters, we can't get them, we call in the Guard, ask the governor to make it an emergency declaration.

Once they're on the fire, they don't want to stay there any longer than they have to. So when they're on fire and we start releasing assets, they're the first ones to go. If we start getting private helicopters, type 1s that are coming in, they become available, we take them, the National Guard goes home.

So we are under law we cannot have the competition between the National Guard and the civilian aircraft and that's the way we do it. It has to come from the governor's office and it's only after we've exhausted looking for other type 1 aircraft.

As far as the end of the season, we get together, work very closely with Colonel Kelly, who is the head of the Oregon National Guard Aviation. We get together, we bring up concerns of issues that we had over the season and we work through those issues. And over time the use of the Guard has evolved into a more viable unit.

But again even all this summer when we had all these fires we only used the Guard after everything else was exhausted.

MR.: Can the U.S. Forest Service go to the governor and ask for those? How does that work?

JIM ZIOVER: What happens is if the Forest Service has a request for the National Guard, they go through the Oregon Department of Forestry. We then go to the Office of Emergency Management and go to the National Guard and get the aircraft for the Forest Service.

One thing that happened this year was that there was a request through the Northwest Coordination Center, which is the federal dispatch center here in Portland. There was a request because all of our Oregon National Guard were committed, there was a request to bring California National Guard up. Where that came from is that the Department of Emergency Management in Oregon talked to the Department of Emergency Management in California and they brought them up. So that didn't even go through the Oregon Department of Forestry. That actually went from the Department of Emergency Services to the Department of Emergency Services and they were brought up by the federal government, but only after all Oregon National Guards were not available anymore. And then they were the first ones to go back before the Oregon National Guard were released also.

MR.: I'd like to find out if the training includes mountain training and again I haven't got an answer yet, are all of your pilots U.S. Forest Service cardable according to the times required under contract?

CAPTAIN SEAN PIERCE: Yes and yes.

MR.: So all of them have over 1,500 hours.

CAPTAIN SEAN PIERCE: Yes.

LT. COL. DAN HOKENSON: Yes.

CAPTAIN SEAN PIERCE: PIC does.

LT. COL. DAN HOKENSON: Yeah, the PIC.

CAPTAIN SEAN PIERCE: That's the only person that's carded in the aircraft is the pilot.

MR.: What about your spotter for dropping water drops? I mean, has he gone through a course for being the person to do that?

CAPTAIN SEAN PIERCE: Absolutely, in the Army standard, yes.

MR.: Okay, and then are you saying that the Chinooks are doing the long line work --

CAPTAIN SEAN PIERCE: We're doing water bucket.

MR.: Right, but who's training them?

CAPTAIN SEAN PIERCE: Our instructors.

MR.: And since they don't do vertical reference they don't know where the bucket is going and that's a safety concern for me.

CAPTAIN SEAN PIERCE: Well, this isn't really the proper forum here to debate this.

MR.: This is a safety forum.

CAPTAIN SEAN PIERCE: Okay, so --

MR.: And then I come to there wasn't a fire that I was on in Oregon this year that you could get into for buckets without a long line and I want to know if your Blackhawks, are you doing long line work or belly hook?

LT. COL. DAN HOKENSON: With the Blackhawks we basically use the Firehawk all year.

MR.: And you don't ever do a bucket on the Firehawk?

LT. COL. DAN HOKENSON: We do, but we can't do a bucket on the Firehawk. The Firehawk has got a 15-foot snorkel that we use for that. But when we do the water buckets we use a 75-foot long line. Well, short line if you want to call it that, but that's what we use. The requirement we have is we've got to have two rated crewmembers obviously in the front, both seats, and then we have to have a rated and trained crewmember in the back that actually drops the water, so he's got full visibility. And we have safety and training requirements, what is it, like 40 hours of training, so that the crew communicates and mostly each of the crews we take, we take our most experienced, full time crewmembers that have flown together extensively.

I mean, if we get any situation, any crewmember of ours can cancel the mission, even if it's not a pilot, can do that immediately if there's any safety concerns. And, I

mean, I can say any time we get into something scary we're out of there, because it's not worth it to us and I know it's not worth it to anyone else also.

MR.: Then the guy that's dropping the water is in the back of the aircraft and he's looking out the side of the Blackhawk?

LT. COL. DAN HOKENSON: Yes.

CAPTAIN SEAN PIERCE: The center cargo hole on the CH-47.

LT. COL. DAN HOKENSON: Yeah, there's a cargo hole --

MR.: I know about the CH-47. That's the CH-47. My problem with that is I know the Blackhawk doesn't have any good visibility forward when you're flying, it really doesn't unless you're tilting that thing up to take off and then you get good visibility. But when you're flying straight and level you don't see squat.

LT. COL. DAN HOKENSON: Yeah, it's familiarity. The more experienced you get, you get --

MR.: But I have a concern for the people on the ground.

AL HYDE: Yeah, we need to cut this. We're spending some time doing some interesting things here, but we need to get some other people in and let's go here.

MR.: One of the clarifications earlier you asked a question of is it a controlled burn or are they letting it burn to control the burn? Obviously when you have a fire that has not been properly initial attacked and it's gotten way worse, a larger and larger fire, I don't think at that point you would consider it a fire that the Forest Service (inaudible) \$50 million at it to try to put it out. I don't think that's a controlled fire. And I think in your study you want to have a distinction between the two fires.

JIM HALL: Well, I can speak for me, it's hard for me to have a distinction when the Forest Service can't explain the distinction to me. I know they can do that --

MR.: Well, that's what they need to do, but it seems to me that if you have a fire that isn't a planned controlled burn, if you don't have the resources and the plan and the risk analysis in place to do a controlled burn, and it happens to be a lightning caused fire, it seems to me that all emphasis be put on containing that fire when they're small because the risk analysis of that with only one aircraft or one 20-man crew or something would be a lot less than 30 aircraft and everything else --

JIM HALL: And I think there's a legitimate question I have that I don't know about anybody else is should lightning fires be used for prescribed burns.

MR.: I don't think so.

MR.: They call them fire use fires, just so you know that term.

JIM HALL: That appears to be what --

MR.: But they don't stay where they're supposed to. They go where they want to go is the problem.

JIM HALL: And I'm just saying, because it appears in the East they have a different policy than they do in the West toward the initial attack.

MR.: They're different forests with different types of trees.

MR.: So when this comes around we need to devise a system that the interagency agreements allow the state and the BLM or anybody else that when they show up on the fire they can function on that fire even though a Forest Service helicopter manager isn't there. We used to do this years and years and years ago. It didn't have anything to do with safety; it had to do with management. And then as each system evolves you know how things happen and it's bureaucratic government.

But the thing is that we need to come back to that to some degree, because that's going to be one of the answers. And when you're talking about safety, in my opinion, the risk analysis of a lightning fire that we're fighting a big forest fire and we see another fire a quarter mile away but we can't take the aircraft from this fire to go fight that fire because they don't want to make the decision is poor risk analysis in my opinion.

I mean, we could go put that fire out, that second fire happened to turn into a 20,000 acre fire, by the way, because we were on it. And had we had the flexibility to use the resources and go put the little one out, continue to fight the ones we're not going to put out anyway until Mother Nature helps us out, decrease the risk over there, in my opinion that's a safety issue. It doesn't have anything to do with dollars and cents, but you're putting so much more equipment, manpower, aircraft and everything else at risk and exposure, that I think we need to devise a system that we can do that. And until we do that and get into that scenario, we're going to sit here and argue all day about what fires should be this and what fires should be that.

Then if they want to do a controlled burn, do it properly, under the proper pretences, but let's use proper risk analysis. I hear these gentlemen talk about risk analysis. Well, if you don't think the industry doesn't do risk analysis on safety and maintenance and everything else, you'd better believe we do, way more than they do because they don't have to meet the FAA requirements; we do.

But I think that this panel ought to look at that very seriously because in my opinion that's one of our highest risk exposures that we have.

Yes, there's fires that we're not going to catch. There's fires that are going to get away. There is fire behavior that no matter what we do, we've all been there, but when we have the opportunity and there's been many firemen, one just out at Medford this last year, but I can tell you hand crews are standing right there and could have put it out, but we couldn't touch it because it wasn't the proper Forest Service organization there.

Fine, but we've got to devise a system that --

JIM HALL: Well, how did it work before? You said that's -- when did it change?

MR.: Oh, we just all went and put it out and they sorted it out afterwards. But now it's changed. I recognize that and I'm all right with that.

JIM HALL: Well, why did it change? We got anybody from the Forest Service that can tell us why it changed.

MR.: We see that that change is not very viable at this point.

JIM HALL: I mean, the way I look at it as a taxpayer is it doesn't make any difference whether it's the National Guard or the Forest Service, whether the BLM or who it is; it's my dollars.

MR.: But look at the number of people that they have now.

JIM HALL: This gentleman said that they used to have a policy that whoever put the fire out.

MS.: The policies have not changed.

JIM HALL: Okay, so what?

MS.: The policies have not changed. We're following our federal standards. We have standards of certain required leadership that must be in place before you can go and deal with fires. We have hired a lot of people down at the end of our spectrum, brand new firefighters through the National Fire Plan, which has been a very good thing, that a lot of folks walking out the door retiring at 50. You can do that with firefighters. And there are about 15, 20 years we didn't hire a lot of people, so we're pretty short on the leadership end of the scale. We had a very long fire season. If we didn't have proper leadership in place, in some cases, very limited cases we weren't able to put the groundpounders in place without sufficient leadership. And I believe that's what these gentlemen are talking about.

MR.: I'm not saying that this is a bad system --

MS.: The same thing with helicopter managers.

JIM HALL: No, and I mean the thing is let's discuss this, because my situation in the government I've worked almost ten years at both the state level and then ten years at the federal level. There are always bad people in the world but usually very few. But you have to understand most people are good in their job based on procedures and you've got to understand what it is because if we're going to make recommendations -- or we can't make recommendations -- if we're going to find facts that address the situation, we need to understand what the problems are. And you're telling us that the Forest Service wasn't funded at a proper level.

MS.: We were funded at a very good level --

JIM HALL: To provide a succession --

MS.: -- but we don't have the availability of mid-level fire leadership that we used to, and that's caused just a real issue, especially when we try to put so many people on the ground this summer.

JIM HALL: Well, then why is that?

MS.: They aren't available. We don't have them any longer in our agencies. They retired.

MR.: But that's because for years the policy was we're not --

(Audio break, Portland 4, side A to side B.)

MS.: For many years of downsizing with federal agencies and state agencies, too, we all fight fire together, so --

JIM HALL: I spent eight years in the federal government where everybody says you can do more with less and usually you can do less with less. And it took three Coast Guard commandants with Admiral Lloyd, who's now the head of TSA, the first person to go up and tell the Congress that the Coast Guard couldn't take all its assets and go chase drug runners, which they were doing, and still perform their safety function and their safety function wasn't getting performed.

And the five of us, if nothing else, we're not inside the system and if you're not spending adequately, I'm not interested in wasting my tax dollars any more than anybody else. But if it's a funding problem and you don't have people in place, then maybe we need to look at how you have some flexibility until you have enough people in place.

MS.: We also have an awful lot of fires that all happened at once, so we had to make choices on which ones to fight first and we fought the ones that were closest to communities, community infrastructure. Others we had to let go, just didn't have sufficient resources. We let them go until we had the resources to put on those fires.

And there was no wildland fire use like folks keep suggesting, that was not what we were doing. We were waiting until we had resources to do it safely and that was our plan.

JIM HALL: Okay, and that's understandable.

MR.: But, sir, that goes back to where we started from the beginning and there's many times that we don't need to wait for these people. If you have smoke -- Dave Mathis ran the Payot National Forest until --

JIM HALL: Well, let me say, when you run over and put out a fire, are you going to want to do that out of the goodness of your heart or are you going to want somebody to pay for it?

MR.: Well, I'm going to want somebody to pay me, but I can do that on a radio.

JIM HALL: I understand.

MR.: I've done it for the last 20 years, I went and put out fires --

JIM HALL: Well, I'm sure these gentleman have, but I'm saying -- I'm saying once you allocate tax dollars you know there's going to be -- that's what I was trying to understand is there some system of flexibility that used to permit that that doesn't permit it anymore?

MR.: I'm going to go back to my original statement. What I'm suggesting is that we used to have a system that worked a little more efficiently than it does now. The pendulum always swings. What I'm saying is that I don't think the Forest Service, the BLM, the industry, anybody is doing anything wrong. What I'm saying is that pendulum went too far and one agency is the only one that can do anything and nobody can do anything on their land without them. We need to bring that pendulum back because it's pretty obvious, if anybody can't see the results of that, to bring it back some, make better agreements between industry, make better agreements between other agencies so that we can be a little more flexible and help everybody out, because I don't think the burden should be totally on the Forest Service in that --

JIM HALL: And I understand that. I understand what you're saying. My question was were there agreements in the past that got changed and if there are it would be nice to look at them because a lot of times we'll have a problem solved and then you don't need to go back, you can figure it out from before.

MR.: Well, I think Phil could address that.

PHIL UPSTEAD: Part of the issues that have not been addressed -- I'm Phil Upstead (ph).

JIM HALL: Yeah, Phil.

PHIL UPSTEAD: Oregon Department of Forestry and I had Jim's job prior to this, the aviation specialist, but I'm also a type 1 air ops branch director for 37 years so I've had some field experience in fighting fires.

The primary thing X amount of years ago was a bunch of the top fire aviation people were brought to Denver to put together what's called the IHOG, Interagency Helicopter Operation Guide, the guide being the driving principle here. There were several agencies that were involved in Denver to put together a guide for the future of the individuals that Lori is talking about that we know that we're going to be retiring out. We're going to have some new people coming in and all of our knowledge is going with us. We wanted to put something down in a guide form that the new people had an opportunity to rely on some of our experience.

That was accomplished. There were some things that were put in there. One of the questions that you asked was do we need a module for a type 3, is that a safety issue at the time. At the time that the committee -- I was on that committee, sat the chair of that committee, was not as a safety to have a module to type 3. The issue at that time was what are the missions, because safety drives the mission, not mission drives safety. What missions out there required to have a module in place or some people to help assist getting those people on board. One was crew transportation.

So we chose at that time and said yes, that is driving the mission, we need people there, a module there to help load, one thing.

But the primary thing that came out of that was also at that time, the Forest Service was in the process of cutting their budget. Heli-attack crews were dropping out. The smokejumper crews were dropping out, so one of the things that stood up to times was if we want to keep people, and this came out of Washington, DC, came out of the Boise office at that time was if we wanted to keep people let's assign modules to the fires, that it was not a safety driven issue, it was a management decision to protect the training for the people that we had in place.

That through several different weeks got transferred from a suggestion to being that that's what was required for that module to be in place to head up that type 3 team.

I as the state representative and several other from DNR that were there and from the other states CDF, Florida was there, Minnesota was there and so was Montana. When we left we were understanding that the IHOG was going to be a guide, a training guide. Well, what has happened from that time is the feds have taken it and made it policy. So that document then became policy.

From that decision, from that turning to policy it has started the downhill slide of all agencies on the amount of personnel required to manage the aircraft.

I'll speak tomorrow to the panel on how it affects the Department of Forestry but that started the downhill slide requiring a lot more people to do what we had put down as a guide would be suggested for specific missions. It became a blanket policy for all missions and irregardless of what the mission was. No longer was safety the primary concern driving the mission; the mission drove the safety.

JIM HALL: Do you have any comments on that? Yes, sir.

MR.: Yeah, the IHOG is a very good guide, it's an extremely good guide --

JIM HALL: But it's now policy.

MR.: But now it's been made policy and there are things in that guide that have been made policy that aren't as safe as could be, for instance, this closed circuit refueling. That's just one thing.

Part of the problem going back even further, I mean, we used to, you'd go attack a fire, you'd have an engine, a pumper, a helicopter, the smokejumpers on the way and you've got a ground crew or some sort of ground crew, type 2 crew or whatever on the way and you get there, you see it. Whoever gets there first, they assess it, they do what they think they have to do to get the fire put down, and then you're worried about where the fire was, whose property it was on and then you said, well, okay, that was a state fire and we're feds so it will work out in the long run.

Now you go out to do that and the first thing you've got to do is figure out where in the heck you are. And if you're a fed aircraft you've got to call the state to see if you can fight and it has to go through dispatch. So by the time they get back to you it's already grown two or three times and in the time that you've done that you could have put a bucket on an aircraft or had the smokejumpers come out of an airplane or an engine get to that fire and put it out. But instead nobody can touch it because they don't know where it is.

Now, there's an article in --

JIM HALL: And who put that place? There's no memorandum of understanding between the Forest Service and the state that says --

MR.: There is supposed to be.

JIM HALL: You all are going to talk about that tomorrow?

MR.: I could talk about that or I could answer that question that was asked earlier today about interagency agreements. Here in the Pacific Northwest we have the PNWCG, Pacific Northwest Wildfire Coordination Group that has all the firefighting agencies in it and it's how we're going to act together and we have a master agreement that dictates how we operate together.

Along with that, it basically says we're going to work together and we're going to accept each other's standards and those types of things.

There's also what goes with that is the operating plan for that master agreement and in there specifically it deals with aviation and in the aviation point because of the public aircraft issue and the investigation by the NTSB it depends on who becomes the operator of the aircraft, what type of policies they have to follow when they're fighting a fire, also so we're all agreed to that.

As far as taking action on the ground, each agency has authority under that agreement to take independent action on the lands of the other agencies if it's threatening your land. So we have that ability to do that.

We also have local agreements between the districts and the forest at the ground level as to closest forces concept. It doesn't matter what ground the fire is on; whoever gets that first will start managing the fire until we decide whose fire it is and then we'll move the management according to the agency.

So those agreements are in place.

JIM HALL: Well, then does everything have to follow the module then?

MR.: If you are on federal land and the federal government is the operator of the aircraft, federal policies apply. That means the IHOG applies, helicopter operations guide applies. That depends on who is the operator of the aircraft. If the state or Oregon is considered the operator of the aircraft and you answer that question by four questions: who ordered the aircraft, who is controlling the aircraft, who is paying for the aircraft, who is benefiting from the aircraft. Those four questions determine who the operator of the aircraft is. If the Oregon Department of Forestry is the operator of the aircraft, Oregon Department of Forestry policies and procedures apply to that.

So that's basically where we are. It's kind of who is the operator of that aircraft. We still have closest forces agreements between us and our other agency partners. In Oregon, in western Oregon the state forestry department under contract, fights fires on BLM land. So basically the state in western Oregon fights fire on all land that's not U.S. Forest Service land.

So anyway, long story short, those agreements are in place. If you are going to go attack fire on somebody else's land that's not independent action, you have to follow policies and procedures of that agency and their land.

MR.: One of the key things there is we have the right to cross on anybody else's land to fight fire but we do not have the right to bill.

MR.: To do what?

MR.: To bill.

MR.: Oh, I see.

MR.: So therefore we're picking up the cost. That is the key situation.

MR.: Does that include the Forest Service land?

MR.: Yes, that includes the Forest Service land.

MR.: So you can go there, initial attack it, but you can't bill them for it?

MR.: That's correct.

MR.: So it's coming out of your --

MR.: No, that's not true.

MR.: No, that's not true.

MR.: We can bill them for it, but if we're billing we have to operate under their policies and procedures.

MR.: And that means have a helicopter manager --

MR.: So you guys can't operate unless you have someone who's trained by the Forest Service to be a helicopter manager?

MR.: We cannot operate unless we have somebody, it doesn't matter what agency they work for, that are not federally qualified to meet that position.

My comments are back again I'll just say it, if we go over there and we fight the fire, we do not have those other standards in place, we take up the bill online.

MR.: (Attempt to set in action ?).

MR.: Attempt to set in action and the taxpayer of Oregon takes care of it.

JIM HALL: The state of Oregon?

MR.: The state of Oregon. But also the reverse is true. The federal agency --

JIM HALL: So there's no exclusion on the initial attack?

MR.: No, there is not.

JIM HALL: So in other words if you said the first attack or 12 hours or something like that whoever is there first you have an MOU and whoever's land it is pays?

MR.: That's -- yes.

JIM HALL: That kind of common sense doesn't work.

MR.: The initial attack is the first hour.

JIM HALL: The first hour.

MR.: The first hour, maybe two at the most. The first hour is that critical period of time that the fire is first ignited. But the letters of agreement, the memorandum of agreement --

JIM HALL: But how many fires can be dealt with in the first hour?

MR.: Pardon me?

JIM HALL: How many fires can be dealt with within the first hour on an initial attack?

MR.: It depends on where you are, it depends on --

MR.: The terrain.

MR.: Equipment.

(Cross talk.)

MR.: (Off mike) -- you could get about 50 percent of your class A fire in the first hour.

JIM HALL: So if you had an exclusion for just an hour, would that help or not or would you need more?

MR.: We'd need more.

JIM HALL: You would.

MR.: More is always better.

JIM HALL: And then we'd have to figure out what more is, right.

MR.: A couple of --

MR.: The problem is that when you -- it's very good that they have a memorandum of understanding but when I get out there and do the job the practice doesn't happen.

JIM HALL: But we're trying to follow the money so we can understand why things are happening. What you're saying is --

MR.: Yeah, I don't care who pays for it, to tell you the truth. I care that it's getting put out.

JIM HALL: I understand that.

MR.: A couple of things here is the IHOG is probably one of the best documents ever written. It has good information. It has stuff that we've been doing for years before it was ever written. It's stuff we do every day. We don't have a problem with that. It's how it's administered and how it went over. And the example I'd like to give you, if I may, is we're flying the contract aircraft for the state forestry. It comes with a state forestry qualified module. We go to that fire and it happens to be on Forest Service property, we have GPS, we find out right away, generally before anybody else does, then we can't take initial attack on that fire because we do not have a Forest Service qualified helicopter person on there. We need to fix that in some way.

In the meantime, we leave, we go over and put out a fire-acre fire on state land, come back and say do you still need us. Well, we don't have a helicopter manager there. That fire that I'm speaking of was less than the size of this desk right here. We could have put it out in ten minutes. When we had to leave it turned out to be 5,000 acres. That's where the risk analysis comes in. And that's the reason why this policy has to be set and changed is because that risk analysis is poor business. It's poor taxpayer business, it's poor management business and we need to fix it.

I don't think we ought to sit here and say that this side is wrong and that side is wrong; I think we ought to look at a solution on how to resolve that to make it easier to where we can do that.

MR.: Well, it's also a safety risk. I mean, a lot of you guys are all concerned with numbers and anybody that's concerned with numbers doesn't need to be a mathematician to figure out the more people you expose to a situation the higher the risk is going to be. If you have a fire as big as this table and you could put it out, but you elect not to, and now you've got a 5,000-acre fire with 300 people on it and five helicopters, your risk factor multiplies 100-fold. So if you're worried about safety, it's not just dollars and cents; it's a safety issue as well.

JIM HALL: But then if the National Guard is flying over they can't put it out either because they've got to have the governor telling them to do it.

MR.: That's right.

MR.: Well, one thing, Phil, just is there anything that prevents an ODF helicopter manager from also being a Forest Service?

MR.: No. But he'd have to have the qualifications regardless of what agency they work for.

MR.: So wouldn't it be beneficial for the agencies to have their managers trained?

MR.: They're working on it, but it takes a long time. The state forestry didn't even have a position written for many years.

MR.: That's why this fine panel is here again.

MR.: Could I clarify something here real quick, because I'm a little concerned? Whether it's state or whether it's federal land, no one is giving anybody authority to put out fires on land. The agency does not relinquish the responsibility to fight that fire to any helicopter operator. The state forester is still in control on that on private land, as the feds are. If a helicopter observes, they will call back to dispatch and they will be talking to dispatch. We are not advocating independent action, solo out there, a helicopter sees a fire, they're putting the fire out.

MR.: Absolutely.

MR.: That's not how the system works. The state forester is still in charge. He does not relinquish his legal responsibility to fight that fire. Neither does the federal agency.

MR.: I don't think we're asking for that responsibility.

MR.: (Inaudible) -- context of our contractual --

MR.: The breakdown is when it goes when you call it in and it has to go through all these channels before it finally comes back to you to say yes we need to take action on it, it takes forever, and it could go from a table sized fire to 5,000 acres. That's the breakdown. That's the breakdown. And we're not asking to go, hey, there's smoke, Dave, go get that or --

MR.: I mean, imagine if you're a city fire department that was like that.

MR.: We're not asking to do that.

MR.: Not only would your garage burn down, your whole neighborhood would burn down because everyone would be trying to figure out whose fire truck to bring to the fire.

JIM HALL: And that's happened in Tennessee.

MR.: And in Alabama.

MR.: And I have one more thing I'd like to talk about.

JIM HALL: We're not going to restrain you anyway.

MR.: Thank you. The gentleman who was from the tanker guy, he mentioned that flying he wasn't getting -- I mean, they'd start late in the day. All right, well, when we go on a state fire and it doesn't matter what state we're in, we go to a state fire, they want us to start flying in the morning and we do. The Oregon Department of Forestry is famous for it. When I said that they asked us what time we could start and what time we had to shut down and we say daylight and dark, they're tickled pink. And we start at daylight.

But with the United States Forest Service they're in meetings. They're in meetings till 10:00 or 11:00 and then the winds come up and then they run out and say you'd better get going because this blew over the line and that blew over the line and this blew over the line.

At 6:00 in the morning or 7:00 in the morning that fire is laying down real nice and the winds are straight and steady in one direction and you've got nice water drops and it's cool for the people to work in. That's a good time for us to work, but that's a time when everybody is sitting around. I mean, anybody in here could tell you.

So I charged \$19,256 a day plus \$2,414 an hour flight time. If I fly one hour that day I made a lot of money per hour. The government, we taxpayers have paid me \$24,000 to fly that one hour. Well, why not fly me eight hours, you're still going to pay - - I mean, you're not going to pay much more and you're going to get a heck of a lot more water for your money.

And a lot of times some the reasons why that is, is because, one, they're in their meetings and you can't fly when you're in meetings. The administration can't delegate somebody to fly while they're in meetings. I don't know why that is. But another reason is they've got a 337 or some fixed wing up there flying around, looking at the fire and he'll tell you what the visibility is. Well, some of you guys up here who are pilots, you know, slant range visibility on fixed wing, or fly helicopters with down vertical reference work and we're down low and you are easily below the smoke and when you get the sun coming up in the morning and it's up to about here and that visibility really looks bad from 3,000 or 4,000 feet AGL, but when you're down on the ground we've got all kinds of visibility. But the decision is made from up there and that's a real, real problem.

So I want to start fighting the fire early in the morning, I don't want to burn up daylight and waste it. They build us nice little lean-tos out of sunshade, lean-tos, plenty of water, you sit around all day long, but we should be flying. That's what we get paid for. That's what we want to do and we want to put the fire out. So that's something that I don't agree with.

AL HYDE: Mark, if I could interrupt you, first off the media has decided to come in, which is just fine, but you were invited to a regional town meeting and you need to make a choice as to whether you want to -- we've got about half an hour left. I propose we take about a five minute break and those who want to continue the discussion the panel is here and will do so and those that want to get on can do what they need to do.

MR.: I think the panel would like to hear everything they can possibly hear.

AL HYDE: They plan on it. Just the context has changed slightly and we'll take a five-minute break.

(Break.)

AL HYDE: We'll go back through a few more comments. I know that you had something you wanted to talk about. I want to throw that on the table with just a clarification point and then the last thing I want to do in this session, assuming the panel doesn't have too many more questions, is I would like to kind of go around and get from each of you, if you will, your highest priority issue that you hope the panel will tackle in its findings report as a way of sort of bringing it all together at the end. So I'll just stand and go around and rephrase the question about what you consider to be the most significant issue that you want to make sure that you would like, you'd be very disappointed if the panel didn't address it in its report.

MR.: I just wanted to offer up, I've already made my points, but I'm not sure if you'd like some more clarification on vertical reference. You might be familiar with that and then nothing is required.

JIM HALL: I would like more explanation of vertical reference.

MR.: Okay, that's a term we use a lot and basically it involves looking directly at what you're doing. These pilots fly leaning out a bubble window and look directly at the water bucket or the load and place it, whether it's in a retardant tank or a dip site and the same thing for applying the retardant or the water. It's vertical reference in that you're looking directly at your load.

The thing between the Guard, the difference between the Guard and what we do is they cannot lean out. I flew Chinooks in the military and the flight engineer lays on the floor and looks down through the hole and says down five, right five, forward five. When you have a long line on, that doesn't work because of the delay. This is a highly

skilled thing and you need to be looking at what you're doing. That's the primary difference between a military approach to firefighting and the private sector vertical reference.

MR.: I understood them to say they don't use a long line.

MR.: They use some long lines. They do use long line, but the pilots cannot see the bucket.

MR.: Just because their aircraft aren't modified that way?

MR.: They're not trained or modified to fly vertical reference and that's what it solely means is that you have direct visual operational control of your load.

MR.: And it's more than a four-hour training course.

MR.: Oh, yeah.

MR.: So you want us to find that the federal government should spend the money to retrofit the National Guard helicopters to vertical reference and get them training?

MR.: Actually, I could tell you the military would benefit mightily if they had the skill to do that in their day-to-day operations, but anyhow I just wanted to explain the difference because this term is going to come up a lot. Whether it's a cargo flying type 2 or a type 3 or one of the type 1 helicopters, that's the primary difference. Some of them are vertical reference and some of them are flying sitting up using mirrors or having someone talk to them and tell them what's going on.

MR.: Do you know if this has any significance on flat land versus mountain? We use them extensively in Texas, particularly in '98, 2000, 2001 when all of the aerial resources of the nation were out here and the National Guard is all we could get, and extremely effective, extremely accurate but obviously it's a tad flatter than it is out here.

MR.: The productivity is probably 50 percent.

MR.: You're correct in the scenario in that you can fly down a grass fire line and lay a high-speed run and make a lot of wet line and there are some excellent pilots at that, that can hit just about everything. But when you're out on these fires trying to get retardant out of a 5,000-gallon tank it's a whole other matter, or if you're reinforcing something or working close support with the ground troops. Then you can see them, the pilot can see the ground troops and the load. And in the other case you're relying on another set of eyes and there's the delay to the reaction. It's kind of like someone walking you through town or stores somewhere.

JIM HALL: Well, now, who do you all dialogue with, with the Forest Service in Oregon?

MR.: Radio.

MR.: How do we talk to them you mean?

JIM HALL: Yeah, I mean --

MR.: We have two-way radio communications.

JIM HALL: No, I'm talking about in terms of the contract, but just day-to-day talking through problems and why they're doing operational things, et cetera.

MR.: You know, I think one of the big points that comes out of the Forest Service --

JIM HALL: Because I'd like to hear the Forest Service's input on this too, because I mean we've got to have some dialogue and I'm trying to ask how do you all dialogue together.

MR.: That's one of the key areas we're looking for.

MR.: This is how we do it right here. We have to call you folks in to --

MR.: Or the radio station or --

MR.: Well, I think one of the key points with the Forest Service and it was brought up earlier is the fact that the Forest Service is more of a decentralized agency. We work a lot with the Office of Aircraft Services and a lot with the U.S. Forest Service and region 6 is its entity, region 5 is its entity, you know, all the different regions are their own entity and the aircraft contracts are based on one contract but they're not exactly that contract and they're not implemented the same way. Each region I think has some of their own little idiosyncrasies and when you have problems that you want to deal with, aviation-wise, it's different from region to region.

Now, it's a little bit different for the type 1 and type 2 operators because I think they're a little bit more centralized in terms of just aviation firefighting, but in terms of a lot of other activities I think the fact that the Forest Service is more decentralized I think it creates much more of a problem in terms of general policy.

JIM HALL: But you have a contract with the Forest Service?

MR.: Yes, we do.

JIM HALL: And it's how many years?

MR.: It's three year, Call When Needed is a three-year contract.

JIM HALL: And at the end of a fire season do you sit down with the Forest Service and --

MR.: At the end of three years when that contract expires the Forest Service aviation contracting officer sends out a solicitation basically to all the people who have had CWN contracts in the past.

JIM HALL: But you don't sit down at any --

MR.: No. They'll even implement new rules that we're just now finishing the first year of a new three-year contract and there is a new rule that came out this next three years, you've heard about this 2.5-hour shutdown and they never asked anyone or somebody in a cubicle in Washington, DC, we don't know where it came from. And I've called two different --

JIM HALL: Explain that to me. What's the 2.5-hour break?

MR.: They're saying that if you're closed circuit refueling or some people call it hot refueling, you're only allowed to operate the aircraft for 2.5 hours continuously and then you have to shut the aircraft down.

Now, you can call the national helicopter program manager and he'll tell you that it's a maintenance issue, they want you to be looking at the aircraft. You can call contracting and they'll tell you that it's a safety issue, they want the pilots to take a break. I mean, within their own agency they don't even know why they put it in there. And they never asked us who obviously consider us the experts because they contract us every three years to perform this work, you know, is this something that would help or hurt. We don't have any input.

JIM HALL: Who is the contracting officer on your contract?

MR.: His name is Frank Gomez.

JIM HALL: And he's in where, Boise?

MR.: Boise.

JIM HALL: And do you interact with him at all?

MR.: I do after I read these things in the contract and say why did you put it in there and write him letters trying to change it, but we don't get any input in the evolution of the contract.

JIM HALL: No, ongoing dialogue.

MR.: No, sir.

JIM HALL: Well, that's essentially a change order to the contract?

MR.: No, it's just I mean every three years they rewrite the contract. They are saying we get a new solicitation, basically a new contract that says here's what we want you guys to do, fill out all the specifications and if you want to join, join, if you don't, don't sign, but this is what we want you to do and there's no input from the operators or what we consider ourselves as experts in this field as input to any changes that are made. And then we even took time out of our schedules, three of the heavy type 1 operators, we flew to Boise and had a meeting with the contracting officer, because we wanted to see some changes in the new contract. And we expressed some of the ideas that we had and they nodded their heads and that didn't happen. Nothing that we really expressed to them ever came to fruition. So even if we have a dialogue sometimes it's just as useful as me going into the men's room and talking to the wall. It doesn't do anything. And then we'll get totally new rules in the contract that we don't know where they came from and even their own agency doesn't know why they're in there.

MR.: One thing we've heard from the Forest Service is if anything works in the firefighting business it's the helicopter operations. Would you agree with that? It didn't sound like you would agree with all of it anyway.

MR.: Well, I think -- I mean, I don't know if I'm speaking for everybody, but I mean we obviously think it works and we think it's important enough obviously for us to come here and express some of the concerns we have. And I think all we want to do is fine tune it and hone it to try to maintain the same safety level but maybe do it a little more cost effectively and try to keep from burning 5.9 million acres and keep the costs from the taxpayers of fighting these fires and the risk of having all these people out in the woods. I mean, I think that's why we're here today is because we do think it works and we want to help it work better.

MR.: For the helicopter contract, do they tell you what they want done or do they tell you how to do it as well?

MR.: Yeah, they put out a specification that says for a type 1 helicopter at a certain altitude and a certain temperature you have to be able to carry a certain payload and you have to be able to prove that with performance data from your flight manuals and then throughout the contract it will specify everything that you need to do or I need to do to be able to perform within the guidelines of that contract, the clothing I need to wear, how many hours I can work in a day, the minimum hourly requirements that every pilot has to have in order to be engaged in that contract and it's pretty all encompassing. It doesn't leave much to think about. And we can get you a copy of that contract.

MR.: This 2.5-hour rule, while it makes sense, maybe if you're a single pilot with a heavy workload in your aircraft, it may make more sense than a dual piloted aircraft. We operate dual pilot aircraft. Frequently a duty day for our pilot is only six hours and

there's two of them in there. We can come in and refuel and get out, walk around, refresh, rehydrate, climb back in and go again, but we're currently, depending on the situation, sometimes they forget about it, we're required to shut this aircraft down and it's not cheap to shut down these large helicopters and restart them, let alone to mention the utilization of the thing. This takes out quite a bit of available time over the fire.

So all we would ask is that they recognize the difference between the different aircraft configurations. We feel that the shutdown should be based on an operational maintenance scheduling rather than a perceived notion of rest that's equal across the board for all operators.

MR.: And they also put in a requirement, you know, I was telling you they'd tell you we have to be able at a certain temperature and altitude we have to be able to carry a certain payload. Well, they also give us some other parameters, which is the amount of fuel we have to carry. So when we're doing these computations we have to figure an hour and a half worth of fuel.

And like I told you guys, I'm not a mathematician. I need a calculator for everything. But I can't ever get an hour and a half to fit into 2.5. If I do 1.5 hours and the go out and try to another 1.5 hours, every time I do the math I come up with three hours and they're telling me at 2.5 hours and it doesn't even jive with what they're telling me I have to do as a minimum requirement to meet the contract.

And like Mr. Allen was saying, that one rule doesn't conform to the maintenance requirements of every aircraft. It doesn't form to the operators that are already using two command pilots or two pilots that are changing seats every fuel cycle. So it's a rule that we don't know why it's there and it doesn't fit every operator.

MR.: And let me add something about that. This past year on I can't remember the fire, it was one that Captain Pratt was on it. It was one of the ones and Columbia Helicopters was there, Erickson was there and we were there and we were holding off a fire, we were holding a line that was moving into a subdivision. Our aircraft had quite a bit of fuel on it. Columbia Helicopters' aircraft was getting low on fuel and the Crane, the S-64 had quite a bit of fuel in it. The helicopter manager called and she said to Captain Pratt, it's time for you to come in for your maintenance break, coffee break, what I call a coffee break. It's time for you to come in for your break. And he radioed back and he said, well, look, I've got plenty of fuel on board and if I leave now, CH is going to have to leave here in a few minutes and that's going to leave Crane out here by itself. And they were doing a pretty good job of holding this line and keeping the fire from coming into the subdivision. She said you come back or you're in breach and, of course, Captain Pratt went back and if he hadn't have I'd have probably canned him, because we don't want to lose the contract.

Well, right after he landed, CH, the birddog came in and landed and that left the crane out there by itself.

Now, when you think about this it isn't a real big deal but except they're about a half hour from the helibase. So they've got to fly a half hour back to the helibase, land the aircraft, cool the engines, shut it down. You've got to walk around, you've got to wait until those engines cool sufficiently before you can restart them, restart it and then fly back out there. So you've got an hour, you've got 45 minutes or an hour that you've been away from that line to come back in for this mandatory break, which was unnecessary. I want to remind you that we fly eight to ten hours a day, seven days a week, and all our pilots in these groups work two weeks on and two weeks off. So they're used to flying this stuff. We move two million pounds of material a day per aircraft day in and day out logging.

And so when they returned, the Crane was gone and so was the subdivision. The subdivision was burned and gone, the Crane was on another spot and air attack sent the aircrafts someplace out. Now, that is crazy. It's not just bad utilization, it's absolutely insane.

And that's where this whole thing got started and that has been rectified somewhat. They sent us a letter and told us -- and it was a very condescending letter -- but it told us that with our Solomon like advices and stuff we might be able to help them out, the Forest Service.

But I want to say something back where I said earlier that there is a solution to this, especially with the type 1 helicopters, and that is we've got to clean this mess up. We've got to clean the forests up. We're all in agreement with that. The president says that there's 190 million acres of ground that is highly likely to catch on fire. We can use this, we can be doing that nine months out of the year or eight months out of the year with the type 1 helicopters and then other helicopters, the mechanized means, keeping those aircraft busy, keeping the crews current, keeping them safe and flying and then when you need the aircraft go put out the fire and come right back to what you're doing and you're killing two birds with one stone -- the aircraft are always busy, they're there available when you need them, you can have working circles all over the place in these areas that are of high risk and it's a win-win situation, it's a win for the government and it's a win for the taxpayer, it's a win for everything.

MR.: And it's also safety, and I'd like to quote something from the USDA Web site that 83 percent of all firefighters -- of all firefighters identified fuels reduction as the single-most important factor in improving their safety on the fire line, so while the firefighters are out there they have 83 percent of them have identified that there's too much fuel on the forest floor. So if we reduce the fuel, that would increase their safety. So not only like Mr. Lindimud says, they're going to keep everyone current and busy and be killing two birds with one stone, it's also we're not going to stop fires, fires are going to happen, but they're going to increase for health and safety margin for the guys that are on the ground actually putting the fire out. And that's a survey that was done by the Forest Service. That's on the USDA Web site. So you don't have to take our word for it. Those are the government officials out there telling us, telling you, telling everyone that this is what we need to help us out.

MR.: Do you do any logging on federal lands?

MR.: Yes, sir.

MR.: Oh, yes.

MR.: Are there any similarities between the contracts for helicopters on that and fire?

MR.: Oh, on that and fires? No, no.

MR.: Two and a half hours?

MR.: No, they don't regulate us. We don't have to have a manager or any of that kind of stuff. We log it every day.

MR.: And in 1996 --

JIM HALL: Who's your contract with for logging?

MR.: Well, it depends. Sometimes we contract directly with the mill, sometimes we buy the timber sale from the federal government or the state government or private land owners.

JIM HALL: So you're not working for the government in that capacity?

MR.: You could be.

MR.: You could be, oh yeah. We work directly for the government. We also do fish habitat replacement, ridge replacement.

JIM HALL: What agency do you contract with for the logging?

MR.: That depends if it's BLM or BIA or USSF or state. It depends.

MR.: It could be private.

MR.: Private or we work directly for mill and they hold the contract.

MR.: I was just going to give one more little tip here. In 1996 federal officials identified Squire Peak in southern Oregon as an extremely high-risk area that needed to be logged and they identified 24,000 acres of area to be logged. After six years, two lawsuits and countless appeals from environmentalist groups and the like, they finally allotted 430 acres to be logged. On July 13th of this year lightning struck the Squire Peak area and a fire burned 2,800 acres. The fire burned below and above this thinned 480

acres. And there are pictures on the USDA Web site that show the un-thinned area and the thinned area on the Squire Peak, night and day, absolutely night and day. The cost of fighting that fire was \$2 million. The cost for rehab is a million dollars. There's \$3 million and that problem was identified six years ago.

So I mean that proves that cleaning the understory, cleaning the forest, good forest management not only is going to provide jobs, keep your firefighting crews and your helicopters current, busy, it's also going to reduce the hazard of fires that we're not going to see fires like we're seeing now.

AL HYDE: We're about out of time. Earl, do you want to do one last question for the group?

EARL MCKINNEY: Promise? Is there accident rate information available for your logging experience? You use the same equipment, the same area but you do a different mission for different organizations. Accident rate comparison available?

MR.: There's information available. I can't direct you to the exact place to find it. Probably the NTSB Web site.

EARL MCKINNEY: Because I heard this morning that logging is riskier. Does that mean it's more dangerous?

MR.: It's a totally different environment from what we do and it's not because -- I know where you're going with this because we don't have helicopter managers and we don't have all the infrastructure in place -- I can see it in your eyes. The environment that we work in is a lot more hostile environment and the repetition and the cycles that the aircraft go through are a lot more intense than during firefighting. So it's comparing apples to oranges you're comparing logging to firefighting.

EARL MCKINNEY: We have a hard enough time trying to compare accident rates in fire suppression with general aviation or any other sort of community.

JIM HALL: There are quite a few logging accidents.

MR.: But helicopter logging is extremely safe if you use two pilots and two engines, and the same with fires, two pilots and two engines. It really makes a huge difference.

JIM HALL: Okay.

AL HYDE: And as a way of wrapping up, I'd ask you each to sort of give the issue you think the panel should be wrestling with, without a comment as to what your answer is since we've heard lots of answers and lots of suggestions from you all day.

MR.: Well, what I think the most important is, is that I would like to see you address the fact that the Forest Service, because of all the great --

(Audio break, Portland 4 to Portland 5.)

MR.: (In progress) -- have that equal standard. I've got more firefighting experience than probably anybody in this room. I don't qualify to be a crew boss for the Forest Service. We need to recognize that there are other experts and there are other capabilities and if we could recognize that and then draw it together to where we can deal with these fires in a timely manner and I think that would be beneficial to everybody. I certainly think that we shouldn't ought to start drawing sides with the Forest Service here and we're here. I don't think that's going to resolve anything. Thank you.

MR.: I would just simply say, similar to Bob, review and reevaluation of a lot of the Forest Service self-imposed regulations and just leave it at that.

MR.: I finally get to read from my prepared material and it's a short sentence. Many of these issues are easily dealt with and might be avoided altogether if the operators had a greater input during the contract writing and the subsequent revision writing process.

(Cross talk.)

MR.: I want them to deal primarily with giving the managers the ability to manage at least the type 1 managers at least a dozen aircraft and that we put the emphasis on cleaning the forest and suppressing fires at the same time and I'd like to back up what Mr. Allen said and I would like to see the panel -- I don't know how to put it more politely than be the bunker buster to get into the contracting writing process and the revision process. We absolutely have no say or even review of what's going on.

AL HYDE: Thank you all for coming. It's been very illuminating and you've been very patient and we appreciate very much your input. Don't forget, if you still want to provide other materials you can either give them directly to me or you can send them to the address in Salt Lake for the public comment record. The transcript of this, as I indicated, would be probably available in a couple of weeks and if you want a copy of that, because you were here and participated, we'd be more than glad to provide you with it. So you have my address.

And you're now about to embark on the really dangerous portion of the day, which is driving home in Portland traffic. Buckle up, be careful and go home.

[END OF PANEL.]