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TRANSCRIPT OF CLIENT TAPE:
SACRAMENTO PANEL

MAIN PANEL:

JIM HALL
JIM HULL
KEN JOHNSON
EARL McKINNEY
BILL SCOTT
AL HYDE [MODERATOR]

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AL HYDE: INTRODUCTIONS

BILL SCOTT: (In progress) -- Mission Week, Space Technology Magazine, and my background is, I am an engineer by training. I spent about 12 years testing airplanes as a flight test engineer. Ex Air Force officer, and I've been writing for the magazine for about 18 years, doing aircraft evaluations and all kinds of – (inaudible) -- stories. And my motivation for being part of this panel -- I'm real proud to be able to serve here -- is really concerned about the accidents we had and I want to make sure we prevent that sort of thing in the future if at all possible.

KEN JOHNSON: Morning, I'm Ken Johnson, and you can probably tell by the northern accent that I am the Canadian on the panel, probably some sort of by-product of the North American Free Trade Agreement. But I'm very pleased that I was asked to take part in this, and I hope I'm bringing the perspective of a friendly neighbor to the deliberations of the panel. I started as an Air Force pilot, and then I went to the Department of Transport and flew the navigation calibration airplane for a few years. I operated the airports in British Columbia, they were at that time federally operated, and then I went to the Canadian counterpart of the Transportation Safety Board and I spent approximately 20 years there. That pretty much wraps up the background.

JIM HALL: My name is Jim Hall, I'm currently serving as co-chairman of this Blue Ribbon Panel. My counterpart, Jim Hull, who is the state forester from Texas, had a speech presentation to make in Reno, Nevada, either last evening or this morning, and Jim -- you see an empty seat and a nametag -- will be joining us at some time during our proceedings. So if you see someone else slip in and take a seat, that's who it is. I am an attorney by training, my career includes service in the United States Army, in addition I worked six years on the Senate staffs in Capitol Hill, six years as chief of staff to the governor of the state of Tennessee, and seven years as chairman and member of the National Transportation Safety Board.

I was honored to be asked to work on this most important project. This is now our sixth hearing. I'm confident that we have heard most of the problems, so we're looking forward to you all providing all the solutions here in Sacramento.

EARL McKINNEY: Morning, my name is Earl McKinney, I'm on the faculty at Bowling Green State University in Ohio which I think has the distinction of having no forest fires in the last 120 years, or something along those lines. My background is in aviation in the Air Force, I was a fighter pilot and a training pilot for 20 years, flew F4s and T-37s and T-38s. I think I was asked to be a member of this panel because I've done a number of studies in CRM and crew behavior and risk management and assessment sorts of training options. And, looking forward to hearing the testimony today.

AL HYDE: With that, we'll begin with Neptune.

JIM HALL: We welcome the panel, and we appreciate very much of your attendance and we look forward to hearing from everyone in the audience that has a desire to participate.

MARK TIMMONS: Thank you. My name is Mark Timmons, and I'm the chief operating officer for Neptune.

KRISTEN SCHLOEMER: My name is Kristen Schloemer, I'm the vice president of Neptune Aviation.

BOB WOFFORD: And my name's Bob Wofford, I fly the line for Neptune, I also do the training.

MARK TIMMONS: I don't know what all you know about Neptune. If you'd like I could give you a quick overview of what Neptune is and operates.

JIM HALL: I think that would be helpful to the panel, as well as those people who are listening.

MARK TIMMONS: All right, we've been in business for nine years now, we required the assets of Black Hills Aviation in 1993. We own 16 Lockheed Neptune P2V-5's and 7's. Eight of those are operational, eight of those are in mothballs at the moment. We have two fully functional maintenance bases, one in Missoula, Montana, one in Alma Gordo, New Mexico. And both of those repair stations are fully certified repair stations. All aircraft are maintained using the full U.S. Navy phased inspection program and all of our equipment exceed 125 standards.

Our equipment operates under a restricted type certificate, under FAR part 121, section 21-25. They're specialized fire-fighting aircraft. We use aircraft tested by the U.S. Forest Service as fire fighting equipment, and we're certified as such, so we have actually been certified and tested and evaluated as fire fighting aircraft. And we're the only airframe that has them. Most of our airframes have between 4,000 and 8,000 hours on them, and they were built in the mid-1950s and early 1960s. Any of the aircraft that go from mothball status to full time status go through a two to three year depot level maintenance inspection program.

They're basically all re-wired, re-plumbed, completely evaluated, stripped, things that need to be replaced are replaced. The cost is between $600,000 and $1.2 million to retrofit one of the mothballed P2Vs in our fleet to go to active status. Tanker 44, which is our most recent airplane, total cost was $1.4 million to get it operational. It's a P2V-5, that does not include the tank. We have about 75 total employees at this current time.

EARL McKINNEY: Mark, can I ask -- you mentioned that this is the only aircraft that has been tested -- I just wanted to make sure you got the right term -- tested by the Forest Service?

MARK TIMMONS: Yeah, the P2V-5, the Forest Service holds a type certificate on it, and when that airplane came in, they had an engineering -- and I'm not sure of the engineering firm -- but that airplane was evaluated as a fire-fighting aircraft.

JIM HALL: Do you know who at the Forest Service, so we could get the written documentation of that?

MARK TIMMONS: Should be able to.

JIM HALL: No, who did you deal with the Forest Service, who could you refer us to?

MARK TIMMONS: I can pull some of that information out of our files, and then I would go to Paul Markowitz. Part of the problem with the U.S. Forest Service, as you go through a lot of their stuff, a lot of their testing and a lot of their information was done a number of years ago, and the people that were involved in it are no longer in the industry, so it's always a challenge.

JIM HALL: Well, you made the statement that it was tested and evaluated, and what my request is, we'd like to have written documentation of that.

MARK TIMMONS: Okay, no problem.

JIM HALL: So if you could provide that to the panel, we'd appreciate it. How did you all acquire these aircraft?

MARK TIMMONS: Well, we bought these aircraft.

JIM HALL: Who from?

MARK TIMMONS: Some of the airframes were bought from Black Hills Aviation, who was the operator prior to us, at a cost of $4.2 million.

JIM HALL: Were they being used for --

MARK TIMMONS: They were being used for fire fighting at that time.

EARL McKINNEY: Okay. When the testing was done, was that after you bought them or not?

MARK TIMMONS: No, this was done before us. Our type certificate actually lists us as a fire-fighting aircraft; it doesn't list us as anything else. We don't have a type

certificate for the dash-7s, and then the dash-5, of course, is held by the U.S. Border Service. It's a government-held type certificate.

EARL McKINNEY: And the type certificate is, you say, a restricted category, which is an operations category --

MARK TIMMONS: Restricted category. Specialized fire-fighting aircraft.

EARL McKINNEY: And does it stipulate that you will maintain them in accordance with the ex-military program or --

MARK TIMMONS: No, it does not. That was our decision. We felt that the aircraft were designed to be maintained in a certain manner, and therefore they should be maintained in a certain manner. It's the only safe way to do it.

JIM HALL: You purchased these airplanes?

MARK TIMMONS: Yes.

JIM HALL: And you had a contract of purchase?

MARK TIMMONS: Yes.

JIM HALL: And did it refer to the fact that these were certified, tested and evaluated by the Forest Service in the contract?

MARK TIMMONS: I'm going to have to look and see whether that was in the contract or not.

JIM HALL: Okay. And they would have transferred then the documentation to you to back that up?

MARK TIMMONS: Yes. They've transferred most of the documentation to us at the sale.

JIM HALL: Well, the board will be very interested in that, because as you know, the FAA certification really doesn't require any specific testing of these aircraft for the mission they're supposed to perform.

MARK TIMMONS: Yeah. Well, the U.S. Forest Service, when they were evaluating airframes, and the year escapes me, I'm sorry --

MR: (Off mike.)

MARK TIMMONS: Okay, so 1972. When they were evaluating potential airframes as fire-fighting equipment, they specifically required a number of P2V-5s and operated them and evaluated them and tested them.

JIM HALL: Well, that's --

MARK TIMMONS: At that point --

JIM HALL: That's the first we've heard of that, so we'd be very, very interested in that. We are aware of a NASA study on the DC-6 that was done around that same timeframe that indicated that because of the use of the aircraft that there was a potential that the structural life of the aircraft would be shortened. So we'd be very interested in seeing whatever you have from the Forest Service on that.

MARK TIMMONS: Okay. The majority of the data will be with the Forest Service. They actually operated the dash-5.

JIM HALL: I understand. But I believe you were the one that --

MARK TIMMONS: Yeah, I am.

JIM HALL: You were the gentleman who made the statement they were certified, tested and evaluated.

MARK TIMMONS: Right. And I have no problem with that.

JIM HALL: The Forest Service representatives have not made that statement to us.

MARK TIMMONS: Okay.

BILL SCOTT: I would like to ask about the latest experience you had with P2Vs. We heard Neptune had some I think it was wing cracking or at least some structure cracking this year. Could you give us an idea what goes on there? We heard from the Aerostructures guys a couple of weeks ago. I believe you brought them in if I am not mistaken.

MARK TIMMONS: They did some of the evaluating on it, yes.

BILL SCOTT: Could you give us a rundown on what happened there and what you've learned and what you're doing about it?

MARK TIMMONS: Well, we had some advantages because we are actually looking at turbinizing this, so we've been talking with Lockheed for two years and actually have been doing the engineering and acquired all the production data on the Lockheed and engineering data in the last two years.

Lockheed, I'll start with where the cracking occurred. The cracking occurred underneath the wing in access panels between the fuselage and the 3350. Lockheed, when they built the aircraft, identified that area as a potential problem for cracking. And in fact, surprise, they were right. There was cracking throughout its entire Navy career, and we're talking fairly small cracks, but that's where the cracking starts, in those access panels. That skin is the structural part of the aircraft.

In an attempt to rectify that problem, the U.S. Navy, not Lockheed, put an internal doubler inside the wing around those access panels in 1959. In fact, you don't even find this doubler in the structural repair manual. It's referenced -- first time you find a reference is in a rough drawing in 1959. Lockheed disavows all knowledge of it because they did not put it in the airplane.

The doubler was really primarily designed as a stopgap method to prevent the cracking before the P3s came online. It's not very well machined, it's not very well built. It's built of riddled material. We have airplanes that are mothballed that have 10 hours of flight time on them since coming out of depot level maintenance by the Navy with cracked doublers, the doublers have already cracked. What happens when the doubler cracks is now you've got an internal structure within the wing that is also flexing and it's putting more stress on the skin and it's actually causing cracks internally as well as externally, because we are also getting cracks internally within the wing, due to the structure problems of that doubler flexing.

That's basically the history of where this cracking came from. It's not a recent occurrence but it's been a long-term occurrence with this aircraft. We have with our engineers designed a fix, which is to cut the cracks out. Any part of the skin that's cracked is cut out. It's replaced with a new material. An external doubler is put over the top of that and then internally we have gone in and replaced that internal doubler with a more rigid doubler of modern material so it's not brittle.

That's where we're at in terms of getting the airplane actually fixed. In order to do one airplane it takes six men four weeks has been the process per airframe in order to go back and do this. Long-term wise, we intend hopefully to have this identified as a permanent fix and we will then x-ray the aircraft or eddy current the aircraft, depending upon whichever way the engineers in the FAA wish. The first year, to make sure there's no more cracks developing underneath these external patches that have been put on.

And then if there are none, we will go to every two years, and then if there's none there we'll go to every three years and if there's none there we'll probably stay at every three years for that service.

EARL McKINNEY: Mark, can I get your opinion on some testimony that we received from some engineers that claim that there's a fairly strong claim, I think, no engineering basis to assume continued safety of any of these type aircraft?

MARK TIMMONS: Well, see, I would disagree, although I'm not an engineer by training. These aircraft have had a long, special -- and I can only testify to the Neptune, okay, because that's all I have familiarity with, direct familiarity. I can offer opinions on other airframes, but they are opinions. You know, the Neptune has had a long operational history. It has had no catastrophic structural failure in its entire history, both with the Navy as well as outside of the Navy.

I think like -- I think with all of us, as we're aging, as we age we require increased inspection and increased attention to maintenance in order to maintain those safety factors. There are things that you can do that will increase safety in the airframes and operationally. Landing loaded is not a good idea; that's a requirement. Quite often that's not necessarily a positive -- or does not necessarily give a positive effect on the structure of an aircraft. Sitting loaded at a base for three weeks with 2,500 gallons of retardant in the airplane, that's not necessarily a good thing for an older aircraft. There are things that you can do to enhance, but to make the statement that none of these aircraft are safe any longer I think is incorrect.

JIM HALL: No, I don't believe that was the statement he made.

MARK TIMMONS: Okay then.

EARL McKINNEY: There's no engineering basis to assume the safety, and I think the things that they claim is that there just wasn't enough engineering done at the time the aircraft were built, nor is there sufficient maintenance history of how the airplanes were maintained in their first 10 to 15 years. There's no way to anticipate how the current environment of flying these airplanes is affecting these structures that were not designed to the same sorts of standards that airplanes built today are built under. So it just strikes me -- I don't know other people on the board, that it's just sort of a ticking bomb out there that maybe we could, you know, wind the clock every once in a while, but I'm afraid at some point -- I don't understand how to preclude it from going off.

MARK TIMMONS: Well, you can start by actually doing maintenance items that they're not required in the contract. One thing that would be really helpful is that if you had an air tanker contract you're actually required to have a repair station. Maybe these aircraft should not be maintained Part 91, maybe they should be maintained Part 125. If you do those two right there, that'll help enhance safety in these aircraft, right now. When I first came into the industry I was completely shocked -- number one that you didn't have it in every repair station and number two that you didn't really have to follow the manufacturer's recommended maintenance which corrects military craft in my mind was the military maintenance program. Granted I don't need to maintain a MAD (ph) system on it, and I don't need to maintain military equipment but --

JIM HALL: Go ahead. I'll wait until you finish.

MARK TIMMONS: I was shocked when that occurred and I'm sitting there going, well, this makes absolutely no sense. I could get away maintaining my 80,000-

pound Neptunes less than what I'd have to maintain my Part 135 King Airs and the maintenance programs are, of course, approved by the government. At the same time that made no sense to me. I mean, you could do those two items right there and that would help a lot.

BILL SCOTT: And Part 125 -- could you clarify --

MARK TIMMONS: Part 125 is heavy aircraft. Unscheduled freight falls into Part 125.

EARL McKINNEY: Mark, can you -- I just haven't heard the phrase "repair station" before. What does that imply? Is that home maintenance or --

MARK TIMMONS: No. It's a certified FAA repair station and you go through a whole a number of procedures in order to get this and you are evaluated by the FAA on a constant basis that you have the proper equipment to maintain aircraft for contract.

EARL McKINNEY: Thanks. That helps. Can I ask a different sort of question to you? You mentioned $1.2 million to $1.4 million to bring one of these airplanes out of mothballs, what's your ROI on that? Wouldn't you anticipate that to pay itself off?

MARK TIMMONS: Now, that's a good question. We have had, financially, prior to this last contract, we have generated enough income to maintain our equipment, train our people well, retro-fit our equipment, do the things that we need to do in that respect. What we have not been able to do is honor our loans. Basically we're at the point where we service our loans on interest payments only. We're not dropping the capital. So it's, financially, you could ask the same question why am I in this business? My wife would say I have brain damage.

EARL McKINNEY: That was my next question. (Laughter.) Not exactly that way. Are you in other businesses? Sorry for not knowing Neptune, but there are other contractors who are also doing agricultural work or other sorts of things. Does Neptune do anything --

MARK TIMMONS: Neptune is just a fire-fighting operation and I also own an FBO called North Star Air Express that does charter work and we separated the two.

JIM HALL: Did you participate in these meetings that the industry had recently? The air tanker industry. Are you a member of that association?

MARK TIMMONS: The one in Phoenix?

JIM HALL: I guess they were.

MR. : Phoenix.

MARK TIMMONS: Yes. Yes, I did.

JIM HALL: Did you bring up these two ideas that you just mentioned which seemed to me pretty good ideas and do you know whether the industry's going to adopt those or push them?

MARK TIMMONS: I have brought those items up in the past and the industry has not supported them. There are some people that don't want repair stations and the work that goes along with it.

JIM HALL: What about changing from Part 91 to 125?

MARK TIMMONS: I have not brought that up.

KEN JOHNSON: Could I back you up a little bit?

MARK TIMMONS: Sure can.

KEN JOHNSON: When you spoke about the testing and evaluation of the P2V that was done by the U.S. Forest Service, was that for operational suitability or to determine maintenance and inspections schedules in line with the different mission profile or just what was the nature of it?

MARK TIMMONS: The data that I have seen from those tests were that they evaluated the aircraft in a mission profile. That they are evaluating tankers to go to and I'm not sure the number of years the Forest Service ran their own tankers but they actually operated the Neptune as a tanker.

BOB WOFFORD: I believe Bill Rosenbaum (sp) actually operated it for the Forest Service. The airplane is owned by the Forest Service. Bill Rosenbaum banked it and operated it, and I believe they even carried 3,000 gallons for a while. And I can't tell you how long, it was approximately 1972-1973, in that era.

KEN JOHNSON: I still don't understand. Was the evaluation then primarily for operational effectiveness or did it bring into consideration the possible different maintenance and inspection requirements within that new mission profile?

MARK TIMMONS: I have not seen the maintenance information. I've asked for that.

BILL SCOTT: Was there instrumentation to document the environment you --

MARK TIMMONS: It was -- supposedly they had -- I don't know if they had G meters in it or what -- but supposedly they were evaluating it and that was its complete evaluation. That's all. I can't give you more specifics than that because I've asked for the information and I have not gotten all of it. All I've got is just general information

from them stating that this is what was done and this is how it was done. And when I asked --

JIM HALL: Who was the individual that gave you that information in the Forest Service?

MARK TIMMONS: Let's see. That was when we bought the company in '93. I will have to provide that to you, if that's all right, sir.

EARL McKINNEY: Can we go in a slightly different direction? I'd like to ask Bob where do heavy air tanker pilots come from? What's their sort of background? And I've got some follow up questions about how long they stay in the industry.

BOB WOFFORD: Well, originally, when the air tanker industry started back in the '50s when we got into heavy airplanes, most of the pilots came out of the crop dusting business. They saw an opportunity to buy very cheap surplus airplanes. I can remember back in 1959 when some of the airplanes showed up in Fresno, one of them had a plywood tank, which eventually fell out, but they were carrying boric in those which was white, and awful messy and the airplanes were -- it was kind of an ad hoc thing. When a fire developed everybody came in with their aircraft and flew on the fire as long as the airplane would perform.

I think there was more slurry between the tanker base and the end of the runway than there was on the fire. (Laughter.) That was the original supplier of pilots for this industry was from the crop dusting industry. A lot of our pilots in the industry still do crop dusting during the winter. Today, well I should say, as time went on the Vietnam War came along and there were a lot of folks that came back from Southeast Asia with a lot of very good low level experience -- Air America, Continental, Virgin, Sun, those people and a lot of those people went into the tanker business. I'm one of them. And we're all getting older and I think, probably, there's only about two of us left that are still doing it -- the Southeast Asian group.

Today, we're trying to find people that have a desire to do this kind of work and are willing to sit in the right seat for four or five years -- whatever it takes to learn to do it and so the answer to your question, we're trying to train people now from scratch. They're no longer available to kind of pull out of the closet, so to speak.

EARL McKINNEY: What background do these new people have? Are they coming from CFIs and small airplanes, or are they --

BOB WOFFORD: A lot of them. A lot of them are coming from general aviation backgrounds. Ideally, we like to get people with somewhere around 1,500 to 2,500 hours. In their 30s and we stress that this is not a real glamorous job. That it's not what it appears to be on television. It's hard, dirty work. That's what it is. Those cockpits are very hot and we sometimes work in environments of well over 100 degrees -- 110, 115 degrees. The airplanes have to be kept clean. They have to be fueled and we

do all that. I should say the co-pilot generally does that. That's his duty. They do those jobs and to assist the captain in the performance of the aircraft.

So when we find somebody that is dedicated enough to stay with it for four or five years and get typed in the aircraft and then eventually get trained by actually doing drops and the Forest Service has some rather stringent requirements on that, they have to have a minimum of 25 drops on doing fires, and that's a minimum, I mean, that's not necessarily an automatic thing. So we have training captains that will fly with a new pilot, and bring him along that way, and once he meets all these requirements, why then the Forest Service will ride with him, and determine that he is capable of doing this type of mission, and give him a card. And this is a long process today. I'm going to guess the average time to get in the left seat is probably somewhere on five years.

EARL McKINNEY: Now we've heard numbers something like, you have a one in 40 chance of not making it through the fire season, each summer, based on statistical records of heavier tankers --

BOB WOFFORD: You can make numbers say anything you want.

EARL McKINNEY: Well, I think we have numbers that show 130 aerial fire-fighters have died. Divide that by forty years, it's not hard to do the math.

BOB WOFFORD: That's probably fairly close.

EARL McKINNEY: So what -- I'm trying to think of what attracts me to this environment. Why do people come? I mean one of the suppositions might be that this is a fun place to go flying, this environment might be --

BOB WOFFORD: Well, you just touched on it. A lot of people see this as a very glamorous, I guess -- I can't think of another word -- the excitement of flying old airplanes, some of them old military aircraft, that's always had a great appeal to a lot of pilots. Nobody thinks they're going to get killed when they go out to do a job, or we wouldn't do it, we all feel that our abilities will keep us out of trouble. That's why when we have a structural failure it's devastating to all of us, because that's something we can't protect ourselves against.

EARL McKINNEY: So part of the attraction is it's risky and unregulated and thrilling. Those things typically go together, do they not? I mean, the more regulated you are, the less thrilling and less risky --

BOB WOFFORD: A lot of the reason too, is a lot of people have lifestyles that five months of work to earn a year's pay, where they can take six or seven months off during the winter and pursue their other interests, that's also very attractive to many people.

EARL McKINNEY: Since you're talking about selling, I'll just keep going for a moment. One of the proposals we've heard is to try to disincentivize flying, to raise money, why aren't air tanker pilots paid a salary instead of by flying hour?

BOB WOFFORD: Well, I can address that to some extent. Neptune does pay us, at least the captains, are paid a year round salary, and it's quite a good one. I can go to the bank, with my guaranteed year round salary and I can say this is what I make, spread out over 26 pay periods, and I can get a loan to buy a house. Prior to Neptune initiating that type of pay schedule, I could never go to the bank and get a loan on the basis of what I might make in a fire season. So Neptune's taken a giant step forward there. In addition to that guaranteed salary, I get flight pay and per diem when I'm on a contract.

EARL McKINNEY: Is Neptune alone in that? I'm sorry Bob -- is Neptune one of the few in the industry to do that?

BOB WOFFORD: Well, as far as I know, they're the only ones that do it.

EARL McKINNEY: Looks like everyone's writing, so I can keep asking questions. (Laughter.) I keep the microphone going. I don't have to share with Jim, so -- have you been to that fire-fighter academy program in Arizona?

BOB WOFFORD: I have.

EARL McKINNEY: Value of that? Has that been well used?

BOB WOFFORD: I think it's extremely valuable, one of the things I recommended to industry is that all of our new pilots go to this NAFA course, because there's a lot of really worthwhile information taught by people who know what they're talking about.

JIM HALL: How do you recommend that to industry --

BOB WOFFORD: Well, I'm pretty close to management, so --

JIM HALL: -- since I haven't seen really any structure with the pilots in terms of an entity to look after their interests, that's why I asked.

BOB WOFFORD: Well, there's a meeting in Chandler that we had here just a few weeks ago, which was a meeting of all the operators. I made a brief presentation and we were talking about training, and one of the things that I suggested is that possibly we might think of using NAFA as a basis for our training program, and I think it was finally decided that we would certainly send all of our new people through the NAFA course. And maybe talk about sending them every three or four years on a recurring basis --

JIM HALL: Did industry make that recommendation?

BOB WOFFORD: Well, I think industry kind of accepted that recommendation, didn't you get that impression?

JIM HALL: And how would they -- the reason I'm pressing you on this, is that I am not a pilot, I'm a history major and I've tried to follow and it seems to me you've had structural failures, and then you have talk about doing changes, and then things just continue, and I'm trying to see what is the industry going to do in light of the two accidents this summer. Anything? And if so what, and then what for?

BOB WOFFORD: Well, I can only speak for Neptune, because that's the company I work for and I know what they're doing. I do have some recommendations that I was going to present to this panel regarding that.

JIM HALL: Well, we want to hear those. Again, do you know did they -- were you at the meeting?

BOB WOFFORD: I was at the meeting.

JIM HALL: And does industry have minutes, do they adopt, do you all come up with a policy, what came out of the meeting?

BOB WOFFORD: Bill Broadwell (sp) would be the person to contact and get a copy of those minutes.

JIM HALL: I know, but he doesn't have an economic interest, he's not being able to pay the bank every month, this gentleman is, and we've had a number of the companies come before us and say they were going to have this meeting, and Al, have we gotten anything -- we do?

AL HYDE: Just got it from Bill last night --

JIM HALL: Good --

AL HYDE: The position paper is in, I haven't even had a chance to print it out --

JIM HALL: Good, well, that's what I'd like to see then --

AL HYDE: I'll put something together.

JIM HALL: Okay. Good. Good.

AL HYDE: But I still think we need to get Bob's recommendations.

JIM HALL: Well, we want to hear about recommendations, and we'll look forward to reading what came out of the industry meeting.

BOB WOFFORD: Well, we're here to try and determine which direction the industry is going to go. And the long-term solutions of course, obviously, are new aircraft. But that's long term and it's probably many years away. So what I would like to present is a short-term solution that gets us started in the right direction, and we can continue to fight fire. The present aircraft that we have, the P2s, P3s and the Douglas products -- DC-40s, DC-6, DC-7 -- they're all good airplanes, they've all got many years of history in the fire-fighting business and they've done an excellent job.

The fact that they're old airplanes does not necessarily mean that their life is finished. I disagree with one of the statements that your panel members probably had, that these airplanes have probably passed their service life. The best thing we can do, and Mr. Timmons has already touched on this, is more stringent inspections. My feeling is we should have all operators in the whole industry -- we should have a 3rd party inspection, structural inspection, on all these airplanes, which would consist of x-ray, eddy current and dye checks, whichever is appropriate.

That would establish a baseline. And from that baseline, we could then determine how often these checks have to be repeated. Mr. Timmons suggested that we were going to do this every year, and then if we didn't see any cracks, we would move it to two years --

JIM HALL: I've got to ask you then, a baseline then, assuming that the aircraft was operated within the envelope and the limitations that are designed for the aircraft, one of the things I've not noticed is any technology, any technology on the aircraft -- of course there's no flight data recorder, there's no cockpit voice recorder, which I feel very strongly about -- there's nothing on there really to see how the plane is operating, and you're telling me it takes five years for somebody basically to, well, it'd probably be very easy to exceed the G limits on the aircraft in some of these drops, and the operation of the aircraft, as you mentioned, whether it's sitting with retardant, et cetera, et cetera. So it seems to me you'd have to have two parts to this, one setting standards, and then how are you going to ensure that the guidelines you set are being followed?

BOB WOFFORD: That's not an easy -- there's no easy answer to that.

JIM HALL: No, but there is technology available, right?

BOB WOFFORD: Technology available to measure what was happening. But again, that's very costly. I think there was a number who came out here -- Walt Darran, one of our CDF pilots, he did some investigating. And I think we're talking around $150,000 per airplane.

JIM HALL: Well, that may be correct, but it might be that in the interest of the federal government, before they put a pilot in harm's way, to ensure that he has the structure that's not going to fall apart.

BOB WOFFORD: I think we --

JIM HALL: And that can be done through a requirement government contract with the recommendations of it going to Part 91, to Part 25. Makes very good sense.

BOB WOFFORD: Well, that was another thing I was going to suggest, is that there be a closely monitored, FAA approved maintenance program.

JIM HALL: I'm not saying so you understand that the contractors bear the -- solely bear the burden of providing for a safe aircraft. I think the government has got to contract for a safe aircraft.

AL HYDE: I need to provide equal time for DynCorp, so, Mark, did you want to make a quick summary and just --

JIM HALL: Well, let me shut up and let Bob finish his recommendations. (Laughter.) I'm sorry, I didn't know -- I didn't see you looming in the background. We've got a gentleman here that's flown -- when were you in Vietnam or Southeast --

BOB WOFFORD: From '65 until '73.

JIM HALL: Okay, I might have flown with you. Please, I'd like to hear what you have to say.

BOB WOFFORD: Well, we've covered the maintenance issue and I feel that these inspections, the x-rays if done on a regular basis would ensure safety. As far as I'm concerned, that answers your question. I think we can assure safety to some extent that way. Then the next issue is training. Now, training also is going to cover a lot of what you were referring to. This person that's coming up in the industry in this five year period, we're going to try and keep him within a certain envelope so that the airplane isn't flown outside of its design envelope.

And just because we're flying low and slow and in the mountains and in canyons, doesn't mean we have to pull 6 Gs. We can for the most part stay at a 1 to 1.5 G level all the time. There's going to be times when we have to make exceptionally steep drops, but even then if it gets to the point where we can't control the speed of the aircraft and we feel the drop isn't worth doing, we can turn it down. And that's what we have to educate our people to, when do we turn a drop down.

The pilots unfortunately, they're the ones that do some ag work. A lot of these guys go out into the woods and drink beer and fish during the winter. They don't keep current. So the first fire run that they do when they come back into the airplane might be the most difficult run of the season, and here they are approaching it with no background knowledge or recent experience. So my -- I think we've placed probably too much emphasis on the IFR portion of our check right. We should certainly be IFR qualified.

But we need more training in the environment that we're working in. And the only way we can do that is to train preferably with the lead plane pilots, have a joint training session where the lead plane pilots can get their training done and we can practice join ups and drop runs in a controlled environment where we have a chance to actually go out and fly with these people and fly the airplane and drop some water.

EARL McKINNEY: Bob, are you familiar with what Ivan is doing I think in the Rocky Mountain region in February? Is that pretty much what you're saying?

BOB WOFFORD: That's exactly what I'm saying. And Ivan Papaletti (ph) and I have worked together and we are going to be training together with the Forest Service this winter.

EARL McKINNEY: That reminded me of that.

BOB WOFFORD: Where practical, we need to -- in our training we need to standardize procedures. This industry has always had a lot of mavericks and everybody thinks they have the best way of doing it. And I've been around this industry on and off for almost 30 years. And I'm seeing a lot of improvements. But there are still a lot of people out there that think that their way is the only way. Some of them are single pilot operators and they have to learn to utilize the co-pilot.

So again training is the answer in my opinion, and it needs to be enforced. And we need -- and where practical, we need to standardize our procedures. Not necessarily -- there's no way we can standardize the approach to the drop, because every drop is different and everybody's going to do it a little differently. But we can standardize checklists, we can standardize the way we fly the airplane in the normal environment, the takeoff and landing environment and the end route.

That's really about all I have to say on those two subjects. And I'd like to summarize by pointing out that Neptune is already doing a lot of the things that I've talked about. In fact, we've recognized the cracking problem and we're doing something about it. We spent a lot of money on engineering and we're trying to modify these wings so we don't have this problem anymore.

We send our pilots to American Airlines every year to see our in-training. We go in there and we fly a KC-135 simulator, which doesn't have anything to do with the tanker business but it's a complicated airplane and it requires the captain to utilize his co-pilot. And I feel it's a damn good program. We have an -- we've had an annual training program in Missoula ever since I've been with the company. We go to Missoula, and Mr. Timmons has never -- (audio break, tape change) -- the amount of time we could fly the airplanes. Weather has been our big problem in Missoula.

BILL SCOTT: Bob, let me interrupt just to clarify a point. And you paid for that out of -- pardon me, Al -- as opposed to the government giving you special funding for that. Is that correct?

BOB WOFFORD: I'm sure that there's a lot of this training budget that comes out of our pocket, or I should say the company's pocket, and is not being replaced by the Forest Service. Because if we were to place it all in our bid, we'd put ourselves out of business.

I've already touched on the plan to train lead planes and the annual guarantees to pay for all captains, which is something that Neptune has been doing now for the last year. And, gentlemen, that's where I think we stand in how we can get utilization out of the aircraft that we have now.

AL HYDE: Final comment, Mark? Final comments --

MARK TIMMONS: I agree with everything Bob has said.

AL HYDE: Okay.

BILL SCOTT: Can I ask one? Columbo's got the last --

(Cross talk, laughter.)

BILL SCOTT: I have to ask, Mark, Bob, Kris, anybody, in developing the program that you're recommending for maintenance inspection, et cetera, have you had any help from the FAA or do they stand back and say you develop something and we will approve or disapprove?

MARK TIMMONS: Well, we have conversations on a regular basis with our local FAA. That's not been a problem. But for the most part this has been our program and we propose it and they either say, that looks good, or you need to do this. But we've had pretty good relationships with them. It's always been a straightforward policy. If you see something you want us to do, just tell us and we'll do it. But it's been pretty much a Neptune thing.

AL HYDE: All right, Joe. You're on.

JOE FERNANDEZ: I'm Joe Fernandez with DynCorp – (off mike) -- Development.

ART TRASK: My name is Art Trask and I'm with DynCorp, the Californian Department of Forestry program manager for that support division of DynCorp and during the next 25 minutes or so I'll cover a handout material that I have for each of -- I don't have enough for all the members in the audience unfortunately but I'll go through it page by page. The intent is to give you a background on DynCorp, an overview on the corporation and then specifically what we're doing with CDF.

Starting with page 2, you'll note that DynCorp was founded in 1946. It's an employee owned corporation, not traded publicly and approximately 25,000 employees and it started with what we call the contract field teams. These are aviation maintenance folks that worked in the field to maintain Army aircraft. And I should note that we have, today, some of the original contracts which are over 50 years old. So I think that speaks pretty well of the corporation. Page 3 shows the structure of the corporation. I work for W. Ben Medley who's the president of DynCorp Technical Services. We have an IT section -- a large IT unit, advanced medical and quite an international program.

A lot of DynCorp is overseas internationally. We'll focus primarily on DynCorp technical services. On page 4 you'll note that we have about 9,700 employees and 78 operating sites within 24 states. The next page, page 5, shows some of our operating locations around the continental U.S. We do have DynMarine, which handles oil spill responsibilities off the coast of the Pacific and the Atlantic and, as a matter of fact, following the 9/11 incident, as probably most of you know, the communications in New York City totally went down and DynCorp -- we provided communications because we had those up and running with DynMarine. And we have an extensive communications division.

Page 6 shows some of the major customers. You will note that a lot of them are Department of Defense, U.S. Air Force, Army, Marine Corps and Navy. We have several NASA contracts, Department of State. Later of you'll see our program down out of Patrick Air Force Base with the international narcotic law enforcement operation. Programs with Bell, Litton, Delta and Boeing. Page 7, product lines and strengths. I think the important ones here are aviation background which Dyn has a very strong aviation background, strong logistic support and ground equipment maintenance as well.

Page 8, just kind of an overview of some of the aircraft we're actively supporting now. Forty-two hundred and sixty aircraft and many of them are Army. In fact, we maintain about 80 percent of the Army's aircraft fleet. A lot of the Air Force training aircraft, and we'll go into those later on. Our goal is to provide solutions and you'll note that we talk about dynamic, dedicated and driven and I think that's our present corporate philosophy. We have a very strong ethics policy on all people that go to work for Dyn.

We started off -- the corporation started off saying that we say what we do and then we do what we say and I think that conveys a positive message. Page 9, logistic support. I'm not going to dwell on that but we do have some very unusual contracts and some very unusual places -- maintaining some pretty gee whiz equipment. Page 10, ground support equipment. Here again we're looking at all aspects particularly in aviation there's ground support of equipment is very important. Relevant contract summaries, you'll note on page 12 that we have the 89th Airlift Wing at Andrews Air Force Base. DynCorp is the first private contractor to take over maintenance of the aircraft, except for Air Force One. Air Force One is still maintained by the Air Force. They do have sizeable fleet going up to 777s, quite a few helicopters.

EARL McKINNEY: Art, your contract is an 11-year contract, is that –

ART TRASK: Yes. We just took that contract over and it will -- actually, I think this is on a five-year with renewal basis that ends. And you'll note that it's ISO 9001 and they do have an FAA certified repair station at Andrews and we also have an FAA DER on staff. He's a retired deputy, the DER, that Dyn hired for the expertise which we felt was valuable. Very interesting contract. We do refuel Air Force One and just getting security clearances for the refuelers is quite a task.

Page 13, Fort Hood, Texas. Three corps. You'll see a Longbow Apache, a picture of a Longbow Apache. We do all the maintenance. We have about 100 pilots at Fort Hood that do standardization training for the Army on the Longbow Apache and some of the other aircraft; quite an operation, quite an operation. Naval and Air Force base, the 46 Test Wing, we do the back-shop maintenance and a lot of other elements of that operation. That's another interesting program there. They do a lot of ordinance testing at A-1, some pretty unique aircraft.

Page 15, this perhaps relates closer to what our program with CDF is, and that's the Drug Eradication and Interdiction Program. It's for the U.S. Department of State that operates -- headquarters is out of Patrick Air Force Base in Florida. We have operating bases in Colombia, Peru and Bolivia, fly kind of a varied assortment of fixed and rotary wing aircraft. You can see that they have 11 OV-10D models. Those are used as sprayers. And have six thrushes, 38H (sp) models, 33N models; quite an assortment of aircraft. It's a pretty high-risk operation, a lot of low level -- they do have armor plating on the spray rig and they do take several hits.

EARL McKINNEY: Art, before we move on, can you say a few more words about how you provide computer and information systems support? Is that end to end or is that just part of the puzzle for --

ART TRASK: Well, the computer and information support that Dyn has is a whole division of itself. And it works well for us in the aviation unit more than any of our DynMarine or any of the other units that we can go to our IT divisions and say we have these kind of needs, can you fulfill these for us?

EARL McKINNEY: So that's just for your maintenance support or you also do computer and information systems without --

ART TRASK: We actually do computer information for a lot of the public -- a lot of the stuff is provided by them.

JIM HALL: What role does the FAA have in function? Do you all interface with them at all?

ART TRASK: Yes, we do. As a matter of fact --

JIM HALL: Would you describe that briefly?

ART TRASK: We have an FAA repair station at McClellan, which is where I work at for the CDF program. And the FAA makes regular visits. I wholeheartedly agree with the folks from Neptune. I think it's a very worthwhile endeavor to team with the FAA, work with them closely and it pays big dividends. And the customer, in this case, in our case, the customer of course is CDF, and they like that too. So I think -- we need to maximize all of the resources, and the FAA is a good resource. And we really need to maximize that.

JIM HALL: You all do -- when you mean operations training, is that pilot training as well?

ART TRASK: We do. And, as a matter of fact, later on when I start talking about the CDF program, if you like I can get in to that.

AL HYDE: (Off mike.)

ART TRASK: Okay, let me just quickly go through the port record contract. Largest single location in a helicopter operation in the world, we have over three and a half million flight hours without a maintenance related accident, I think that's notable. NASA, several major contracts, several good awards. Let's go to Californian Department of Forestry, page 19. You'll note the types of aircraft. We do provide two Cessna 206s for maintenance support, and three 172XPs which are used for the relief pilots to get around to relieve the different bases. We do, as I noted, we have an FAA repair station.

JIM HALL: Are those contracts on demand or full time?

ART TRASK: The pilots are seasonal employees, the mechanics are full time, the work is seasonal in nature. The pilots are not paid an hourly flight rate, they're paid a daily availability rate that's quite -- well, in my opinion, it's a good rate. They're members of the International Association of Machinists and Aerospace Union, as well the mechanics are IAMWU (ph). You'll note that we have 14 S2Ts, those are the turbinized tractors from Marsh (ph).

Page 20 shows our org chart. Myself, the program manager, Adele Sholey (ph) is back in the audience. It shows we have a lead air tactical pilot, that's the OV-10s, a lead air tanker pilot, his name is Richard Durio (ph), he's the S2A, S2T lead, and it shows the bases. Helicopter dispatch map, I won't dwell on, we do maintain 11 helicopters for CDF, the pilots are state employed, as we don't fly the aircraft, but we maintain them. They do a great job, they're great aircraft. They're what we call super Hs. They're standard H models turned into a singled-engined 212 basically.

That's what we're looking at. With the 703 engine, good high altitude, hot day performance. Page 22 shows the air tactical and air tanker dispatch map, and you'll note that CDF has a lot of aircraft as well as, of course, U.S. Forest Service and the Bureau of

Land Management. Very, very close working relationship in California with the Forest Service and with the BLM, and the Bureau of Indian Affairs, all of them. Page 23 talks about pilot recruitment and retention. In the past contract, the union wasn't involved and now it is a union shop, as I mentioned, for the pilots and the mechanics.

The flight pay went away, which I think is a very, very healthy factor. There were incentives -- when you're paid by an hourly basis, there were pilots that naturally wanted to get that pay and would defer right up to whatever. I think if you polled our pilots and our mechanics, as well as our customers, you would find that they are very happy with how this summer's going this fire season which is the first year of our contract.

The goal of course is to attract and retain experienced pilots and technicians, and I should note that we assumed just about every employee from the fire contractor, which was San Joaquin Helicopters. And the state wanted that -- the contract is a performance based contract with very strict parameters and one of the parameters was that we would get maximum points if we hired the existing workforce because it is unique. I mean there's no question -- the air tanker pilots, the air tactical pilots are unique.

JIM HALL: What's the term of the contract?

ART TRASK: It's actually a two year contract with three one year extensions. Page 24, technical recruitment, I talked about that. We do have of course company stock options and 401s and things of that nature. Good benefits. You'll see a picture of tanker 88 making a drop -- that was on the fire at Lake Tahoe, on the south side of south shore, and that's a tram that you see in that picture that runs up to Heavenly Valley. It looks like he's quite low, but really he's not that low. (Laughter.) It does look deceiving.

Page 25, a summary of DynCorp experience. And I think needless to say, I think that clearly the corporation has been heavily involved in aircraft and aircraft maintenance and operation. It's our forte, if you will. We're a service company, we don't really manufacture products and sell products. We provide service, and we try to provide the best service we possibly can in the most efficient way. And our overhead costs are low, we try to keep them low to be competitive. If you've bid on federal contracts you know they're very competitive and clearly you know there are the Raytheons and the other biggies out there that bid on the major contracts, but Dyn I think has a good record of quality control and taking good care of the customer.

Any questions?

JIM HALL: I have one, and then Earl I'm sure has some. Everybody has one. Are you familiar with the helicopter program of the U.S. Forest Service? How does your staffing compare with that program?

ART TRASK: Well, the helicopter program, and CDF probably could answer this better than I, although I used to work with CDF so I'm pretty familiar with that

particular program. But, as I stated, the pilots are state employees, we maintain the aircraft, we are the contractor. The aircraft are basically staffed year round. They have a fleet of nine active bases that they support. They have two spare aircraft, all the major maintenance is done at McClellan. The pilot training, every year they run a Bell pilot training school at McClellan, and last year was at Mather (?) because they just relocated from Mather.

So the program -- CDF's helicopter program -- and I, you know, knock on wood -- I hate to talk about safety, but it is so phenomenal. Their record on their helicopter program is like 60,000 hours and they haven't had an injury accident. So I think it speaks well for the way that program is set up. The air tanker program, you pointed out, there have been several fatal accidents. CDF had a mid-air last year, last September 22, and two people were killed in that mid-air.

JIM HALL: The specifics was that -- as you know, there's a structure that came out of the '70s with a helicopter manager and entire support for fire service operations, federal operations. Are you familiar with that? Is that comparable with the state of California?

ART TRASK: I would say it's comparable. The CDF helitank bases, as they're called, usually on duty they'll have two captains and then enough fire-fighters to fill every seat in the aircraft, which is nine seats. So they routinely train together, work together, live together. Excellent coordinated teamwork.

BILL SCOTT: On page 20 of your presentation there's a chart there showing a lot of functions. And would you tell us where the safety function fits in?

ART TRASK: Well, the safety function in our -- it's interesting, because with this particular contract at CDF, CDF has another contractor on the site called Logistics Specialties Incorporated out of Ogden, Utah, and they provide control over all the parts. They wanted to have a separate contract to provide parts control. And naturally to support a fleet of 50 aircraft, particularly of this vintage you have a lot of parts and they stockpile a lot of parts at CDF. The aircraft has been out of production for years.

So at any rate, the safety officer is actually employed by LSI. Our safety -- or DynCorp's safety is our chief of quality control. And then CDF has an air operations officer that is actually their designated aircraft aviation safety officer. And so we all interface daily together. It's a partnership in professionalism, is what Mike Fadia (ph) calls it, and I think it's appropriate.

BILL SCOTT: Okay.

EARL McKINNEY: Art, I see the figure of $60 million for training and maintenance. Forgive me, is that yearly or for the six years?

ART TRASK: No, that $60 million is the -- that is the value of the contract, the entire contract, for everything, for all our workforce, which is approximately 114 people. It's not training and maintenance in the sense that it's really a time and materials contract. It's the closest thing to a time and materials contract.

EARL McKINNEY: But that's for all six years, that's not --

ART TRASK: That's correct.

EARL McKINNEY: -- half of it. No, okay.

ART TRASK: Well, it's actually five years.

EARL McKINNEY: Five years.

Can you say some more things about your 22-S2s, like average age?

ART TRASK: The A models are mid-50s vintage. CDF acquired the A models in the early 1970s, 1973 I believe, had three private contractors, Aero Union, Sis-Q and Hemet Valley Flying Service convert the aircraft and operate them for CDF. And that program evolved from multiple contracts to just one contractor, Hemet Valley Flying Service, and then it went to ServeAir (ph) and then San Joaquin Helicopters and now us. And it went from multiple contractors to just one contractor.

The theory is and it clearly is -- you know, from a controllability point of view, when you do major maintenance, you do it at a centralized facility where your parts are and in a controlled environment where your trained technicians are. And then what work we do in the field is just basic extensive daily inspection and minor maintenance.

EARL McKINNEY: That Bell pilot training school was for helicopters?

ART TRASK: Helicopter pilots. The Bell sends out two instructors. What we do for the airplane pilots, all the OV-10 pilots or the S2 pilots, every year in the springtime, we call it a spring clean, beginning in March, we bring pilots in for recurrent training, because some of them do not fly in the wintertime and they have to be current. So they get recurrent instrument training, recurrent tactical training where they go out and drop the water, they're going to drop retardant but they do drop water. And they go through classroom training on the maintenance and operation of the aircraft.

EARL McKINNEY: And I'm not sure this is the right place to ask this question, but when you drop water is there some kind of -- in this spring clean is there any kind of instrumentation on the ground or in the airplanes or some place to get feedback to the pilots that you missed that by like a football field or that was right on, too high, too low?

ART TRASK: Well, that's a good question. And, frankly, I would like to see that down the road. There presently is not. About the only thing we hear is from the

people that own the goats and sheep in foothills that call and complain about the air tankers dropping water on them. But it is. And accuracy of drops is a very learned skill. I'm not an air tanker pilot myself, most of my background is I'm an Army helicopter pilot.

But clearly the pilots are very, very dedicated individuals and they're very -- if we look at the background cross-section of our pilots, we've got one air tanker pilot at 70 and 12 in their 60s. These fellows have been flying for years, they're very talented and very good at what they do, and we're trying to take that information from them and pass it on to those people that are going to replace them.

EARL McKINNEY: But without effectiveness measures it's sort of like, you know, bowling and then having somebody drop a curtain and you don't get to see if you knocked down any pins. It's sort of hard to get any better.

ART TRASK: Feedback -- actually, to answer your question more specifically perhaps is the feedback is from the air attack officers, because they see where the pilots are dropping. And, you know, the air attack pilots, CDF calls them ATGS, which is air tanker group supervisors, and they sit in the back seat of the OV-10. And they give the air tanker pilot a verbal description of the target. So those guys can really critique how well we can do. And we are very -- we do not want pilots focusing on targets to the point that the hit trees and wreck aircraft and kill themselves, because that's a possibility. So it's a learned skill on the drop technique.

EARL McKINNEY: Help me understand better the feedback then. Sorry, that I'm out there flying and I'm in one of these S2s and I drop my water. Is the lead pilot going to -- the ATG --

ART TRASK: ATGS?

EARL McKINNEY: -- ATGS pilot going to come over the radio and tell me, you missed that 50 feet to the right, or you didn't --

ART TRASK: Well, yeah, he may, exactly. Or the instructor that's with that pilot knows exactly where -- you know, what the drift's going to be and when the pilot should drop. And so there's very -- you know, when there -- we've got to talk about -- we're talking about the spring training.

EARL McKINNEY: Right. You're saying in the spring training you get feedback over the radio, but during the fire season you just drop and hope for the best?

ART TRASK: No, no. There's very quality feedback.

EARL McKINNEY: Over the radio, after the fire?

ART TRASK: Yeah, after the radio. Yeah, every drop is observed by the ATGS or the lead plane --

EARL McKINNEY: Is it recorded at all, do you know, or is it just --

ART TRASK: Recorded.

EARL McKINNEY: Is there any kind of record kept that this particular airframe or this crew consistently underestimates the wind or doesn't seem -- there doesn't seem to be any appreciation for this kind of terrain or no one seems to -- there's no record keeping is what I'm -- I mean, it seems like there's feedback immediately but I'm just --

ART TRASK: Yeah. Actually in reality what happens is if we have a pilot that is consistently not making the target or not hitting the target, I hear about it from our customer, CDF. And then we'll retrain them. But usually, you know, to be honest with you, I have not received one call this summer on hey, we've got a pilot out there that's not hitting the target. Some guys are more adept in this than other folks, but you know, generally they're all very skilled.

BILL SCOTT: Do you send a mechanic out with each aircraft?

ART TRASK: Yes. Each of the air tanker bases have a full-time mechanic during the deployment of the aircraft. The helicopters, interestingly enough, don't have mechanics at the helicopter bases.

JIM HALL: Can you tell us what the value of your contract with the U.S. Department of State for drug interdiction is?

ART TRASK: You know, I don't know. I just --

JIM HALL: I'm just kind of interested because this is another situation where the federal government is putting people in a dangerous situation like fire-fighting --

ART TRASK: That's right.

JIM HALL: -- and I'd like to compare dollars, federal dollars.

ART TRASK: You know, I don't have that information. That program is -- well, we have sent some technicians to Patrick because we have some really skilled OV-10 mechanics at McClellan. And we have sent some folks down there to help with their training program. But as far as information, the State Department keeps that pinned pretty close to their vest to be honest with you. And I just don't know.

JIM HALL: I'm always interested in where my tax dollars are going. (Laughter.)

ART TRASK: And rightfully so.

AL HYDE: Are there any other questions?

BILL SCOTT: Are all your S2 drops made with lead planes or lead planes, depending on who the ultimate customer is, Like Forest Service one time and CDF something else?

ART TRASK: Well, first of all, the aircraft of course are owned by the CDF. They're actually owned by the Forest Service but they were all acquired through the Federal Excess Property Program. But CDF is the operator and the aircraft when they're out tactically, CDF has a very strong initial attack policy on wild-land fires in California. And if they're dispatched, if you have -- I live in Placerville. If I have a fire near my house in Placerville and they call that fire in, there's going to be two air tankers, an air attack, a helicopter, probably five engines and a couple of hand crews dispatched right off the bat. And it pays big dividends.

Now, later on if it goes to an extended attack incident, then the -- or if it's a joint U.S. Forest Service-CDF fire, then there could be lead planes. Once the fires get big they bring in other air attacks, lead planes, et cetera. But, you know, I'm a contractor right now, so CDF can talk about that.

JIM HALL: The contract that you have, is this the first time it's been awarded on a consolidated basis, because that's what I understood from your testimony?

ART TRASK: No. The fire contractor San Joaquin Helicopters had it for six years.

JIM HALL: And then it was rebid?

ART TRASK: It was rebid and we were the successful bidder.

JIM HALL: On a low bid basis, or a negotiated bid?

ART TRASK: It's actually a performance based contract which, if I can convey nothing else today, then the value of performance based contracts. Where it's not just a low bid, you get a contractor that has demonstrated the ability to do the job, provide the resources, communicate with the customer. All of the issues that retain the employees, take care of the employees, et cetera.

JIM HALL: Do you know how they would evaluate and value safety in terms of that negotiation?

ART TRASK: Absolutely, safety was a critical element.

JIM HALL: And maybe you could tell us just briefly what type of oversight you get from the state and what type of oversight you get from the FAA in regard to safety?

ART TRASK: Sure. I already talked about the CDF safety officer and the LSI facility safety officer. We have monthly safety visits from our people out of Fort Worth, Texas. DynCorp has quite a quality control safety program.

JIM HALL: And was that something that you sold as part of the contract?

ART TRASK: Absolutely. We told CDF right up front that this is what we're going to do, we're going to have people come in every month. And, as a matter of fact, I just had an auditor come from Reston, Virginia, the home Dyn office, spend a week last week auditing everything that we're doing for the customers, to make sure we're doing what we say. So we have a very -- in fact, CDF is just sometimes saying gosh, you've got other people coming in already? You know, I mean there are just people in here all the time looking at what we're doing.

JIM HALL: What about the FAA?

ART TRASK: FAA, clearly because of our repair station, the FAA makes quarterly safety visits, audits our records. Tony Augusto (sp), who is our chief of quality control, coordinates with the FAA on a daily basis. Speaking of the FAA we have nine guys in the shop that are IA, hold their inspection authorization. All of our technicians are AMPs. We're very fortunate, there are some other DynCorp sites in Oklahoma and elsewhere, they have trouble getting them, but we have all good AMPs; very skilled technicians.

JIM HALL: Well, I'm just sorry that Jim Hull isn't here to see that you've put the flag of the state of Texas on here. (Laughter.) Why do you only have one facility in Tennessee and no flag of the state of Tennessee on your presentation?

ART TRASK: I plead the Fifth on that.

ALL HYDE: Joe, do you want to add anything so we can close this up for this morning?

JOE FERNANDEZ: Yeah, probably on non-destructive inspection. You know, there's the standard method of x-ray, bond masters for bonding, and eddy current and dye-penetrant, main particle. The other things you might want to consider is micro-focus x-ray, laser ultrasonics, neutron radiography, 3D lamination -- where we integrate the images together and get a really good view of it and get a better feel for the structure and the life of the structure. Particularly neutron radiography which tells you a lot about the metal. Where it's going, where it's been and where it's gone.

And in some cases, some of the aircraft, earlier aircraft, were put together with the inappropriate metals, and the different branches of service discovered that, and changed that and changed procedures and -- (off mike.) I think the aircraft that were designed for the military were, I don't want to say throwaways, but they had a short life limit and

mission to do, and then with budgetary concerns, the missions were extended, extended, extended, and eventually put out some place and brought into the public sector.

And while they were good aircraft, they need a good assessment, good engineering assessment and they a good baseline study and follow up. But those are some of the methods for non-destructive inspection.

JIM HALL: Are those methods used by your corporation, and are they required by the contract or by the FAA?

JOE FERNANDEZ: Let me answer for the corporation. We're getting into that area pretty heavily right now. I can't disclose all the issues with you but we're getting in to that. And I think Art can address the issue on the CDF.

ART TRASK: Yes. We are -- CDF aircraft are 60 vintage aircraft and while some of them are relatively low time airframes, clearly Grumman, when they built the S2 in particular, they used a skin process of laminating two skins together. There's corrosion potential there, so we've had to mitigate that. Re-skin the wings, we have excellent sheet metal people, so you can do that. But NDI is a major issue, and that's why I was happy that Joe is here because Dyn is looking at all of the more current state-of-the-art techniques. Our goal is to be able to roll an airplane in to a hangar and have that sucker completely NDI'd without decaling it, de-painting it or anything.

JIM HALL: But is that a contract requirement?

ART TRASK: No, it isn't.

JIM HALL: So you're just doing it out of the goodness of your heart?

ART TRASK: Well, I'm concerned about our pilots and the mission and the operating environment and all the factors that everybody sitting in this audience is concerned about, I'm sure.

JIM HALL: Well, I would encourage you and Joe to share your expertise with the Forest Service in that area. Can you look under doublers with some of this, like the C-130 wing? So that would be able to attack that?

JOE FERNANDEZ: Yeah, the laminography uses microfocus x-ray and another component called Digiray can go down through many laminations, and you can actually specify the level you want to go to. And then with the 3d laminography, you can correlate the actual position of the crack.

JIM HALL: How expensive is that?

JOE FERNANDEZ: Well there's just a few places that do it right now. And there are -- I think to the public sector, there's an ability to get aging aircraft program

funds. I discovered that through a conference here a few weeks ago in San Francisco. Put a research project together and get it. So it's not an easy thing to grab, but if the program's correctly configured, the money's available. I don't have any current prices right now, we're still pulling this together. We're working off of a facility that was at McClellan Air Force base, McClellan Air Force base at one time was a high technology center for body repair and NDI.

JIM HALL: Well, would you have a specific proposal on these aircraft, in terms of what type of inspection should be done?

JOE FERNANDEZ: Yeah, you know I looked at the last two accidents and of course have been around the business for a while and so the problem's coming up. And I think the neutron radiography's going to really help a lot. The things I listed off I think are key to the whole structure.

JIM HALL: You had any conversations with FAA or Sandia about this?

JOE FERNANDEZ: Not yet, no, we're going to do that. We need to write a paper and get some things up.

JIM HALL: That's another place my tax dollars go, is that aging work at Sandia that the NTSB helped start as a result of the Aloha accident, and we got the Forest Service folks again with aircraft in Mexico, but they're trying to build some -- but there's no coordination there.

JOE FERNANDEZ: Well, one of the things the U.S. Forest Service would have talked about is the idea of -- the NDI inspection does a couple of things for you I think. One of them is that it provides you information about your structure and your load life. And the other issue is it can be a cost saving tool to reduce your operating costs. You start catching these problems early, you can manage the problem as opposed to just toss it out or do some massive expensive fix, and then still have a short life. So you're going to manage the aircraft's function, so now you get a point where you'll realize the life of the aircraft with a lot of these tools, and then a lot of research has to go into it.

You know, we're just beginning to touch the surface of this, but you get into a situation where now you have a business profile for the aircraft. A specific tail number and a business profile. It's good for this many years, this is what you have to do each year to maintain it in a safe structural process, and it gets what it gets. But it's an effort -- it's an industry effort. It's not just the operator. I think the government needs to step up a little bit and help out. The FAA needs to be involved more heavily in the NDI process.

And you've got, you know, the Navy looks at this a lot and they're really thinking about this, the Air Force is thinking about this now.

JIM HALL: You been talking to NTSB at all?

JOE FERNANDEZ: Not yet. I'd like to at some point.

JIM HALL: I'd encourage you to do all of the above, and if you have a specific suggestion, you know, the next fire season's rapidly approaching.

JOE FERNANDEZ: Well, we're in the process of you know, putting this together. Dyn is a corporation, you know, we're a big company. We move pretty fast. I was at Pax River last week with the Navy and we're heading to some other places. So the NTSB is definitely on the list, and we really want to present this to the industry, working with the U.S. Forest Service on another issue. We want to bring that forward, and we will.

JIM HALL: Good.

AL HYDE: I want to thank --

ART TRASK: Just one quick comment on CDF's helicopter fleet. Every 10 years or 2,500 hours, those aircraft are completely IRAN'd (ph), so they're completely disassembled, inspected, repaired as new, and I think that's a worthwhile comment.

JIM HALL: Is that in the contract?

ART TRASK: That is. It is. In fact, this year we're going to be IRANing (ph) two aircraft.

JIM HALL: What we're looking for is one level of safety for all these people that are put at risk, regardless of what contract they're operating under.

ART TRASK: Absolutely.

JIM HALL: So thank you, it's very interesting.

AL HYDE: Thank you also, Neptune. This is -- should understand that these companies coming up and having this dialogue, this discussion, is really not only informative for the panel and helpful, and I appreciate your willingness to share and be open about all this and thanks very much for being here.

We'll take a 20 minute break and start in about -- start again around 10:35.

[END TAPE #1.]

JIM HALL: And, Robin, you might get your microphone first.

ROBIN ROGERS: My name is Robin Rogers and I'm one of the owners of Rogers Helicopters in Fresno, California.

JIM HALL: Please, folks. Please, let's be courteous. I understand -- if you need to have a conversation, please go downstairs. We need to get this back in order.

Go ahead, sir.

ROBIN ROGERS: Yes, in a pamphlet that I've handed out it'll show a few of the -- you can follow along here. Rogers Helicopters is a California corporation that since 1962 has been providing helicopter fire fights for the government agencies for over 40 years. We currently operate 35 helicopters and -- (inaudible) -- aircraft, of which 17 are on war service, known as exclusive use contracts, and approximately five are being used in CWN. We also have a whole new subsidiary company, Heavy Lift Helicopters, which operates three CH-54 Skycrane helitankers, located in Region 5 on exclusive use contracts to the Sierra National Forest and San Bernardino National Forest.

Our other aircraft we -- I have a list of the forest -- I don't really think I need to go into and the BLM districts that were contracted -- are listed there. We also -- our fixed-wing division we supply Turboprop Commanders and King Airs as air attack platforms to the Los Padres, Sequoia and Sierra National Forests. We also provide helicopters, CWN aircraft, throughout the United States, Canada, Mexico, and have supplied it in Italy. We're currently right -- in negotiations right now to contract with Australia, Spain and Greece.

The next bit here -- so we have some history just to give you a little -- we actually started promoting our helitank operations in 1969 while contracted to the California Department of Forestry, and it shows a little picture there of the Jet Ranger. We started out very small there. And we had seven of the nine CDF contracts for quite a few years until they went to their own program.

In the late '80s things developed in the type helicopters and as we grew we -- our tank systems that we developed and -- that Rogers Helicopters actually developed, we grew and it shows the bigger helicopter.

The next page we actually kept developing tanks and it shows here -- it's one of our 212s on a fire. It's a nice deal because it was on a fire in Acapulco, Mexico and you can see the beach and the water there, not a bad place to be on in fires. The next one shows us in Waco, Texas -- shows our snorkeling system where we can actually suck water in depths as shallow as six inches.

The part I want to show actually what we've done in this fire season, this 2000 – give a synopses of what our fleet has done, to give you an idea of it. And our Type 1 helitankers, three of them have -- they have flown in excess of 1,600 hours this season so far and they're still -- actually, they're still on contract. We're still actually flying right now. Our Type 2 helicopters are still on contract, as are our Type 3s.

Our airplanes are Type 1 ATGS platforms, fixed wing. We have two Turbo Commanders that are one at Fresno, one at Santa Barbara and a King Air at Borderville (sp), as it shows there. One thing that we've done -- and we work with the Forest Service very well, with both the Department of Interior and the Forest Service very well, and our contract airplane at Santa Barbara they came to us -- after we did the contract they came to us and asked us to help put technology in the aircraft. And so they're putting in mapping, floor systems. They actually have a way where you can get in the airplane and they can look down and film everything.

And I don't think we have an airplane yet, but they'll be able to sit in Washington DC and sit there and hit a button and watch the live fire. You know, transmit -- be able to transmit so you can watch a live fire. So we've installed all that. The Forest Service first installed that technology, but the installation of the equipment was quite extensive. We had cut holes in the airplane and we reconfigured the whole aircraft. So, in essence, it's like a little -- it's a little information center flying around.

JIM HALL: Now, the Forest Service contract do that?

ROBIN ROGERS: Yes, sir.

JIM HALL: And so you'd have an airplane, what type of platform?

ROBIN ROGERS: Excuse me?

JIM HALL: What type of airplane was it again?

ROBIN ROGERS: Turbo Commander.

JIM HALL: Turbo Commander. And it's equipped so they can watch the fire back in Washington DC?

ROBIN ROGERS: Well, they can transmit -- we can transmit live from the aircraft fires. People actually -- the guy -- down the line they'll be able to go on their computer, their laptop, and see what's happening live.

JIM HALL: And was that an additional contract to your normal --

ROBIN ROGERS: No. Actually, we did it just at our cost. We went ahead and did it in our shop at our cost, you know, to supply it for them because they requested it. And so we were able to accommodate them just at our cost and as an addition to the contract.

JIM HALL: So it was not a solicitation?

ROBIN ROGERS: The original contract was, yes, with their five-year contracts and we were in our first -- our second year of the contract and they were able to get all this technology and asked if we could install it in the airplane. So we were able to, you know, accommodate them there.

BILL SCOTT: So it's government furnished equipment?

ROBIN ROGERS: Yes.

BILL SCOTT: And then you provided the installation and are doing the demos.

ROBIN ROGERS: Right, right, yes. And the installation, like I said, it's cutting into the aircraft and putting a little turret in the back and completely turn out the interior and making it work -- you know, functional.

EARL McKINNEY: Robin, I think I only understood part of what the information is that's being broadcast to some place else, any place else.

ROBIN ROGERS: Yes.

EARL McKINNEY: Can there be a flare system up on the same --

ROBIN ROGERS: There is a flare in it. There's a flare -- there's mapping flare and the uplink.

EARL McKINNEY: Can I as a -- if I'm flying this Arrow or this Commander can I -- is it possible with the flare to see the retardant drops at particular places? Or --

ROBIN ROGERS: Yes.

EARL McKINNEY: So essentially we have a system here where you can do real time scoring of drops?

ROBIN ROGERS: Well, you know, really this isn't my side of it. That would be the government side of that. But, yes, it's not -- the system for the uplink is -- I think it's -- I think they're working on it right now. It's not -- they have a few glitches with it, as they do with all the technology. But the mapping and the flare and all that is already in it. You know, we've been using it all summer long. But I believe the uplink should be hopefully done this next year. But, yes -- you know, yes, you can. You'll be able to score helicopters, you'll be able to score anything you want.

EARL McKINNEY: Maybe I missed this description. This Turbo Commander is now operational, or it's assumed to be operational for next year's fire season?

ROBIN ROGERS: No, it's operational right now.

EARL McKINNEY: And it has been collecting data this season, or just --

ROBIN ROGERS: Yes.

EARL McKINNEY: Okay.

ROBIN ROGERS: Well, I imagine so. That's -- we just fly the airplanes, so, like, you'd have to talk to the people there.

EARL McKINNEY: Okay.

ROBIN ROGERS: I don't know.

BILL SCOTT: And you have GPS on it as part of the mapping?

ROBIN ROGERS: Yes.

EARL McKINNEY: Maybe I missed it, Robin, it's flying for the CDF or the Forest Service?

ROBIN ROGERS: The Forest Service.

EARL McKINNEY: The Forest Service, thank you.

BILL SCOTT: Did you cover the Type 1s then?

ROBIN ROGERS: Excuse me?

BILL SCOTT: Did you cover the Type 1s?

ROBIN ROGERS: No, but I was -- I'll keep going here. The evolution of Type 1 helitankers began in the '90s -- 1990s, and the Sikorski Skycrane was fitted with the 2,000-gallon tank and snorkel. And we actually started in 1994 -- heavy lift started in 1994. It is a really nice system. You know, at 2,000 -- 2,400 gallons I believe and you're able to fill it in 45 seconds to a minute. And the economics are very strong on the helicopter. They're out there and, you know, you can average -- it depends on your water source but it averages like 10 to 15 loads an hour with 2,000 gallons. So you can go anywhere from 20,000 to 30,000 loads. Now, that varies depending on where the water is. You know, how far you have to search for water because, you know, if water is 10 miles away you won't get that -- you know, you'll do less obviously.

And the Skycranes -- we own three of them and we're currently, like I said, on exclusive use contracts right now. And the contracts are long. Actually, they don't pay any availability. You know, they're a great deal for the taxpayer because we're there just exclusively on what we fly. And so -- and we've done very well this year, as you see by the numbers I gave you. We've flown over 1,600 hours on the aircraft.

Actually, our next generation helicopter that we're looking at is we've just purchased six CH-53Ds and they're the Sea Stallion and they are -- they're probably the most effective retardant -- foam water retardant effective tool -- delivery tool that I can see out there because of what, you know, they do. Once they get there they can make so many trips, you know. And what the CH-53 does, as the next generation is it supplies a great amount of speed. You know, they're a 159 helicopter, which really runs comparatively with the DC-4. But once it gets there, it'll be able to do 10 to 15 -- depending on the water of course, on average 10 to 50 loads an hour, which is 20,000 or 30,000 gallons.

So we're hoping to have the CH-53, the first one in service in May -- or June of 2003, and that will be with a bucket, and this time next year we'll have our first one tamed.

EARL McKINNEY: Robin, what sort of -- is that a three-year contract that you'll be --

ROBIN ROGERS: The Type 1s?

EARL McKINNEY: Yes.

ROBIN ROGERS: Yes.

EARL McKINNEY: And what kind of ROI do you expect then if – return on investment? How much is this CH-53 costing to get equipped to fight fire, and then how long do you think it's going to take to --

ROBIN ROGERS: Well, we'll probably have $2 million in each helicopter -- two million to two-and-a-half.

EARL McKINNEY: Okay. Can I get the next -- rest of that kind of sorted out? And you expect to make that money back in two years -- 12 years -- 22 years?

ROBIN ROGERS: To be honest, I can make it back in the first six months. But truthfully it'll probably be -- (laughter) -- it'll probably -- you know, when you go out -- it'll probably be -- the return -- that's a hard question to ask. I mean, right now the way the contracts are, we're not guaranteed. So we're out there -- us and there's another operator that we have -- right now there's four contracts, exclusive use contracts in the state, or Region 5 Forest Service. But we're not paid availability. We're just there.

EARL McKINNEY: Right.

ROBIN ROGERS: And so that's a hard question to answer because it depends. On the average we should hopefully get it back within, you know, three years I would think.

EARL McKINNEY: Three similar years to this last year or three average years?

ROBIN ROGERS: No, three 200-hour years -- three 200-hour years. This year you have to throw out. This year is an anomaly.

EARL McKINNEY: Let's hope we throw it out.

BILL SCOTT: Could you comment on the business case there. I mean, it seems to really leave you hanging out there a lot compared to large air tankers that are very comparable to what you --

ROBIN ROGERS: It does and --

BILL SCOTT: And you say no availability or --

ROBIN ROGERS: No, this --

BILL SCOTT: If you were king for a day, how would you structure --

ROBIN ROGERS: Excuse me?

BILL SCOTT: If you were king for a day, how would you structure the contract to make a good business case?

ROBIN ROGERS: We'd like to look -- you know, it depends on the area, 150 to 180 days and probably -- you know, probably $10,000 to $12,000 a day and a flight rate, whatever the published flight rate is, if I was just -- you know, off the top of my head, using those numbers.

JIM HALL: Could you tell us a little about safety in regard to the contract obligations, in regard to your relationship with the FAA, in regard to what you do internally?

ROBIN ROGERS: We have -- we're 135 qualified. We've got 10 or more Rogers owned copters. We're 135 certified for 10 or more, which means that you have flight recorder -- flight data recorders. And I think I have one Forest Service contract that still requires us to have flight data recorders, which they didn't -- well, they took away the requirement this last bidding -- the last time we bid. It was a requirement for 10 or 12 years on the Type 2 helicopters and now they've taken that away. So we only have one helicopter --

JIM HALL: And do you know why they took that away?

ROBIN ROGERS: I believe it was -- honestly, it's a higher cost for us to maintain so I -- I don't know. You'd have to ask them that. We're going to have to defer

to them. But they did take away the -- they did take that away, the flight data recorders, and CVRs, cockpit voice recorder, actually. And so we only have on aircraft. We have six helicopters that are equipped with it, but only one currently on contract because they took the requirement away. And we also have a 133, which is external load certified, and a 137, which is agricultural applications certified. We have -- at Heavy Lift we have an ex-FAA helicopter specialist who runs as our safety officer. And at Rogers we have an ex-Forest Service aviation officer who is our aviation safety officer.

JIM HALL: And who does he report to?

ROBIN ROGERS: He reports to the president only of the company. Both of them report totally to the president.

JIM HALL: Okay.

EARL McKINNEY: Robin, while we're on the subject of safety, what did you guys learn about last year's accident in Wyoming? What kind of -- the one in Jackson with the --

ROBIN ROGERS: Oh, in Jackson?

EARL McKINNEY: Yeah.

ROBIN ROGERS: You know, actually I believe if you look at it there was no fault -- the FAA had no fault on it, and the reports I read -- right now I -- it seems to be a communication. I mean, it was -- you know, it's not one thing. It's not one thing and basically I -- you know, as far as I can see of the initial -- of the report that came after where it was no fault of either aircraft.

EARL McKINNEY: I guess I just see all these -- all this data that suggests that we're flying, you know, 10 times as many flight hours as we did five years ago or something comparable, and so there must be many, many more airplanes in a smaller airspace. Are we -- you know, are we just looking at tangling buckets, you know, as sort of a routine thing year in and year out unless we change processes or procedures or something?

ROBIN ROGERS: It's hard when you're out there. You know, it's hard when you're out there. You know, this is very difficult. You know, it's very difficult and it comes back to where a long line -- when your long line is a little different because, you know, you're up there looking out one side of the door, it's much more difficult. You know, it increases the -- below is smoky, windy and, you know, you're out there. Specifically there it's -- it was a -- I believe it was communication because one guy went for fuel and the other guy came in and he backed out and then they switched dipping holes and it was just a total -- I mean, it was all communication to me. I don't know how -- when you're out there, I don't know how to do that because there's -- that's a difficult

question. You know, that -- maybe more air attacks, maybe more helicopter coordinators. You know, communication between the helicopters.

KEN JOHNSON: I need a clarification on something you said a little earlier. On the flight recorders that you have -- or had on the rotor craft, was it the voice recorder that was on and taken out, or data recorder, or both?

ROBIN ROGERS: CVRs.

KEN JOHNSON: Just CVRs.

JIM HALL: Are you going to touch on these three concerns you mentioned?

ROBIN ROGERS: I can't find the --

JIM HALL: The summary? Or if you've got other territory to cover, go ahead.

ROBIN ROGERS: Right. Well, for us being -- it's very hard being in the commercial helicopter industry. And some of the concerns that we just see -- I mean, I could write a volume on and, you know, I want to just touch on a few. You know, government competition in the commercial sector. I mean, it's everywhere we look and, you know, I -- everywhere we look we have some county or somebody getting into fire fighting and it does make our job harder. You know, it does make our job harder. We run -- you know, you have to look at we're running 200 tax plan employees in our companies and it does -- every time there's a helicopter added or an aircraft added, it takes away from our -- you know, from our business.

You know, and the rising cost of suppression -- every meeting I go to I hear of this, you know, and it's -- you know, I don't know how to stop this. You know, it costs so much to fight these fires I really -- I don't know how to stop that. It's just a concern I have. A lot of the aircraft that are in use today are -- you know, are not -- either they're not -- they're just not cost effective. There are aircraft that are out there that are not -- that are not -- they're very expensive to run. And if you look at -- and I'm just going to look at the helitankers -- you know, look at specifically the helitankers.

The helitankers -- you know, you run anywhere from 75 cents to -- if you look on an average, and you can probably find this from the Forest Service, they're running anywhere from 75 cents to 30 cents a gallon delivered, okay? There are some aircraft that are running, you know, $5 and $6 per gallon and I think that has to be looked at. You know, I think that type of -- you know, it has to be looked at. And that's basically -- you know, that's really all I have.

JIM HALL: Could you be more specific on what aircraft?

ROBIN ROGERS: Well, if you look at the NATS (ph) 2 study -- and I don't have that in front of me here right now. I do not have that in front of me.

JIM HALL: We've all had the pleasure of reading that. (Laughter.)

ROBIN ROGERS: Okay. Just one example, the S-2. I'll use for an example an S-2. And S-2 -- I believe it was anywhere from $4.50 to $6 per gallon delivered. And if you take a look at it now with -- and, you know, I know Art brought it up. You know, the pilots now because of their union, they've really -- actually, they're up there quite heavily in salary. You know, when you look at it -- if you look at it now, they're just -- it's quite a bit heftier. You know, they're just up there, you know. I wouldn't want to estimate -- I couldn't estimate it, because I don't know. But they -- it would be higher.

KEN JOHNSON: Wouldn't you want to look at the cost per gallon delivered and the circumstances under which it was delivered? I think if you're very close to your source it's one thing. If you've got to truck this stuff a long, long way you can't expect the same --

ROBIN ROGERS: That –

KEN JOHNSON: The same cost per gallon.

ROBIN ROGERS: Right, right. But very rarely -- very rarely, even if you look at New Mexico and Arizona, very rarely are you going to go a place to where -- their tanker bases aren't as close as here, as California as well. But you're not going to go that far. You may have to go 10 miles or 15 miles to get water for a helitanker, but you're still going to make more trips than an airplane going -- you know, he may have to -- he may ferry 100 miles. So you're still going to -- you are still going to be more cost effective compared to the air tankers.

KEN JOHNSON: All I was suggesting was that there needs to be a balanced equation so you can see --

ROBIN ROGERS: Correct.

KEN JOHNSON: Yeah.

ROBIN ROGERS: Correct.

JIM HALL: What's your experience in Mexico? You said -- showed a picture of you all down in Mexico.

ROBIN ROGERS: Right.

JIM HALL: How do they go about fighting fires in Mexico?

ROBIN ROGERS: We've been in Mexico for 10 years and they go about it very much like the United States. You know, it's very -- you know, they require tanks on all

their aircraft and we basically perform the same functions -- exact functions as we do here. And --

JIM HALL: Is your contract with the state or through the federal government?

ROBIN ROGERS: It's the federal government. Somewhere at the federal government.

JIM HALL: Do they have initial attack down there?

ROBIN ROGERS: Yes, they do. Yes, they do.

JIM HALL: Similar --

ROBIN ROGERS: They did have six helicopters -- they all use helicopters, they have no airplanes.

JIM HALL: Anything they do better down there than we do up here we can learn from?

ROBIN ROGERS: You know, they pay us more money. (Laughter.) That's -- they pay us a heck of a lot more -- you know, more money. So I -- that's one thing that they do do. So it's -- but they do -- they are -- they have the same -- if you really look at it, it's the same -- it's the same in Italy, it's the same in Australia, it's the same in Greece. Nothing changes. You know, it's still, go where the smoke is and put the fire out.

BILL SCOTT: I have a question about the CH-53. You said it would be a big increase in the speed part of the equation. But range is the other half. Can you comment on what kind of range you get and how does that compare with large air tankers?

ROBIN ROGERS: Compared to large air tankers -- well, for example, I -- you know, I can use an example. In Fresno -- if we left Fresno on an initial attack, we could be in Lake Tahoe in about 50 minutes -- 50/55 minutes, and that's with 1,000 gallons of either foam or water retardant. After you make your first drop, we still have enough fuel to do at least -- if I were -- you know, this is on an assumption that I'm pulling out of Lake Tahoe and the fire is let's say 5 miles away -- well, 3 to 5 miles away, then I can do 10 loads. And we should, you know, put out 21,000 gallons in about -- that would be probably about a two hour and 20 minute timeframe.

And the beauty of that helitanker is we're able to go, land at the airport in Lake Tahoe, or anywhere -- just using this as an example – Mandan (ph) or -- you can land, refuel, then you're back on the scene for three hours. And, you know, if you're averaging the 10 -- say 10, you can put out 60,000 gallons. We have instances this year of where in 12 days on certain fires that went out with our Skycranes, we put out a million gallons over a target in 12 days with one helicopter. That's pretty impressive.

AL HYDE: Any other questions from the panel?

JIM HALL: No. Thank you very much. We appreciate you coming and putting this presentation together for us and taking time out of your busy schedule to speak to us.

AL HYDE: (Off mike.) Ed, where are you?

JIM HALL: However you want to do it.

ED DUGAN (sp): My name is Ed Dugan. I used to fly air tankers in the years past. I was asked to speak, maybe having a few useful comments that may add to this panel. And I just wanted to turn around and let you get a look at me first. I'd rather sit, though.

JIM HALL: The Brookings Institute, not the Blue Ribbon Panel, created this forum for us. So be sure we're on the record on that. (Laughter.) Please proceed.

ED DUGAN: When the C-130 broke wings this summer and crashed, I wrote a letter to some friends about my believing that it was in the cards for years. I have been expecting a C-130 to crash with broken wings. And I was encouraged by a friend to, as he said, spill the beans to Aviation Week. Another friend asked me to get hold of an investigative reporter in my area who was doing a TV spot, which he called Expendable Airplanes, Expendable Pilots.

I didn't see his TV piece and I declined on both cases in getting involved. Then Tanker 123, the PB4Y2 broke wings and crashed. And having worked and flown a Tanker 123, I became a little more interested, particularly since I was aware that the PB4Y2s were extremely strongly built -- overbuilt and they're not supposed to break wings. So I did call Aviation Week and they directed me to Bill Scott, and we've corresponded a little bit in recent months, and he asked me to come speak to you based on my pilot experience as a tanker pilot. I've done a little accident investigation in the Air Force. I've done more mechanical work than I have flying, being a mechanic, and a little technical background as well.

One of the things he asked me about addressing was maintenance, and in doing that I'll relate an incident that I was unfortunately intimately involved with and it kind of brings some of the issues on maintenance to a point. I crashed a Tanker 138 in 1981 in Alaska, a C-130 aircraft owned by Hawkins & Powers.

MR. : A 119, wasn't it?

ED DUGAN: A C-119, which has long been retired for wing problems. In 1980 a pilot flew Tanker 138 in a fish haul in Alaska he said for some 300 hours. And it's a good airplane. I flew it 300 hours and never had to put a wrench to it and my comment -- or rather my thought was why not? The individual is known as a little boisterous so I don't believe it was quite correct, but I'm afraid it was close.

I became concerned about Tanker 138 at that time, about it being a pretty ragged out airplane and the engine was ragged out as well. And in talking to this pilot's -- his copilot, he said "Yeah, we ran it hard." He had said "Seems like the harder you run them, the better they work." And I said, "Well, I don't know about the harder you run them, but certainly the more frequently you run them the better they work." And this copilot confirmed they had run it hard. They flew heavy to a point where they could not maintain altitude at cruise power. They'd fly it at high power to an altitude to fly fish from the shoreline of Bristol Bay to the fish processing plant near Anchorage, and set cruise power and then drift down and perhaps do that a couple of times.

So I was getting concerned about the airplane as being pretty ragged out. That winter it got a paintjob, including a nice two-tone and pin striping. It looked like a hot rod for a show car. And I thought, I wish they had taken some of that effort into some real maintenance that I knew it could have used. It had at least one cylinder replaced on the right engine, perhaps three is what I heard but I can't confirm that. It did not receive a test flight or even an engine run or even an engine start until the purpose for starting was to proceed back to Alaska for the next fire season.

Me and my co-pilot for that year rode in the back end, and we literally rode in the back end for the takeoff. We were behind all the cargo because that was a free -- concerned with the aircraft, if it hit something I wanted the cargo in front of me. And after liftoff we donned parachutes for the first several thousand feet. I was concerned about the airplane. We did get to Alaska okay and early in its -- when it went in service. It had a problem with a number two engine in Fort Yukon. The pilot mechanic in feeling deep in the engine more than an hour and a half after shutdown felt it was too hot to touch in an area in there. He felt a bearing might be seizing. I don't remember which one.

But the decision was made to continue the engine in service. It went to Fairbanks and flew one day I think about five loads on a fire in the Fairbanks area, and between each load while it was loading retardant, I'd jump up in the wheel well, pull the oil screen and change it out. And then while it was making its retardant run, clean the oil screen and check the debris. Very little steel, just nothing abnormal, but a huge amount of aluminum and it looked like flower petals, chunks of aluminum that had gone through the gearing, the aluminum being soft. Hopefully it had not hurt the steel gears, but it was pressed into little pieces that looked like flower petals. And on the first cleaning I got enough to make a -- wad up a good ball about this size, and subsequently the amount decreased with each check. If I hadn't have done that, I don't think anybody would have, although I believe the pilot might have done it at the end of the day.

We were dispatched to do Bettles, Alaska, in about the center of the state, to fly a project for there and on the takeoff, at rotation number two propeller ran away. He dumped his retardant load off the end of the runway, returned and landed. The next morning I showed up with my copilot to take over the airplane, as he was due days off. I made a short test flight after repair and went back in service. The propeller governor had

blown a small O-ring, just hardly big enough to get it over your little finger, that handled pressure at takeoff of about 4,500 psi. And if this O-ring is not installed just right, if it's off center or misaligned, it's likely to blow out in time. And I indeed know of a number of these that had occurred over the years that I was in the business.

I took over the airplane and the next two days we flew on the same project fire and then were called in to Anchorage. By the way, this again was -- I was getting more and more concerned about this airplane, particularly the number two engine. We were called into Fairbanks for a paracargo load. We were in Anchorage about two-and-a-half hours, configured for a tanker to paracargo, loaded cargo, fueled and took off.

I commented to my copilot that on reaching altitude that "I think the worst is over. Anything that happens now with altitude and having burned off some weight, I think we'd be readily able to" -- "a lot more easier to handle it." We were a little overweight I believe and with paracargo and the inability to punch the button and drop the load in a few seconds, it was much more of a concern. And officially we had four smokejumpers aboard to act as air cargo handlers, kickers. And, fortunately, this was the first year in which they were carrying their own parachutes. My copilot and I being both skydivers, we had ours along as well.

We made a number of drops on the project fire south of Bettles, the primary load being two 500-gallon bladders of jet fuel and much other fire fighting ancillary equipment, the last drop being at 400 feet and our mission then was to turn towards Fort Yukon and make a subsequent drop on another project fire with some more jet fuel. These were to support the helicopters that were based at base camp right at the fire.

Just after the last drop at the Fort Bettles fire, the smokejumpers -- one of the smokejumpers said "We're getting an awful lot of smoke from the right engine." My copilot confirmed it and before we could hardly do much about it, it blew. The massive smoke and flame, unable to feather the propeller, it was pumping all out the hole where a cylinder was that it separated and they couldn't put the fire out. The smokejumpers jumped out right away. The flame was actually coming in at the back end of the cabin. They jumped out right away. We were 400 feet and went downhill from there.

At about 10 or 12 miles further at a lower altitude my copilot said "I don't think this is going to hold together." He says, "Pieces are coming off, we've lost part of the tail," et cetera. And without getting too much into the hairiness of the story there, it makes a good story in its own right. I've been asked to write it up. I told the copilot to jump and he got out at very low altitude. I continued on about another 10-12 miles, came on a river and put the aircraft down on the riverbank without the landing gear. The electrical system had failed. I don't know whether the hydraulics were still working or not. I managed to walk away from it, something unusual for that type of aircraft landing gear up.

The intercom system on the aircraft that we used to communicate from the cockpit to the smokejumpers and the cargo handlers in the back was a company

installation and did not work very well. And this was not much of a surprise to me. I kind of learned that many company installations don't work very well. But we had found that by using the transmit function we could communicate adequately. So we were transmitting on the radio every time we were talking back and forth from the cockpit to the cabin, and the base camp heard this -- heard everything we said, including our correspondence when we were getting into trouble. They rounded up the helicopter pilot and launched him in our direction and with visibility unlimited, he was able to fly a beeline to the smoke that was coming up off the burning aircraft on the riverbank about 25 miles away. He picked us all up and we did not have to spend what would have been an unpleasant night in the middle of nowhere.

While we had been in Fairbanks reconfiguring from tanker to paracargo, in about that two-and-a-half hours where all this was going on, the aircraft received a 100 hour inspection in each of its logbooks. The airframe maintenance log, each of the two wing-engine maintenance logs, the two propellers and the maintenance log for the jet on top of the aircraft. To my knowledge that indicated something funny, and to my knowledge it did not seem to raise a flag during the accident investigation that proceeded afterwards. That is, how did we manage to get a complete 100 hour inspection while we were busy reconfiguring and loading an aircraft? Well, the truth is we didn't. We got this much actual maintenance.

Also, I learned later concerning the runaway propeller a few days before. The Arthur N-350 (ph) engine, as I recall it has a red line on it -- on this airplane. The red line rpm is 2,900 rpm. That's your normal takeoff rpm. Transience -- momentary transience up to 3,100 are acceptable. Anything exceeding 3,300 rpm, by the manufacturer I understand, it calls for engine removed from service. I learned later through a third party, Jack Williamson, in fact, that when the pilot got around to looking at the tachometer needle after this runaway, the engine was coming down through 3,500 rpm. How high it actually got we don't know, but it was definitely a severe over speed. Yet, the engine was continued in service.

I surmise that a crack might have started at the base of this cylinder that separated at that time and over the next 10 hours or so worked its way around in separating, leading to our event. This was the kind of maintenance that I dealt with through most of my time in the air tanker business and it has a lot to do with why I got out of it some years later as middle age started to set in and I had gotten away with more than my fair share already.

But I see the maintenance problem as significant. That is, how does the BLM inspector of Forest Service inspector who is looking at an airplane for carting, accepting it for public service, how does he, say, look at a propeller and know whether that propeller has had any real maintenance or anything at all since it might have come out of the bone yard a decade ago? Pretty much all they can do is look at the maintenance log. Even FAA maintenance inspections of airlines are largely a paperwork procedure.

I see that as a real problem. Even if he's knowledgeable and experienced in reading between the lines and suspect that maybe that propeller has not had the

maintenance that he sees in the logbook, he would probably have a hard case -- hard time making the case for it on the job. But that is something that I hope is addressed seriously by this panel. What do you do? Well, increasing the knowledge and experience of the inspectors would be a help, but far from a solution. I find a lot of them are not all that knowledgeable. But even the more experienced ones face the same problem. Third party assessment of some type might be desirable too. But assuring that the maintenance is actually done I think is an important factor here.

Dealing with older aircraft, the older aircraft themselves are not the problem. If they're properly inspected and maintained, they may be able to continue in service. Certainly new airplanes are desirable and will mitigate this, but assuring that required maintenance is done is important. Recently, a couple of issues ago in Aviation Week there was an article on the airworthiness directive for the P2s concerning wing inspections. Fairly extensive in terms of what you have to do and -- not so much what you have to do, but at least extensive in the schedule. And the copy has been sent to a number of friends with a note suggesting that this may be useless if it's just logged in the logbook and the maintenance is either done sloppily or not at all, as I'm afraid may on many occasions still be done.

I'm pretty close to a time limit here. Do you have any other comments?

EARL McKINNEY: Ed, can I ask -- you said you were working with H&P up until -- you didn't give us like a -- maybe when you stopped flying in this business?

ED DUGAN: H&P through '82. I looked for oil in '83 and in '84 I flew for another operator in Alaska and a heavy cargo operator in Alaska, flying C-119s as well. And '85 was the last year I, I think, stopped this type of business and put on a white shirt and tie.

EARL McKINNEY: Can you characterize -- you know, we've heard testimony from different folks about typical Gs encountered in this operation of flying a large airplane around a fire. You know, what sort of turbulence and what type of VVI you might see as an extreme or an average?

ED DUGAN: Bob Lawford (sp) made the comment that it should be able to be done between 1 and 1-and-a-half Gs in general, and I'd have to agree with that by and large. However, if you're in that 1-and-a-half G environment and you're in turbulence, which is a frequent occurrence down low, you're going to have spikes exceeding 1-and-a-half G. And this, of course, is fatiguing on the airframe.

High angles of bank, by the way, are not necessarily high G. I often used high angles of bank myself in Alaska in kind of a floating maneuver to look down on a fire and give you a good -- better perspective for line up. We did a lot more of our own work up there without lead planes. But I wasn't pulling Gs.

EARL McKINNEY: How about – Ed, how about like --

ED DUGAN: However --

EARL McKINNEY: How about -- I'm sorry, how about like VVI? I was just sort of curious with the -- we've seen different studies that suggest the average is 3,000 or 4,000 per -- you know, VVI per flight. Does that seem reasonable, or is that some dated information?

ED DUGAN: I'd say it sounds high, but I don't think I ever looked at a VVI while I was flying in a fire. I would then say that the worst -- or the most significant G loading would probably occur on trying to hit a target that is hard to get at down deep, say in a hole. Or you might have to come over a ridgeline and sort of dive down at it at a steeper than normal angle. You'd be as slow as practical on the top end over the ridge, dive down, being careful not to exceed say flight limitation speed. But you may well be dropping at a higher airspeed than normal, which is usually about your final approach speed for landing.

That's at a little higher than normal airspeed. Any wind gusts will give you a bigger G spike than at the lower speed. In addition with your dive angle -- descent angle, you would be making a much larger pitch direction on the bottom end for recovery. And in a case, particularly on your first drop, where you might abort the drop due to a poor line up or ground troops you see down there or some other reason, with full weight. Higher than normal drop speed, a bigger pitch angle chain required for recovery. These could lead to the over G conditions that could -- are more likely to initiate cracks and further problems down the line.

BILL SCOTT: Ed, you mentioned --

ED DUGAN: I would also say my experience was that I think a lot of these tankers are flying overweight.

BILL SCOTT: -- your experience. I think you said you worked -- (audio break at tape change) -- investigation when you were in the Air Force?

ED DUGAN: Yes. I attended the University of Southern California Accident Investigation School in L.A. previously to the Air Force, and it was one of the most fun several months I had while I was in service.

BILL SCOTT: With that background and your experience as a tanker pilot, how would you characterize the safety culture, if you will, of this industry?

ED DUGAN: I'd have to say in retrospect that I didn't like it. We didn't feel we were going to die, but we were -- most of us were sub-middle age invincible to an extent, I think, and felt that we could handle whatever came up. But the record shows that with the number of fatalities over the years, that's not always the case. That is indeed, in part,

why I got out of the business. The words that I actually thought to myself was "no more jumps."

EARL McKINNEY: Can I ask, Ed, you just recently noticed that the unionization of CDF pilots. Is that what's happened here in the last several years? Will that have any positive impact on arguing for safety or better reporting mechanisms from that group of pilots? Is unionization a step in a safer direction?

ED DUGAN: It would be from a safety aspect. It may cause other problems for the industry, as unionization can do. It can get the tail wagging the dog, for instance. Tankers pilots typically I've found are independent type guys. There can be lots of turnover, particularly among the younger troops who realize that when you work it's a lot of work and when you don't, it's awfully boring. But a safety office or panel involved on a union would certainly be an asset, just like it is the safety that airline unions get involved with airlines.

EARL McKINNEY: A couple of other suggestions we've heard while you continue on, Ed, and I appreciate your comments. Does salary play a role, the way we structure contracts, pay you to fly, don't pay you to sit? You make more money if you're flying. Would it be, as we heard from Neptune, maybe wiser to go to a salary and remove all the financial incentive to fly?

ED DUGAN: I kind of like that idea. I can say that I've taken flights that I might not otherwise if I wasn't getting extra pay for it. But I like to fly and I like the challenge, so in many cases I might have done so anyway.

EARL McKINNEY: Right. The other thing we've heard from different places is sort of a lack of feedback, that no one really listens to tanker pilots in the community, that there is no place for them to pass on their observations or feedback, that let's just kind of keep you in the dark and off at the end of a bell and if the bell rings, we expect you to do your job. But, you know, we don't really want to hear from you or there's no formal mechanism set up, maybe after a fire season, to say let's go out and hear what the tanker pilots had to say? Is that a safe characteristic that you're not as a tanker pilot involved in any kind of feedback process or communication process?

ED DUGAN: Yes, and to a large extent it's kind of protecting your own self. Your reputation in the industry is critical for the pilot themselves and for each individual operator and you don't like to hang your dirty laundry out to everybody else. I think what you mention, a panel at the end of the season to hash out some of the issues and perhaps encourage people to speak would be useful. In many cases you may only speak out once then you're on the street.

JIM HALL: Well, thank you very much, sir. We appreciate --

ED DUGAN: I'll be around all day. If anyone would like to talk, I'd be glad to do it. I loved the business when I was in it and I still dream about it and that's why I'm here. I'm still concerned.

AL HYDE: We are actually running a little bit ahead of schedule, which is a real plus. (Off mike, inaudible.)

JIM HALL: Welcome, and thank you for being here. If you would introduce yourself to us, we'd appreciate it and begin.

PATRICK TIERNEY: You betcha. My name is Patrick Tierney. I'm from the Sierra National Forest and I'm one of four air attack group supervisors that are on the Sierra National Forest Alert for air attacks. Our group is kind of getting smaller and smaller. And I don't know if your panel has heard from many of the air attack people or you've even interviewed any of the air attack people. You may be missing the boat if you haven't. The reason I'm going to say this is because as a group we tend to be unbiased and have the highest level of knowledge concerning the application of aerial resources. And I'm here as a representative both of the Sierra National Forest and on behalf of myself.

One of the factors that we felt as a group that affect aviation safety is how the contracts are awarded. The climate we're bidding is done at a level that doesn't provide for anything other than normal operations, with little incentive to improve the quality of equipment prevails – (inaudible) -- of fire suppression. On the Sierra we went with best value for picking our air attack platform this year, and we're as a whole really happy with what we got.

Fresno sits at 400 feet. The top peak of the Sierra National Forest is around 14,000 feet and we have a turbocharged Aero Commander that's pressurized, so we don't have to suck oxygen half the day, which makes a big difference when we have to talk a lot. Due to the speed in its rate of climb, it's a more cost efficient aircraft for what we do. Also, the safety factors is that an airplane can still continue to climb on one engine, whereas in Colorado when I was flying in a Beech Baron 55 and it was normally aspirated, we had days when we had trouble maintaining 13,000 feet.

EARL McKINNEY: I'm sorry, Patrick, you said you'd could climb at 14,000 feet single engine?

PATRICK TIERNEY: The Aero Commander, yeah.

JIM HALL: Patrick, you're employed by the --

PATRICK TIERNEY: U.S. Forest Service.

JIM HALL: U.S. Forest Service. And how many years have you been in this position?

PATRICK TIERNEY: As an air attack about the last 10. I have 33 years total.

JIM HALL: Thirty-three years. Thank you, sir.

PATRICK TIERNEY: We thought that by going with best value that this would probably be an incentive for vendors to do better maintenance on their aircraft and offer better aircraft for us to use. We also felt that past performance should be included because we've had some aircraft there at Fresno that really didn't cut it. That's the best way to put it. That broke down more than it flew.

Another suggestion I brought with me from the Sierra was to go with rent-to-own aircraft and what we're seeing here is that the agency buys the aircraft, the air tankers or whatever, from whenever and leases the aircraft back to the vendor, the intention being that the vendor would own that aircraft after a predetermined time. And this would be a good incentive for the vendor to maintain his aircraft better, spend the money to improve it because at the end of the predetermined time the aircraft would become the vendor's.

EARL McKINNEY: Is that how the S-2s, by the way, are arranged?

PATRICK TIERNEY: No, we have a C-130 on contract at Fresno.

EARL McKINNEY: But for the CDF do you know if that's how --

PATRICK TIERNEY: I have no idea.

EARL McKINNEY: -- government owned --

PATRICK TIERNEY: And if they don't take care of the plane, we take the airplane back and give it to a different vendor. So as a group we felt that there's a need for all the tools in the toolbox. And there's not a perfect aircraft for every fire and to remove some of our tools is going to make the job difficult, if not impossible, to accomplish. Heavy helicopters are an excellent tool, but are limited by the cost of doing business. Their numbers and travel time, the availability of water or retardant limit their capabilities and they're just as susceptible to mechanical failure through pilot error as any other aircraft.

What I'd like to do now is speak on my own behalf. Over the last 10 years I've spent about 1,600 hours in air attack planes looking out the right window. There's proficient air attacks -- I'm not going to say there's good air attacks and bad air attacks. There's proficient air attacks and then there's the air attacks that are pretty much baggage. By baggage I mean they sit in the window -- sit in the door, look out the window, pretty much can't figure out why the ground crews can't get to the top of the hill in that 30 seconds they gave them and why the P3 just can't dump on that part of the line that's by the pine trees down there where the people are. And the worst air attacks, the more baggage ones will just sit there and look out the window and not say anything.

Hopefully, those guys are on the way out. With the Forest Service --

JIM HALL: Is that because of training?

PATRICK TIERNEY: It's training, comfort level of being in an aircraft. Some air attacks in other parts of the country, there is no guidelines. It's pretty much they go from an aerial observer or recon guy and they say "Well, we want you to be the air attack person now."

JIM HALL: Do you have multiple jobs, or is this a job you bid for and get?

PATRICK TIERNEY: In Region 5 there are specific job air attacks. What I am is kind of a relief air attack. I'm more what you would see in the rest of the country. I have a regular job and then I go fill in as an air attack when there is a fire --

JIM HALL: And what's your regular job?

PATRICK TIERNEY: I'm a prevention technician. Fire prevention.

EARL McKINNEY: Patrick, do I understand lead plane pilots, though, have a national standardization plan underway?

PATRICK TIERNEY: For lead plane pilots or air attacks?

EARL McKINNEY: Lead plane pilots. You can see where I'm going --

PATRICK TIERNEY: (Cross talk) -- one of those.

EARL McKINNEY: I knew that. I was just going to ask -- the next follow on question is if they have a standardization program for lead plane pilots, what --

PATRICK TIERNEY: For air attacks?

EARL McKINNEY: -- what keeps them from doing the same thing with air attacks?

PATRICK TIERNEY: I don't -- a lot would have to do -- because there are other state agencies and other agencies who have their own air attacks. Kern County has an air attack platform, and I'm not going to get into the politics behind that other than the fact that last summer we found out the plane hadn't been carded, so we had an uncarded airplane flying fires for the Forest Service, which is really against our policy. And so I think that's been rectified now.

Once you leave the state of California and you go to like Texas -- we flew fires in Texas in 1996. Up until that time I wasn't aware of any air attacks in Texas at all. Then

I've been called out to go fly like in the state of Oklahoma as an Oklahoma state employee, which doesn't bother me that Oklahoma wanted that little title. So when we look at --

JIM HALL: What if you got killed in an accident in the state of Oklahoma? Are you --

PATRICK TIERNEY: I still would've been under --

JIM HALL: The federal contract?

PATRICK TIERNEY: -- the federal government.

JIM HALL: Okay.

PATRICK TIERNEY: The training program in Region 5 is a little bit stricter than it is in the rest of the country. CDF does have a really excellent air attack training program. The training for air attacks outside of Region 5 pretty much is a trip to Arizona where you get all classroom and no practical.

JIM HALL: Where do you go for the training, sir?

PATRICK TIERNEY: Here and Redding in Region 5.

JIM HALL: I thought you said you went to Arizona.

PATRICK TIERNEY: That would have been at Morana (sp). I'm not aware of any other --

JIM HALL: How many weeks is the training, do you know?

PATRICK TIERNEY: In California it's two weeks. In Morana I'm not quite sure.

BILL SCOTT: But in Redding you do fly?

PATRICK TIERNEY: Yes, sir. They throw you in the airplane and you get to -- everybody goes. You make all your mistakes and the sharks come and bite you and then you go home a much happier person. Well, one of the things too is in that training you find out whether you can fly in an airplane without throwing up. Of course effectiveness is proportional for the skill of the air attack person. An air attack person is the person that should decide where to put the mud and my personal observation is when this doesn't happen, your effectiveness goes way down. That's not to say that the pilots aren't any good. What I'm saying is that pilots are pilots. The air attacks are firemen, or fire people. Air attacks spend a lot of time on the ground working fire on a personal level,

learning what fire is and how it behaves using the tools correctly and working with the tools themselves. Myself --

JIM HALL: So what qualifications do you have to have --

PATRICK TIERNEY: At the Forest Service --

JIM HALL: -- to be a fire attack coordinator.

PATRICK TIERNEY: At the Forest Service you have to be a division group super before you can even take the class. The way we're structured right now is about 15 to 20 years to get to be a division group super. For me it was about 14 years as a division group and about six years later I went through the air attack class, and after about two years of in the field training I've wound up being an air attack.

JIM HALL: I hate to keep interrupting you, but I want to understand. How much time routinely do you spend as an air attack person, and how much time in your routine? Does that depend on the length of the season?

PATRICK TIERNEY: Yes, it's got to be all dependent on the fire season. For me, and due to the shortage of air attacks in the country today, I could be gone the entire summer if that was okay with my supervisor, which it isn't. This year I was gone --

JIM HALL: And why is there a shortage of air attacks? Have they eliminated positions, they can't fill them or --

PATRICK TIERNEY: It's because of how long it takes to get there and we have a break of about 10-15 years of hiring people. So that group -- we've got that 15-year gap. We're in it right now. You know, I can see within the next five to 10 years then you're going to start seeing rotation pick up again.

EARL McKINNEY: Patrick, while we're interrupting you, did you hear the testimony earlier from Rogers about putting a flare bulb, I think, in an airplane?

PATRICK TIERNEY: Yeah.

EARL McKINNEY: Doesn't that seem like an awfully effective way to get better training and better use out of your attack folks, and find out if people are actually -- people on the ground kind of looking over your shoulder saying --

PATRICK TIERNEY: Yeah, I concur. I flew with a flare when it was at Fresno and, yeah, you can pick up spots that the retardant has missed, you can tell if the retardant is going in the right place, you can pick out hot spots on the fire, you can see through the smoke. It's a safety factor for people on the ground. It's a wonderful tool.

EARL McKINNEY: And it seems like it provides some opportunity for training, does it not?

PATRICK TIERNEY: Yes.

EARL McKINNEY: If we've got to look over your --

PATRICK TIERNEY: A person in the backseat and then you've got an operator, and that was kind of what we were doing at Fresno, and that's why I wound up with a lot of hours sitting in the back seat.

EARL McKINNEY: Because that seems like that would increase standardization and employment of assets, a lot of other things that we've heard that, you know, just aren't very well standardized at this point.

PATRICK TIERNEY: The only thing that's detracting from the flare program is the cost. I guess it's a little over 100,000 bucks to throw one into a plane.

EARL McKINNEY: Yeah.

PATRICK TIERNEY: Santa Barbara's air attack -- I've done relief on that --

JIM HALL: Do you think it would be cost effective in terms of how much money is spent on the retardant and on the drops?

PATRICK TIERNEY: My personal feelings were, and I did the write up a few years back evaluating the flare system we had running out of Fresno, was that the way we were using that, that we could prove that it would save the government money. For one thing, you can pick up holes in your retardant that you can't see from the plane with the normal eyeball. You know, and you get a proficient pilot -- I was using S-2s to pick up gaps in the retardant line. I'm trying to remember the name of the fire at this time. It was in 1995. But they were picking up holes in the retardant as small as 50 foot.

And one of the comments from the S-2 pilots was that they were surprised that they could even see the hole that small, because they were -- we were doing this -- I was directing them, directing the drops using the flare. It was kind of like "Okay, you're coming up by it. You're going to have three, two, one, go ahead drop," and they were hitting the holes. And he wouldn't see the hole until he was right in line. We weren't flying through smoke. I mean, these were normal visibility VFR conditions. We did have one incident where I felt the system paid for itself where a crew got itself in trouble and was getting cut off. And due to the heavy smoke, they couldn't see where they were, the helicopters couldn't see where they were, but the infrared could see where they were and what the fire was doing.

Do you want me to get back on with -- the last 33 years I've been working as an IC for the last 10 years. An IC is the incident commander on a fire on the ground we run

around the clock any weather, any visibility. And as an IC I've never depended on aircraft to put my fire out. I mean, that's kind of a given on the line. If you've got them, great. If you don't have them, that's okay, we've just got to be there anyway. If we get aircraft we don't care if it's a helicopter and retardant, we're going to use it. If we get a dozer we're going to use that. If I get a couple of hotshot crews I'm going to use that. And as far as the retardant is concerned if it's wet and gets on the ground and if it works, great. If don't, that's great too.

So from a ground perspective, we're not paid to know what airplanes do. And if I'm down the bottom of a canyon and I don't know any better, I'm going to say, well, let's get a drop down here in the bottom of the canyon. Why can't you do it? But we try to avoid that kind of pressure on pilots and the reason why we don't have people on the ground talking directly to the air tankers in Region 5, unless it's absolutely necessary, we want to take the pressure off the air tanker pilot. I'm not even going to talk about dispatching, other than the fact that a lot of times it does seem to us folks that are working fires, they're making decisions by a ouija board without having all the information available. I know that's been a constant grip with air tanker pilots is how dispatching is done, and that's a whole other hour's worth of talking.

We're always looking at safety. That's always my first order of business. It doesn't matter if I'm in a plane or dropping a tree. At no time as an air attack have I ever asked a pilot to go do something that they felt was dangerous, and that's kind of one of the things we try to hammer home with the air attacks is to ease up on what we want as far as pushing over into a canyon, or whatever it is they need to do. I don't tell them what to do. If they don't want to drop that's fine because I'm not in their cockpit and I don't know how their airplanes work. So I don't question their judgment. If they don't want to do it, that's good enough. What I try to do too is keep down the --

JIM HALL: From what you're expressing then, it sounds like there must be some people that do that?

PATRICK TIERNEY: Yes, sir. As a matter of fact there are.

JIM HALL: And are they trained? Is that because of a problem with training or stupidity or what?

PATRICK TIERNEY: I think it's a matter of ego.

JIM HALL: Ego.

PATRICK TIERNEY: And that's -- I think it kind of boils down to that, or just a lack of knowledge. You don't see it so much in California as you do in other regions.

JIM HALL: Okay.

PATRICK TIERNEY: The overall safety machine is going to depend on how it's maintained and operated, and once again contracts can be the way to take care of that. I rebuild cars as a hobby and when I start they're junk and when I get done it's kind of a nifty little machine. I don't look at a C-130 as a piece of junk. I say it may be the cost of maintaining it is going to be the determining factor.

As far as operating machines, the pilots that I work with have been a professional group. Maybe a little on the weird side, but they're still a professional group. And I like -- I heard feedback. As an air attacker I'm always giving them feedback. Every drop I tell them "Okay, you were on time and on the money" or "You need to be a wingspan to the left or a wingspan to the right." If I see a pilot that's constantly missing, at the end of the day when I get back on the ground I would probably go have a talk with him to find if he was having a problem. Sometimes you will find out that he had the flu that day or whatever. So we do give them feedback and it's kind of a standard operating procedure.

EARL McKINNEY: But, Patrick, there's no collection of that. There's no aggregation of that, there's no -- I could tell that S-2s or that the air -- you know, the circular error is less or greater than a 130. There's no aggregation of data on this dropping.

PATRICK TIERNEY: No. The only records I keep is by name board in the plane I keep track of who's dropped.

EARL McKINNEY: Right.

PATRICK TIERNEY: And how many drops they've made. Now, one of the things I'll also do is -- most of the air attacks in Region 5 will do, is we'll keep track of how much that airplane is up there. So that if it looks like -- if you're getting a long term fire like a Curt Complex or Ackerson (ph) Complex and you start noticing that this particular airplane has been up six or seven hours every day, day after day, then we're going to start telling him "Why don't you go ahead and take an hour lunch," or start the airplanes a little later.

EARL McKINNEY: We've heard from other air attack pilots that they can recognize voices of heavy attack pilots, that they would adjust their employment of different heavy air tankers based on knowing who that crew is. Is that fair or is that just somebody that's been at it so long?

PATRICK TIERNEY: That's fair and I've done that. When I find that I have a particular flight crew that's had problems in the past, I'll put them somewhere else where it's not going to be such a problem. In the seed program I've noticed that there we tend to custom tailor what we're going to have pilots do because you know if this guy is performing well and I have one seed -- and decided that he was going to fly uphill to drop and so after that then it was -- I had my thumb on him after that. That's the best way to put it. I just put my thumb right -- okay, this is what I want. I want you to go this way, I want you to go this way, and I want you to -- I'm going to leave it up to the -- kind of

somehow -- it's my position that for 91 years the Forest Service has been suppressing fires. The first 45 we did without air tankers. And I think the last 30 years that I've been in it I've seen us change how we do business. And all the changes that we've made I believe make us a safer organization and I think we've based a lot of those changes on common sense.

When I first started in the '60s had a FCO, because they were fire control officers then, one of my first jobs was to have a horse or mule saddled in 10 minutes to respond to a fire. The FCO came up and he asked me what was I supposed to do when I get to the fire? I said you're supposed to put the fire out. He said, no. Your first job is to unsaddle, pack stock and brush him down, because you want to take care of your part of the problems before they become problems. Then you can get after it. What I'm hoping see result out of this blue ribbon panel is an identification of the problems, take care of the problems and that us guys on the ground can go ahead and go get after it.

So that pretty much sums up what that four page letter was.

JIM HALL: Well, and do you want to give us a copy of that? Do you have copies? Excellent.

Excellent. Well, we appreciate you being here because the air attack -- tell me a little about your other job.

PATRICK TIERNEY: A fire prevention tech?

JIM HALL: Mm-hmm.

PATRICK TIERNEY: Well, that's kind of like migrated off into a political job and that's not exactly something I'm real comfortable with. In the local community of Mariposa where I live, the Forest Service has pulled way back. One of the things we did is we got the Type 1 helicopter put in at Mariposa. And that took a hard sell with the local board of supervisors and the local congressman. So that's not exactly something that I do well, but it's managed to -- what I have been doing. We do school programs and we're the Smokey Bear program people.

JIM HALL: Okay. Well, you don't do anything in the forest in terms of prescribed burns, things like that?

PATRICK TIERNEY: I have qualifications to be a holding boss and a lighting boss for the prescribed fire.

JIM HALL: But do you do that routinely here?

PATRICK TIERNEY: Every winter.

JIM HALL: Every winter?

PATRICK TIERNEY: Yeah, this -- the -- you know, my job is kind of a jack of all trades job. If we have hazard trees along the road, I'll go out and fall them. If we have a prescribed fire, everybody gets to go play during the winter months. And the regular wild land fire, I'm the only person that can be in charge of the initial attack in my local area.

JIM HALL: Is there any difference in an initial attack here in California and the other regions?

PATRICK TIERNEY: Yes.

JIM HALL: Would you describe that?

PATRICK TIERNEY: It's a heavy handed initial attack in Region 5. Whereas if I was in Utah or if I was in -- yeah, Utah would be a good classic example where depending on where the fire is, who owns the fire is going to really tell you what you are going to get as far as response to that fire. The state of California in the Forest Service in Region 5, like I said, it's a heavy-handed you're going to get. It doesn't matter if it's a big fire or a little fire, if it's on state or if it's on BLM or if it's on Forest Services. You're going to get five engines, two hand crews, a doze, a couple of air tankers, a couple of helicopters. Yosemite National Park is going to be the same way. Whereas in Utah if it's the state of Utah that owns the fire you might get a couple of guys in a truck and you're going to have to ask for permission to use aircraft and they may not want aircraft depending on what their budget looks like.

Whereas with some of the fires when we first went to Texas in 1996, I had to write a two-page justification for every time we used an air tanker. That seemed to have gotten squared away by the end of March of that year. Kentucky and Tennessee it all depends on what county it's in on what kind of a response you're going to get. So yes, it's different everywhere you go.

EARL McKINNEY: Have you worked with MAFFS? Have you called in --

PATRICK TIERNEY: Yeah.

EARL McKINNEY: Tell us about those the --

PATRICK TIERNEY: MAFFS, you have to be careful with them. And one of the nice things is they're required to have a lead plane with them. But you're not going to do anything difficult as far as way difficult because once they turn the machine on, they can't turn it off. So you've got to kind of preplan your line. Do you really need a mile long retardant long? If that's all you've got, then I guess that's what you're going to use. But we're going to be more aggressive in an attack with contract air tankers.

EARL McKINNEY: One of the things we've heard about MAFFS is they're a little bit more standard, that there's not a wide variation in pilot performance, that kind of stuff.

PATRICK TIERNEY: No. No, they're scary. (Laughter.) The reason why I say they're scary is when I'm running a fire I'll give a contract pilot, I tell them what altitude, I'll give them an altimeter setting, I'll tell them what altitude I'm at and what altitude I want them to come. And I can rest assured he's going to come within 50 feet of that altitude. MAFFS, he might come in at 10,000, he might come in at 15,000 and he might vary as low as 5,000 to get to the altitude that you want him at. And we've had -- any time that I can read the numbers on the side of an air tanker, the little 2 inch or 6 inch high numbers, they're too close. I can think of several instances where I was reading the numbers on the side of the MAFFS planes.

JIM HALL: What about the military use -- oh, I'm sorry.

EARL McKINNEY: No, go ahead.

JIM HALL: The military use here? Is it National Guard, U.S. military?

PATRICK TIERNEY: The National Guard gets called up very rarely. And they're kind of an odd group to work with too, in that they're not real familiar with our policies and procedures and how the -- see, I just go with helicopters. We're used to using our own contract helicopters. So the military has their own set guidelines and once you get them, it usually takes about four or five days to get them up to speed to how we do business and then they're pretty much on the same page. But during that learning curve time it's kind of like you don't want to be next to military in civilian helicopters. You kind of want to give the military their own little world somewhere off to the side so they don't run into something.

EARL McKINNEY: Has use of ground firefighters changed much after Storm King and 30 Mile?

PATRICK TIERNEY: Yes. I think they got a little bit more skittish and a little bit more aware of what they're doing. However, my observations in the last two years in Region 3 and Region 2 and Region 4 is that they're making the same mistakes, and then as an air attacker I've had to call crews on the ground and ask them what they were doing. Kind of you don't really say, well, you know you need to be leaving. You just say do you really want to be in that position where you're at, mid-slope in a drop building line down hills may not be what you want to do.

EARL McKINNEY: : I'll end up with a "don't laugh at me" question, please. Why can't you fight fire at night? I mean, the --

PATRICK TIERNEY: We do.

EARL McKINNEY: From the air?

PATRICK TIERNEY: No, not the air.

EARL McKINNEY: Right.

PATRICK TIERNEY: We're on the ground at night. Well, I can't see the rocks. They're not real well lit. And that would be one thing.

EARL McKINNEY: No --

PATRICK TIERNEY: I mean, flying at night -- like, I'm working on my pilot's license so, you know, flying at night scares the crap out of me.

EARL McKINNEY: Okay, let's get past that. I mean, in the military in World War II we didn't fly at night and bomb at night because we couldn't find the rocks. That was 40 or 50 -- what is it, 60 years ago. I'm a taxpayer. There's a fire burning out there, it's dark, it's not hard to find. Why can't you use air assets, fly them over a thousand feet above the ground? You've got radar altimeters, drop some water out and change the humidity?

PATRICK TIERNEY: Let's go with risk versus gain. Why do we want to risk an air crew flying at night when the humidity is low and fire behavior is low, even though you might gain some ground? And one thing for the guys on the ground, we can't see what's coming out of the sky at night. I got hit by a tree in 1987 that fell about 150 feet and we never did see it until after, you know, you're in the back of the ambulance going to the hospital to get checked out.

EARL McKINNEY: Hasn't technology changed, though? I mean, I feel like -- I'm an Army grunt and it's like I sure wish airplanes wouldn't fly overnight and shoot the bad guys, but that's not a bad thing, you know, because now I wake up in the morning and half the bad guys are dead. Why can't I wake up in the morning and there's, you know, five miles of retardant drop or just water drop that wasn't there when I went to bed, when the fire is kind of quiet. I don't think there's high winds at night.

PATRICK TIERNEY: No, that wouldn't be a bad thing to have that. I think that what happens though is that the smoke settles in. That's going to be a problem for you. And like I said, when you're working fire at night you can't see what's coming out of the sky. So in that regard maybe that the infrared would be something that an air tanker could do. But then the first guy with the headlamp on who looks up at your airplane is going to blind your infrared.

At this point I don't feel -- you know, all this crap grows back. You know, I've worked a fire out down by Point Sur along the California Coast. I mean, one of the first fires I ever went to in 1969 was out on Malara State Park and then we were back in 1976 for the Marblecone fire out in Malara State Park. And then I was back in 1985 with the

Baja Gap (sp) fire running a hand crew out of Malara State Park. And then the Curt Complex, that was two years ago, fire camp was at Malara State Park. So when we look at what's really at risk, this stuff all grows back. And the people that build their homes in the urban interface, we're working with those folks to make their houses a little bit more safer so they don't have to depend on things like air tankers to keep their homes from burning. So judging by that, everything grows back. Why do we need to risk flying airplanes in the dark that can run into rocks? I mean, that's kind of the bottom line to that one.

EARL McKINNEY: Okay.

BILL SCOTT: Can you give me a quick assessment based on, you know, a very long career obviously. Have things changed substantially in terms of fuels, obviously drought and the way -- or the philosophy of going after there fires in the last 5-10 years?

PATRICK TIERNEY: The fuels issue, yeah. In the last 30 years I could take in -- walk through the woods, but now I can't. And that's -- it was already happening by then. And as far as how the Forest Service does business, yeah, well you've just got to be a little smarter because you're not going to go quite as fast as we used to go, as far as building line-to-line construction. Why people are getting entrapped and killed, there's no real easy answers. Pretty much, though, it's a lack of experience. When I started, most of the senior firefighters started in the 1930s and were used to you go out with a rifle and a fishing pole because you shot and you caught whatever you were going to eat for dinner that night, whereas nowadays we're kind of a gentler organization.

So just to give you a real overly simplistic answer is that we lost kind of our corporate history in that 15 year gap I was talking about, and so what I've noticed is that crew bosses and strike team leaders don't have that level of experience that was with us when I started back in the '70s. And that's, like I said, real overly simplistic.

JIM HALL: Well, thank you very much for your 33 years of public service.

PATRICK TIERNEY: Okay.

JIM HALL: And you're getting your pilot's license and your -- what's the last car you rebuilt?

PATRICK TIERNEY: A '32 Essex.

(Cross talk, laughter.)

EARL McKINNEY: See you at lunch.

JIM HALL: Thank you.

AL HYDE: I have three people who so far are assigned to speak this afternoon: Mr. John Watt, Mr. Brown (sp) and Rick Fleischer (sp) and if anybody else wants to sign up, put your name up there and we'll see you back here promptly at 1:30 to --

JIM HALL: We welcome any input, now. If anybody feels like they've got something they want to say, come on up and say it.

EARL McKINNEY: We promise to be nice. We'll be nicer in the afternoon.

[END TAPE #2.]

Al HYDE – Recalled Terry Unsworth, CEO Aero Union

TERRY UNSWORTH: (In progress) – As I was pointing out, a number of us in the room were a little bit disappointed in the response this morning to the questions related to the recent association meeting in Chandler. There are nine people in the room here out of the 24 who attended and the meeting was quite productive and many issues were discussed that may be worth just stressing here this afternoon, and again, feel free for questions at any time. One thing for sure, the attendees at that meeting were without doubt some of the most dedicated people that I've met and some founders of the air tanker operation in the country and very proud to be part of the solution.

The topics that we discussed there included many aspects of the operation. Not just maintenance, not just aircraft type, but of course the training surrounding that with the crews, maintenance crews included, and compensation, the operation itself, whether it be initial attack or the command and control throughout typical operations, facilities at the tanker bases, and of course -- and I should put my glasses on because I did make some notes here -- and of course, how do we measure the effectiveness of drops.

Some of these topics we've touched on briefly this morning, and the result of the two day session was a paper that was presented to the Forest Service, and of course copied to the Blue Ribbon Panel, basically explaining the position of the contractors, the operators. Explaining the desire is to do the right thing here to not only raise standards but draft a continual effort, not only to raise standards to a certain level but continue to raise them, not only to improve the image of the industry but also, of course, improve the effectiveness and the cost effectiveness of the operation overall.

So there are a number of key points that came out of it as recommendations to the Forest Service and they include, under the key topics of maintenance, contracts, pilot and crew issues, and general industry issues. And I can certainly go over some of those specifics at your request.

JIM HALL: Well, we -- the comments this morning, as you know, we've had several people come and tell us these meetings were being held so we're very pleased that the meetings were held and we appreciate you copying the panel on the results. I did

have a question. As you know, we had a couple of members of your industry come and say there was inadequate funds in their contracts to ensure safety and I was wondering -- there seems to be quite an emphasis here on cost effectiveness and maybe you could explain that to me.

TERRY UNSWORTH: Okay. I'm sure the attendees of the meeting were unanimous in that -- after some discussion of course. There's a lot of emotion around this as well, as you can imagine. But after some discussion were unanimous that just expecting increased funds or more money to resolve the issue is not the answer. There are a number of issues here that contribute to the overall situation. Admittedly some of the elements of providing a more cost-effective service are going to require some additional support in the way of compensation. But it's not just that; it's understanding what's expected. It's getting consistency throughout the regions in the way that air tankers are used, fixed wing air tankers are used.

The initial attack issues point to some significant chain of command or command and control problems that once again increase the frustration level at the time of the fire with the crews and, quite frankly, waste money. And so the operators are very confident that with the support from the Forest Service, with the support from the results of your inquiries, that they can demonstrate the impact that a fixed wing tanker can have on the fire and cost effectiveness of that.

The issues, apart from maintenance of course as we mentioned earlier, just looking at one simple requirement contractually that the operators felt was lacking, and that is the proficiency flight time that is allowed contractually and the operators again believe that a minimum of 1.5 hours every 10 days would be a significant improvement.

JIM HALL: The structural data, the recording equipment that's referred to in the letter, would you give us an idea of what the operators are talking about there and how that would come about, how you envision that coming about and for what purposes that equipment would be used.

TERRY UNSWORTH: Well, the operators are determined to share information and start helping each other and part of that would be to work together on finding the data acquisition equipment that's affordable that we can install and go beyond just a G-meter on that and find some way of keeping a record of that after the flight. So we're looking at the moment at the technological solutions for that. And again, that's one pretty good example of where that would require some funding and some support from the Forest Service to do that. So we haven't got any specific results of that but we are looking into it as an association.

EARL McKINNEY: Terry, would you think through -- one solution or one suggestion about oversight we've heard is perhaps equip the tankers with flight data recorder that is downloadable at periodic times by the Forest Service or some oversight agency and if the airplanes are being flown outside the prescribed bounds then there

would be real penalties accrued to the company or the crew. It seems like a reasonable way to use the technology to --

TERRY UNSWORTH: Absolutely. I don't think from the knowledge of the people in the meeting, any one of them would have any significant objection to those records being looked up.

EARL McKINNEY: Can we go back to the cost issue because I read a sentence in the summary here on the -- and I don't know if you have exactly the same document that we do but --

TERRY UNSWORTH: Well, I hope so.

EARL McKINNEY: Okay. I didn't know this cover sheet was different. You showed us the five things in the back, thanks, Terry, but it says, "Like we said before, the most cost effective modernization option is" et cetera, et cetera, you know, it seems like this report is really well written but I'm not sure that's the right problem. Is the problem to have a cost effective modernization plan or is the problem to create a more safe environment?

TERRY UNSWORTH: I think the two go hand in hand to a degree. All the operators are keen to modernize their fleet and continue to do that. And one of the frustrations, as you're well aware of, has been trying to get some aircraft released to build the turbine fleet overall. To enable the operators to do that, then there has to be -- there's bound to be cost issues related to that. But in improving the fleet, then improving the -- or modernizing the fleet I should say, there should be enhanced safety related to that. But I have to say once again that, just to echo the words that were said this morning, that the old aircraft or aging aircraft situation, you know, the B-52 is a good example, is quite an old aircraft and its life has just been extended, I believe considerably, and that may end up being, I don't know, an 80-year life aircraft overall at the end of the day.

BILL SCOTT: But to make sure you don't mix apples and oranges here, I mean, the airplanes that were flying 1952 are not the same ones flying today.

TERRY UNSWORTH: No, I fully appreciate that.

BILL SCOTT: It's an old design but not the same aircraft.

TERRY UNSWORTH: Okay. But nevertheless the importance is the maintenance and the rigor and stringency of that maintenance.

EARL McKINNEY: While we're on that subject I'd just like to comment too on, it seems to me that B-52 is flying a more benign mission now the last five years whereas I see fire fighting agencies flying a more hostile environment with older airplanes. So again I'm a little concerned about using the B-52 as an example because it's this high

altitude drone now and drop things out the bottom, it's not out there yanking and banking. I think that's another concern about using that as a comparison.

TERRY UNSWORTH: Sure, sure.

BILL SCOTT: What was the association's feeling in terms of what I'll call power balance in the industry? How do you ensure your pilot can raise a safety issue, for instance, without jeopardizing his job? One thing that bothers me a lot is this code of silence or lose your job issue. Has the association addressed that sort of thing?

TERRY UNSWORTH: Quite frankly, I think that's ridiculous. I have not heard of, seen or felt any indication that that would be the case throughout the operators currently operating today.

BILL SCOTT: Sounds like a communication issue then.

TERRY UNSWORTH: I would say communication is typically a problem in any business, any organization.

BILL SCOTT: Because we sure hear a lot of that from pilots.

TERRY UNSWORTH: Yeah, absolutely and --

BILL SCOTT: They don't want to appear here because they say, I'll never fly again.

TERRY UNSWORTH: Well, that's -- I think perhaps it is more of a communication issue and certainly there is a management issue that goes along with that. But the professionalism throughout the operators and the crews and that I think is commendable, very commendable. I don't -- I can't think of one single instance or one operator that would take that action in this day and age.

AL HYDE: Anything else?

JIM HALL: Is there any justification for using these old military aircraft other than cost?

TERRY UNSWORTH: I think --

JIM HALL: Because I mean there are very few places where the federal government gives somebody equipment to operator. Is there any other examples?

TERRY UNSWORTH: Not that I can recall offhand, no, I can't think of any other striking reason.

JIM HALL: But I couldn't come up -- I don't know, maybe there is, but -- well, listen. We have just had the opportunity -- we got this at lunch and had the opportunity to read it. First, let me say we appreciate being copied. We have heard from five or six of the companies, I assume, so we've had the opportunity to hear from most of the industry and we're certainly welcome to any additional input. Certainly this outlines a lot of things that are going to be things we'll carefully consider in regard to our report and I don't know -- I don't think you anticipated being up here --

TERRY UNSWORTH: Not today --

(Cross talk, laughter.)

JIM HALL: We are very grateful that you were willing to come forward and represent the industry and present us this information. Thank you.

TERRY UNSWORTH: Thank you.

AL HYDE: Next I have John Watt.

JOHN WATT: My name is John Watt. I'm here on my day off for my personal observations. I work with the California Department of Forestry and Fire Protection and have done so for 32 years. For 20 years I've been a battalion chief, a first line supervisor. I serve in our headquarters command center, field battalions and now an air attack officer. As I said, these are my personal observations that I give to you. I really compliment you for being interested in our business and trying to help us reach hopefully a further plateau of safety and efficiency which we do need to strive for.

JIM HALL: Thank you.

JOHN WATT: I won't make any comments about air tankers or airframes or anything, that's not my expertise. I chase fire. Items I did want to bring, and I don't know your background in fire fighting so the paper I put in front of you is fairly elementary in the aspect of what we do as a business. I don't know if you received anything further at the previous meetings. If I'm going over old ground you can stop me, that's okay, because we can go on to other items.

But basically, fire fighting is pretty simple, wild land fire fighting. It's a concept of a fire triangle. You have fuel, air and heat, mix them together, you have a fire. Our job as firefighters is to find a way to eliminate heat, remove fuel, cool the product and break that fire triangle. It's pretty simple until it gets complex.

The main point I wanted to make there is that the fire in creating its own thermal energy and that varies, as I pointed out, due to the type of fuel and its arrangement on the ground, the slope, the solar aspect, numerous things. The whole point is that we use all these tactics. We use people on the ground, bulldozers, helicopters, air tankers to try to contain fires. In doing that we use a direct attack or an indirect attack. The direct attack

requires firefighters to actively remove the fuel and cool the fire environment, to burn the material at a rate faster than the fire's releasing thermal energy. It's kind of a good equation to follow. And an indirect attack involves building a control line some distance from the fire and either letting the fire burn to the control line or use fire itself to remove the intervening fuel, fuel starvation.

We've heard a lot about initial attack, extended attack and any number of terms for a very large fire. In our organization we use the term major, used to call it campaign, Forest Service may still use project fire, but usually it's one of these you don't have control over in the first 24 hours.

Initial attack fires and what CDF specialize, in our belief, is hard initial attack. We try to contain fires within the first burning period, that is prior to 10:00 a.m. the next day when the fuel starts heating on their dyover (ph) cycle again. With initial attack, you've heard the common attack of five engines, two air tankers, a helicopter or two and that's based on potential for more release of the fuel at any given time of the day. We alter those dispatch levels based on that potential and some days it may be just the ATGS goes out, the aircraft, and determines whether aircraft will be needed. It might be two air tankers, it might be four. There's often times when I've lifted off out of Redding and I've put in orders for four additional air tankers before I've lifted off because I can see the column.

JIM HALL: Is there a role for air tankers outside of initial attack?

JOHN WATT: Yes, there is, and I can go into that. The extended attack fires require an augmentation of resources. This is the period on extended attack in which really is our bread and butter as firefighters. If we contain a fire in that first 24 hour period, we don't experience the large fire problems that we get into. In doing so, there's going to be augmentation of resources. My personal philosophy is that if we can hold a fire until the nighttime comes, the humidity goes up, the sun is gone, even though it's harder working, you can't see what you're doing -- things do fall on you – they've fallen on me before. The nighttime is the time to contain that first -- (coughing makes inaudible) -- fire. If you don't catch it on initial attack, your extended attack is the time to go after it.

What happens then in utilizing -- I'll just skip on down in the aircraft utilization section. No matter what we're dropping there's a water based product. It's either foam or a retardant, and what we're trying to do is using cooling to burning material, absorbing thermal energy, changing water from liquid to gas. In a case of retardant the chemical reaction between the salt and the combustion process.

The point is that initial attack or extended attack operations are paramount to keeping fires small. If we don't do that for our customer and the state of California, the citizens on private property, private land, we have a simple charge: put the fire out. I don't have to -- even though we're interagency and I work on federal plans, I have to

operate on federal rules at that point in time. Then it becomes more of a -- there's other issues involved on public lands that aren't involved in times on private land.

Our assets in California are based for the initial extended attack. We have coordinated interagency air attack program in which there are 22, 23 state aircraft and 12 to 15 federal air tankers in California on a good day, and approximately I'd say 18 or 20 helicopters of various agencies. So the fixed wing aircraft have a 20 minute response time, rotary wing 30 minute response time. If you go outside of California, the airbases -- helicopters and fixed wing bases are further apart based on the planning process of what's an allowable loss. What's an acceptable loss on the acreage, and I'm not going to speak for my federal cooperators on how that's figured, but it's a different formula than we use in California. I know the rest of the country doesn't really enjoy that California is so aggressive at times but that's the way we go.

Based on this initial extended attack, in my experience, we need somewhere between 20 and 40,000 gallons of retardant in the first two to three hours on the fire to hold it within some type of framework that our ground crews can operate within. On a normal extended attack fire in the area that I work in, I normally have between four and eight air tankers somewhere in 20 to 40 minute turnaround times, two to five helicopters -- usually Type 2 helicopters with 200 to 300 gallon buckets dropping at about 3,000 gallons per hour per helicopter. This is not a helicopter versus fixed wing operation. This is coordinated.

The optimum drop rate that we try to accomplish is 10 to 12 drops per hour. That's one every five to six minutes and that involves getting aircraft on a station watching previous drop. Hopefully I give a decent enough target description and they can be right where I want the retardant. And set it up so that we have continuous application rate. If you have interrupted application of retardant which has about a 20 minute life span on the ground before burn-throughs can be considered to be active, you're not getting ground backup, you have to keep reapplying the retardant.

One fire in 1999, the Jones fire, I ended up using aircraft in 30 mile an hour winds over a section line which we reapplied three miles of fire line three times a day. There were no ground troops there, it was a subdivision in peril, and based on the conditions of the fire and where we could work, that's where our primary factor was, primary focus, and it wasn't until that evening that there were bulldozers and crews in on that line. And we did keep the fire out of the subdivision. But due to the drying effect, the retardant would slowly erode and have to reapply on that.

Another problem we have in major fires or series of major fires is a command problem. Many of our command structures believe that if you have multiple fires, each considered a major fire, you give everybody a couple of aircraft to work the fire with, everybody will be happy. My personal experience is you need to consolidate the air tanker force, the helicopter force if necessary, the helitankers. You go after one fire at a time on a priority basis.

The result of having numerous fires with numerous committed air tankers and virgin layers and other factors preventing aircraft use, is that you'll often see air tankers sitting at the base where one or two of, say, six or 10 air tankers will be assigned to a fire and actually flying and the other six are sitting because they've been on paper committed and are being used by another fire that isn't using them. We've really worked hard to reduce this down to if you're not flying them, they're up for grabs. They're available to diverts. But under heavy-use periods it gets real tough to convince people to give up two air tankers they have to add to somebody else's two air tankers to add to somebody else's air tankers and make a progressive effort to accomplishing one fire at a time, moving to the next fire.

EARL McKINNEY: John, who in the CDF makes that decision?

JOHN WATT: We have several command layers. And throughout it depends how many fires are going into the state, how many agencies are involved, where they are in the state and there's multi-agency coordination, groups get put together and they assign priorities.

EARL McKINNEY: So by that fairly complicated answered I think you sort of answered -- it's complicated.

JOHN WATT: It's complicated.

EARL McKINNEY: Nobody has individual responsibility -- I don't want to say individual responsibility, but there isn't one person or one agency or one office?

JOHN WATT: No, there's a board of directors type of folks sit down and say you do -- you make your pitch on life safety, proved property, resource values, et cetera, et cetera, how big the fire will be if you don't work on it. It goes to a table or panel just like you have here and they'll start saying this fire is number one priority, this is two, this is three, this is four. After 24 hours it's re-evaluated based on progress.

EARL McKINNEY: And how does that panel learn that it's made a mistake?

JOHN WATT: How do they learn that? I don't know. For us it's calling people. Out in Redding, we have a hub where there's a regional office nearby. We have access to a regional dispatch center here at the air desk there and have been able to talk to people at times to say, look, you've scattered our resources and it usually takes a couple of days to get everything dialed in to where you have a smooth flow.

EARL McKINNEY: But if I'm on one of those boards making those decisions or not making those decisions and I get through a whole fire season and people finally talk to me enough and we get the airplanes in the right place, at the end of the fire season I'd feel pretty good. We didn't misallocate any resources, we got them all out there where they're supposed to go. What's wrong with our process, John?

JOHN WATT: What's wrong with the process?

EARL McKINNEY: No, well, I mean, you could see what I'm arguing is --

JOHN WATT: I understand what you're saying.

EARL McKINNEY: There's no data that shows that we made any bad decisions. Things look pretty great.

JOHN WATT: No, and I noticed you're pretty hot on data. (Laughter.) But a fire -- in these multiple situations, what may be a real problem fire one day may get an inversion or a marine or air influence over it the next day and be completely socked in and you need to just reallocate those air resources to where they can work.

JIM HALL: Do you all have weather people on duty?

JOHN WATT: Yes, we do. Yes, we do. And there's a lot of command decisions being made that throw in politics, throw in interagency deals being cut. I've traded five engines of my agency for four engines of another agency just to smooth out logistics and stuff. There's a lot of behind the scenes processing that goes on. It's tough on the field practitioner, the guy out in the field, to sit there and see that we have this going on. We do have people we can call, albeit informally at times, to say, you know, we've got to rethink what we're doing here.

EARL McKINNEY: But no programmatic, no process, no feedback system?

JOHN WATT: There are reviews. There are critiques and reviews by management over major fire situations to try to improve the process and, not having participated in any, I can't give you the content or how they flow or what gets corrected. I'm down at the other end.

So that's just a real quick overview of what we do and how it works, in my opinion. Then I come to retardant. The retardant formulas are all over 20 years old. It's a difficult testing process through the USDA. The current specification is restricted formulary, much like an FDA compound or ibuprofen. You can only build it this way. It is a design, it is not a performance-based specification. So the product has been designed and the two companies in the nation or the world that make this stuff have to meet this design process. What I feel needs to go is -- and I have two examples of products that were developed in the private sector that have come into the fire fighting business that were consumer -- we had a demand -- we started off with Wetwater (sp), which is soap, and Jim Holmes (ph) here, he was a practitioner of non-dish soap and water for years.

We used wetting agents, surfactants, and finally the company said, well, we can make some better stuff and started making it. Now there's five different brands of approved type A foam that's used in helicopters and water delivery aircraft that didn't come from inside our own system, it was an outside development that has benefited us. I

believe that the retardant needs to go the same route. We need to have a performance-based goal at what the retardant's supposed to do and not supposed to do in aircraft erosion, toxic chemical release under ultraviolet rays or whatever the issue is. Let the manufacturing industry come up with a product that they can have third party testing and bring in for approval and see if we can actually get a beneficial or a better retardant.

When I first started in 1968 the retardant, if it landed on your shirt, when it dried there would actually be salt crystals from the fertilizer. Well, we've lost that. We've downgraded the effectiveness of the salt so the retardant is more cost effective, there are cost effectiveness.

The issue of liquid concentrate versus gum thickened I can't speak to. We're like a dry state here. We drop thickened retardant only and all LC is smuggled in from Oregon or Nevada or some place --

JIM HALL: Who buys the retardant, the state?

JOHN WATT: Senator, we piggy-bank on a federal contract, so it's a federally issued contract for retardant in all the air tankers.

EARL McKINNEY: John, I noticed Al's getting up, so I wanted to ask a question about your --

AL HYDE: (Off mike.) We have about five minutes left.

EARL McKINNEY: You mentioned some 30-knot winds at a fire one time. I'm curious what the -- are there operational limits in terms of when we'll fight fire from the air?

JOHN WATT: Yes, there are. Generally 25 to 35 knot winds over ridges and turbulence. The fire we had working that day, we had lamer (ph) flow winds and the air tankers determined that it was stable enough for them to drop. I was 1500 feet above them, we actually gained more turbulence than they were down beneath the ridge lines actually.

EARL McKINNEY: Do they have instrumentation that will tell them what the wind speed is over the ridges?

JOHN WATT: Only estimated. We use nearby airport and ground. The ground will give us wind speed off their weather instruments. They carry a lot of instrumentation for the fire behavior

EARL McKINNEY: Are there visibility limits? What's the visibility limit, VFR?

JOHN WATT: Sure, VFR. Yes. We're in VFR conditions and they often erode. And if it's not good, we stop, if it's not clear air out there.

EARL McKINNEY: Can a dispatcher dispatch tankers to conditions that are worse than 35 knots and less than VFR? How would a dispatcher know what the conditions are over a fire?

JOHN WATT: They have the potential through the weather system and knowing lookouts, take the weather and provide them with wind speed, wind direction, we get it from the airport.

EARL McKINNEY: They have potential, but do they – is it not possible for a dispatcher to just pick up the phone and say --

JOHN WATT: Yes. Yes, the other side of it is, though, I can refuse. And the guinea pig is the air attack aircraft or the lead plane to go out and take a look. So there's a canary system just like the old mines.

EARL McKINNEY: And you heard our testimony earlier about flare systems? Have you had any experience with that project?

JOHN WATT: I worked around a test process many years ago and I'm quite the advocate for tactical flare on all air tank aircraft for the reasons that were stated before that allow you see hot spots, they allow you to find fire beneath the smoke that you can advise the ground personnel as part of your observation job. You can see where retardants have dropped and where the holes are. As with data collection, if you run the videotape you have data.

EARL McKINNEY: Would it require a third person on the airplane, do you think, or can you get by with two?

JOHN WATT: I have seen some more modern units than what we tested and some of them have auto track. If you lock on the hottest spot it will auto track or you set your orbit up and lock the lens at an angle that's appropriate, you could use it as reference and you don't have to fly the flare. It may not be as efficient, but it is sufficiently capable for a two-person aircraft.

AL HYDE: For the last minute or two can you talk about your (air?) staffing comments?

JOHN WATT: Sure. The last area I had was aerial supervision. I don't know familiar you are with the incident command system that the air side, the air tactical group supervisor is the primary supervisor. Depending on the workload and complexity he can either manage the whole process alone or divide it up. You can take one assistant or two assistants on become the helicopter coordinator, air tanker coordinator. All three of these positions are chronically understaffed. I think that's been pointed out once before. There

were several times this year there were 24 open ATGS requests for fires -- (inaudible) -- unable to fill. We have a hard time with helicopter coordinators.

JIM HALL: And why is that?

JOHN WATT: The training. The training is expensive. We have the interagency training school at Redding and I would guess it's close to $30,000 per student to put it on, but it is Region 5 and out-of-area participants and CDF split the seats. We try to hold it to 18 students so we can get quality training time, actually up to the point of dropping air tankers over simulated fire. And they have a staff of about 15 different rudimentary simulation programs and training all the way up to aircraft management. So there's not many seats available to train people, and retirement factor in all agencies plus the aforementioned freeze for years on hiring in the Forest Service has created quite a hole in all the specialty positions.

EARL McKINNEY: Would it be possible to train more ATGS people during off season employment training between lead planes and tankers if more of that type of contractor Forest Service agreements can be reached that we could also get some ATGS people thrown in at the same time?

JOHN WATT: I believe it's possible.

EARL McKINNEY: But that's the sort of training that they need, isn't it, to sit up there and see those two things working together and how to --

JOHN WATT: Yes, as is recurrent training for people coming on. Pilots come in for the training, ATGS personnel should be working with their pilots or a pilot platform and working with the air tankers as they go through. Should be a combined force. I generally have my aircraft arrive at the airbase and we're online the day the air attack aircraft, air tankers show up. We do make our own training time to go out. It's very hard to put any -- it's hard to get the required time on new people for additional training. When we commit to at least 25 hours of dual time on ATGS and CDF.

AL HYDE: John, we're about out of time. You want a show of last recommendations?

JIM HALL: Tell us what you think ought to be changed.

JOHN WATT: What I think ought to be changed? The first thing is I think my last recommendation is in here that we need to refocus what the mission is, not what platforms are available to us for various jobs. Even after the -- and I know that Michael Ennis (ph) here who is a ASM pilot -- I still don't know how we're all going to work together even though there was a draft operations guide issued last year. The roles between air attack and ASM overlap quite a bit. I'm not sure how that process is going to work.

In any case, as we go forward, there are not enough quality trained ATS personnel throughout the system, federal and state is – (inaudible). And the platforms are paramount. Define the mission, define the platform to fit the mission and then go that way and not go in the process of adding collateral functions like agency personnel transportation or -- these are all free so we're going to use these. Even though our air program started out looking that way, hey, S-2s are available. But we had to refine over 30 years.

So on that focus there were several points I made in here that have each one of those that I've addressed to you. The biggest thing is to focus where we need to be and how we're going to do it.

AL HYDE: I will put all of your remarks in -- (inaudible.)

JIM HALL: We appreciate you taking your day off and coming to speak to us.

JOHN WATT: It's my pleasure, thank you.

JUAN BROWN (sp): That's a copy of an e-mail that I sent to the board yesterday. My name is Juan Brown. I'm a former U.S. Forest Service lead plane pilot trainee with 25 years of aviation experience. My background includes 10 years of active duty Air Force flying, T-37 first assignment instructor pilot and C-141 aircraft commander out of Travis Air Force Base. I've spent four years flying for the Air National Guard out of Reno, Nevada, C-130Es and H-2s. I've also got about 4,000 hours of civilian flying experience in 767s, 757-72 and a bunch of different light aircraft. Also AMP mechanic.

I currently am working for American Airlines and am still actively lobbying for the air tanker safety. The one year I spent flying for the U.S. Forest Service was the most rewarding, hair-raising, memorable experience in my aviation career. That was during the 1998 fire season. I was working out of Region 5 here in California and flying with some of the best folks in the industry and many of those folks are here in the room today.

I recently gave interviews that aired both on ABC and NBC nightly news on the state of the federal air tanker industry. My earliest years in the aviation business was spent working for air tanker pioneer, Ralph Ponti (ph) out at Grass Valley, California, where we restored ex-air tanker aircraft back into war bird status and put them in either museums or sold them to private collectors. It was another air tanker pilot, Colonel Buzz Blalock (ph) that convinced me to cut my hair and go join the Air Force to continue my aviation career.

Now I no longer fly in the air tanker industry. I no longer fly for the Air National Guard. I finished up that commitment this summer. I come before the panel representing U.S. taxpayers and those who have given their all to this industry. The many issues facing this industry have been thoughtfully submitted to the board by many different air tanker pilots including Dean Talley (sp), Walt Darran (sp) and Brent Connor (sp).

I'd like to take this opportunity to discuss three options that I see as possible solutions to the fixed wing federal air tanker program and why one solution, in my opinion, stands out amongst the rest of them. The first option is to continue with additional Band-Aid fixes to the current federal contract system and continue to try to make a bad system work. This includes such measures as 15 percent reduction in retardant loads to decrease airframe stress. This is what we've been doing for years in this industry and it's simply not a viable long-term solution.

EARL McKINNEY: Juan, can you take questions as you go?

JUAN BROWN: Sure.

EARL McKINNEY: Can I question you just softly and say you could look at some accident data and there are many areas of things getting quite a bit better. Helicopter performance is getting better, safety is getting better in helicopters --

JUAN BROWN: I'm strictly with fixed wing federal air tanker industry.

EARL McKINNEY: Right. And again, except for the wings coming off the airplane this last summer, there have been a number of studies done that show that human factors number of errors that air tanker pilots make are being reduced. The system's getting safer.

JUAN BROWN: In my opinion I still think we're still in the stone age compared to the rest of the aviation industry with these issues.

EARL McKINNEY: And I might not disagree with that, but I guess I'm wondering is the system getting better and can it catch itself up. You call it a bad system like it's an indictment --

JUAN BROWN: I think you look at the accident rate and what you see from the beginning years when Ralph Ponti (ph) was a pioneer in the industry, that accident rate has not improved up to today. That accident rate, I believe, is still about the same. If you crunch the numbers of the number of tankers that are on contract this year versus the fatalities we've had over the last couple of years, I think you'll find that the average air tanker pilot has a 50/50 chance of surviving a 20-year career in this industry and that has not improved, I don't think, over the years.

This industry suffered what I call a mission creep. Historically the air tanker industry was initiated as a cheap alternative to protect our natural timber resources using surplus military aircraft and experienced ag pilots to get the job done. And as I just said, that started out with a fairly high accident rate and that accident rate has not much improved in all these years.

But now the mission's changed. We've got this convergence of 50 years of fire suppression and fuel build-up coupled with increased restrictions on timber management and forest thinning. Couple that with increased encroachment by the urban wild land interface, more folks are building bigger houses out on the edges of the forest. This is -- now we have complex turbine aircraft trying to protect these expensive homes and land instead of protecting timber. So the mission has changed considerably over the years however there's been little change in the way that we do business.

The second option I see before us is to follow CDF's lead in this industry, California Division of Forestry. And that's to have the federal government purchase suitable air tanker airframes and properly convert them, rebuild them and equip these aircraft, then contract out the flying and the maintenance of these aircraft. This is a viable but expensive option and it's going to require the willing, experienced leadership from the top that you –

[END, TAPE #3.]

JUAN BROWN: (In progress) -- and in the end will resolve primarily only one major issue, and that's the issue of aging airframes. Left on the table is a large laundry list of additional items that have been left unresolved for years.

EARL McKINNEY: And unstated in your statement here. Can you give us some more ideas what those additional issues are?

JUAN BROWN: Sure. And I'll get to that a little later on here with option three. The issues that were alluded to in the other tanker pilots' letters to the panel, Dean Talley, Walt Darran and Brent Connors, those are the issues that I'm talking about. They spelled them out really nicely.

In my opinion, the quickest way to simultaneously resolve the most issues for the least expense is to turn this entire mission over to the U.S. Air Force Reserves and Air National Guard. It's not a popular concept, I know. Why should the government pay twice for what it can already get done at once? The Guard and Reserve units are already paid for. This would be a huge relief to the U.S. Forest Service fire and aviation budget and a tremendous savings over the Forest Service paying for the acquisition and conversation and operation of these airframes.

The Air Force owns approximately 700 C-130s in the fleet right now. That's about 200 more than what military planners want or need. The Pentagon wants to get the Guard and Reserves out of the active duty fight and return to traditional hometown Guard and Reserve duties. This has several C-130 Guard and Reserve units scrambling for work and actively seeking additional missions. Congress is currently working on repealing the obsolete Depression era legislation that limits the military from doing this

critical homeland defense mission, it's H.R. 5185 and there's a copy attachment on that in the back of your package.

Having military do this specialized civilian aerial fire fighting mission would not be unprecedented. The 53rd Weather Reconnaissance Squadron, known as the Hurricane Hunters of the Air Force Reserve at Keesler Air Force Base in Mississippi is an excellent example of the military doing a specialized stateside mission. C-130 aircrews are trained in a wide variety of tactical, low level air drop missions and would quickly adapt to the fire fighting mission. And several C-130 Guard and Reserve MAFF units, that's the modular airborne fire fighting equipment units, have been doing this mission for many years. However, as you've already heard, the effectiveness of some of these MAFF units is of some controversy.

If the Guard and Reserves are going to do this mission effectively, in my opinion they need to consider doing this as a full-time, year-round position using dedicated airframes that are specifically modified for the mission. This means either tanking the military C-130s, putting tanks in them, state-of-the-art constant flow tanks, which I think is more economical and effective over the pressurized MAFF systems, or developing a truly effective pressurized delivery system that can yield a coverage level of up to eight.

The current MAFF systems are fairly ineffective, though. They only yield a coverage level of two. Are you all familiar with what I'm talking about when I say coverage level, how much mud it can actually pump out in one pass? And I understand the MAFFs are working on a new pressurized system that can get up to a coverage level of 10.

I believe that the fire fighting mission of these dedicated units should be their only mission. I wouldn't burden them with keeping up with additional air drop requirements or other missions. These guys should be doing nothing but fire fighting and training for this mission during the off season. I would recommend using full-time Guard and Reserve members, the ARTs, the Air Reserve technicians, full-time members as much as you could to staff these units. I would not recommend the use of part-time pilots like myself flying for the airlines to come in and do the fire-fighting mission.

It could be done, they could quickly adapt to it, you could rotate them out in two week rotations just as they're doing today. I think if you modified just 40 of these C-130s you'd have enough airframes to cover the whole CONUS based on the number of aircraft we have on contract for this season, for example.

This option could be implemented very quickly and resolve not only the aging airframe issues but nearly all the remaining issues before this board. This would solve the issues of a), aircrew, pay, benefits, retirement, sick leave, insurance, training, CRM -- crew resource management -- crew rest, standardization, evaluation. It would also resolve many of the issues with the equipment. It gets you the airframes you need, airframes with autopilots that work, that are IFR certified, that have TCAVs -- traffic

collision avoidance systems -- already on board, radar altimeters, known icing capability with the radar, GPS and INS nav systems.

You would also get full factory support maintenance, current tech and ops manuals, spares and future airframes to replace aging ones. This also would go a long way I think in resolving many of the leadership issues that have been presented to the board. As you know in the military, the military pilots are officers – they're officers first and then pilots second. This creates a leadership situation where you will always have qualified people in key positions throughout the organization. To PME, SOS and that sort of thing, that's continued throughout your military career. And then as a pilot you get that dreaded non-flying assignment where you get to practice your leadership experience.

This doesn't happen in this industry. The pilots remain pilots, key management and leadership positions are filled with people with little or no air tanker actual flying experience. Those people who want to go on to upper management positions in this industry are often in the Forest Service side hampered by the personnel process itself. And if you do make the cut, you're then hampered by a giant bureaucracy, where your ideas have little or no impact.

Most importantly I think this option of having Guard and Reserves take over the federal fixed wing operation will replace the part 91 repaired, FAR part 137 operated broken contract system. And this is a contract system whose economic incentives are diametrically opposed to its mission objectives. Contractors are paid by the hour to operate. There is little or no incentive to actually get the fire put out. The U.S. Forest Service – gonna step way out on this one -- is complicit in this. The U.S. Forest Service has changed over the years its fire fighting philosophy from one of fighting fire behavior -- or fighting fire based on fire behavior to one of fighting fire for convenience and overtime. By having the Guard and Reserves take over this mission, you'll also force the Forest Service to share the leadership onus with professionally trained military leaders.

And finally, as a taxpayer, it makes the most sense to me, why should I have to pay twice for what the government can do for once?

EARL McKINNEY: Juan, you were probably in the military, the Air Force, long enough to see times when military has extra capacity and times when military has under capacity. This may work, we have 200 extra 130s according to your math, what happens in environments 10 years from now that we can't see and the Air Force doesn't have excess capacity to help put out fires. They're overseas, doing what I think their primary mission is. How do you reconcile the fact that fire fighting will never be a top priority in the military?

JUAN BROWN: I think the C-130 air drop mission is a mission that's becoming obsolete in itself. We will always have some air drop of special forces, but I think the mass air drop that we saw perhaps as recently as during Panama, those sort of massive air

drops are going to be going away. So that's going to leave a surplus of C-130s for many years.

BILL SCOTT: But isn't the C-130 primarily used too for intra-theatre cargo movement? So that's not going to go away is it?

JUAN BROWN: No, but there's still way more C-130s in the inventory than the planners need or want.

EARL McKINNEY: Juan, I don't mean to be simplistic, but thinking back to my time in the Air Force, you look at this list on resolving issues; don't you just move all these issues from one area over to the military? I had gripes about pay benefits, retirements, sick leave, insurance, training, CRM crew --

JUAN BROWN: Well, at least you had them. The folks in this industry do not have them at all. Well, in some small cases they're starting to just now get those benefits. At least we have them.

EARL McKINNEY: But to follow that up, though, isn't that a question of management and oversight? I mean your solution may work, but might not other solutions work, or, you know, more --

JUAN BROWN: Sure, Option 2 would work, but it's going to cost you a lot. But it's --

EARL McKINNEY: What about Option 4, where we write in to the contract more requirements to do things, listed on your (a) and (b), and we continue to build and use this bad system, but I'm not convinced that bad systems can't be made better, if at all it's bad to start with.

JUAN BROWN: I seriously doubt that we have the leadership -- willingness, leadership and ability to continue to make this bad system any better.

BILL SCOTT: Is there any willingness on the military side to take it over?

JUAN BROWN: That's something you're going to have to ask the military folks.

JIM HALL: The military works for the government --

JUAN BROWN: Right, so you just tell them. (Laughs.)

JIM HALL: Let me say, while I admire you coming forward this idea, I spent six years in the governor's office in Tennessee, and are faced with outstanding Guard, and Air National Guard and worked trying to find many times missions and projects and equipment so they could do things. So I think your idea has merit, the truth of the matter is that's a pay grade above us. That's really whether the United States Congress wants to

take those assets and give it that mission, and I would hope we still live in a day where the military would salute and do what the civilian government wants them to do, if that was what they wanted to do.

But I don't know that, as I'm sure you don't know, whether this is an approach that has merit without considerable political support. But it's certainly one worth -- I'm glad you brought forth and -- considering because I'm a taxpayer too and I pay for those services as well, and we do have a pretty dismal record here of -- I've read -- how many panels and studies I've heard that have been formed trying to address these problems without much impact.

And I don't really -- all I can do is when I go to bed at night, I say my prayers and hope that this Blue Ribbon Panel will make a difference, but I think we'll just have to wait and see.

AL HYDE: Juan, I want to thank you for coming to speak, and also providing notes to put in both the record and -- (off mike.)

JUAN BROWN: Sure, great. Okay, thanks.

RICK FLEISCHER (sp): Well, I don't know about you gentlemen, but boy, my blood sure ran cold after our last presenter.

JIM HALL: I thought it would put a chill on the audience.

RICK FLEISCHER: Scared the crap out of me. I'm sorry to use that language, gentlemen, but I didn't come here prepared to speak today. As a matter of fact I didn't even know about this meeting until I read about it in the Sacramento Bee yesterday.

JIM HALL: Well, we're pleased you're here. And welcome, and please introduce yourself.

RICK FLEISCHER: Well my name is Rick Fleischer. I serve a lot of different functions, I'm president of two companies. One is West Wind Helicopters, a helicopter operation company providing helicopters to the Forest Service and CDF and Department of Interior. I'm also the president of Infinity Aviation, which is a repair facility which does maintenance for outside contractors as well as our own aircraft. I've been involved with aviation since 1970 when the Army drew my lucky number and said you really ought to be in the Army.

And I knew nothing about aviation, and they said you're going to work on airplanes. And when I arrived all the airplanes had rotor blades, so that was my introduction into helicopters and I've been in it ever since. I haven't been able to get out of therapy and get out of it. My background is I'm an antique mechanic, I have been since '73. I have inspection authorization since 1978. I'm a commercial helicopter pilot as well as airplane pilot. I wear many hats. I do fire fighting as well as management.

I'm involved in the management of the companies as well as day-to-day operations in flying and maintenance.

So I have a lot of knowledge in the different issues that you're talking about. One thing, sitting in the back of the room today, I've been listening to a lot of people who've gotten up here and have been making comments. Again, not knowing this meeting was going to take place I really wasn't prepared, so a lot of my notes are just basically making notes as soon as I think of things. One thing that comes to mind is it sure seems like we're trying to deal with a broke system and that seems to be kind of an overtone I'm hearing sort of from the panel and it's not my observation.

I think we have a wonderful group of firefighters out here, fire-fighting pilots. I am really proud to be amongst the pilots that are out there doing the job that we do. When we're out on fires the pilots make up a lot of the time the inadequacies of the system. We work together quite well. We have a camaraderie, even though companies may be in competition with each other. We help each other out; we are very cooperative when we are out there. We work with the government folks who are here managing us quite effectively. We work as a team.

I've heard a lot of comments about how the system appears to have a lot of faults and it primarily seems to be directed towards fixed wings, towards air tankers. I'm not real sure what the objective of the panel is outside of what I read in your statement that you have for your mission statement here, and it seems like it may be more directed towards fixed wing aircraft. But my concern is that rotary wing aircraft will also be brought in to whatever rules and changes there may be or recommendations.

And I have a hard time believing that our system is so broke. We just went through one of the toughest fire years and we had problems, we had accidents. But when you look at the number of hours that were flown and the work that was done, we put out a good product efficiently and safe. And it's a hazardous business that we're in, but I think we work together quite well, government and industry.

There's been a lot of talk about aging airframes and how to fix those types of problems, pilot safety and training, and the bottom line is with money. The Forest Service is our customer. And if our customer is willing to pay what we need to provide greater services or to require us to have better performance in certain areas, I don't think there's an operator out there that wouldn't be willing to stand up and raise their hands, say, yes, I'd like to do that.

But unfortunately, in aviation we're in a very tough economic situation. It goes from the airlines on down. You can pick up any newspaper currently that's out there and there will be an article about airlines and business. Airlines are trying to get the government to bail them out, to help them. We're all suffering after 9/11 with insurance. It went from 30 to 300 percent increases. Airplane manufacturer rates are going up, everything's going up. But the rates that we're able to generate for our product seem to be maintaining themselves at a steady level.

Unfortunately, as operators, we are our own worst enemy. If Joe's House of Flying will do it for a dollar, Bob's will do it for 95 cents. And that seems to be a mentality that we've had in this aviation industry for quite some time. Profits are nothing. I've never been to an aviation gathering, whether it be at the watering hole or something formal, where somebody talks about profit. Profit just isn't something we have in aviation. We work on cash flow and we rob Peter to pay Paul and squeeze every dollar we can squeeze out to keep things going.

And the reality of it is it costs a lot of money. So we could certainly outfit our aircraft with new airframes. We could put new avionics in, we could put all kinds of whiz-bang on there, but the customer has to be willing to pay for it. And my experience with the Forest Service in the past, and I've seen this on more than one occasion, they will write a proposal or an RFQ for a new aircraft or a new performance standard. And they'll go out onto the mark, and when they get the results back of what's being bid, they'd go, oh, we don't have the money for that.

So the next thing you're out to rewriting it for old aircraft where what they're going today is back to a lower dollar figure. We cannot afford to upgrade our fleets on the rates that we are currently getting. I will say that the Forest Service has helped us in the helicopter endeavor quite a bit by contracting with Conklin & de Decker to do a survey yearly on operational costs of helicopters. And based on that, they have -- they established the hourly rate that will be paid by the Forest Service for different makes and models of aircraft. And that is based on the survey that is done by Conklin & de Decker for the Forest Service.

That had resulted in our hourly rates that the government does pay us being increased. This year it has increased significantly. The rates were a rate for operational costs that are very realistic and has helped our industry because we don't seem to be able to help ourselves real well.

When we get into the issue of maintenance and the aircraft that are being flown out there, I can only speak from the helicopter side of it in my experience with our aircraft as well as observing other companies. We on a whole do a really good job. We're very safety-conscious. We often times find that we have to maybe delay something that needs to be addressed that's not of a severe nature to a later time, but it ultimately gets done.

And most of the operators that we have out there are Part 135 operators regulated under the FAA. We go through annual inspections, both from an operational perspective for pilot training, pilot records, but we also go through a maintenance inspection from the FAA in regards to our aircraft, our processes for inspection. We're not an unregulated agency out there or group of individuals. We are a very professional group of people and we try to put out a good product.

And I don't think the system is really that broke. I think that it could stand to have some improvements but on a whole I'm not even sure it really justifies having a Blue Ribbon Committee to find out what's wrong with it, because we're really doing a good job out there.

BILL SCOTT: What do you say some of the efficiencies are? You mentioned for one thing that pilots on the line compensate for some of those. What are those inadequacies you're talking about?

RICK FLEISCHER: Well, a lot of times you'll be out on fires, something as simple as a contract helicopter shows up that's painted black and you're out in the smoke and you can't see them because the helicopter's painted black or dark green or some color that's hard to see. When you're -- and a lot of times we fly what's called an daisy chain whereby you have several helicopters using the same source for water and they'll pick out of the same site and they'll go drop and they'll rotate back in to get water again. And sometimes initially it's difficult to see some of the helicopters that are out here.

A lot of communications from the pilots -- Bob, I'm over here or I got here, or we'll just arbitrarily -- I'm in the dip getting water or I'm on the drop. I mean, these are things that you won't find in a book that tells you to do this. These are just things that we do as courtesy to each other. There are different levels of pilots that come on. We have new pilots who may be working on a fire for the first time, this may be their first season. And they're teamed up, working in an area with a pilot that maybe has done this work for 25 years. And you'll see that older pilots will somehow convey or coach or recommend maybe a procedure or a way for the new pilot to maybe do this.

Or if we're flying up a canyon and the winds change, you know, we'll say hey, we've been going counter clockwise and the winds are just beating us up, let's change and go the other direction and see how it goes. We really are communicating, we're communicating with air attack who's above us, which has a tremendous job communicating with the ground as well as with the aircraft. And when air tankers come on the scene, they're their own little entity -- air tankers and helicopters are sort of like water and oil -- we're usually working where they want to the drop or they're going to drop where we want to work.

And one of us usually has to back out the way and move away so the other one can do their job. But we still work together effectively. The operational problems that you have with any kind of an organization, you have when you're out on a fire. But I just don't see the problem as being so broken that we need to beat up what we're doing, we're doing a darn good job. We have older airframes, we need help possibly with that, we may need engineering, we may need some forum that deals with that particular airframe or you know, if we have a specific issue, i.e. the C-130 or the TVY (ph) or one of them whose wings are coming off, I don't know that we need to go reevaluate the whole entire Forest Service because of these aircraft, maybe we'd better start looking at those particular aircraft.

If we find that the problem extends beyond those, then we can extend our swath to look at the entire program to say well let's just re-overhaul the whole thing. I think we're failing to look at what we good, and we do a lot of things good. State agencies, local agencies, federal agencies, we all work together real well.

JIM HALL: Well, thank you very much for being here and I do want to at least correct what must be misimpression in your mind that any of the panel's work is in any way being critical of the individuals that you see working on the fires because we have been most impressed. Jim Hull's not with us; he's a State Forester who has direct experience. But I have been very impressed with the dedication and spirit of the individuals and people at just all levels of the wildfire fighting. As you know, there were two accidents this summer, got a lot of attention and were very catastrophic and obviously fatal accidents for five individuals.

And it was on the basis of that that the Forest Service and the Bureau of Land Management asked us to take a broad look at the program. We have heard many things that are well, that are done well, and we have heard also a number of people with various opinions on things that could be improved. And we will make our report, but I think I can say that the panel in terms of -- it's certainly recognized the hard work and effort of the people that are out there actually -- that have been doing this, and continue to do it I guess today, since I guess there's still some fires going on.

But that's the focus of what we're trying to do, and in trying to do our job we do ask a lot of critical and hard questions because that's the only way we can find out what's going on. But thank you for your observations and thank you because that's very, very helpful to us.

AL HYDE: We're taking a 10-minute break and then CDF is going to present.

(Break.)

MIKE PADILLA: Good afternoon, I'm Mike Padilla. I'm the chief of aviation for the California Department of Forestry and Fire Protection, and with me today is my supervisor, who has a few things to say also after I get done with my comments.

DAN LANG: I'm Dan Lang, I'm the chief of Fleet Administration for the California Department of Forestry and Fire Protection, I'm also the fire chemical program manager and the immediate past chief of Fire Protection Operations for the past nine years.

JIM HALL: Before you gentlemen begin, I want to acknowledge for the audience the presence of Jim Hull, the Blue Ribbon Panel co-chairman, who has just arrived from gambling in Reno. He was supposed to be here with us this morning, but his losses were so great that he had to stay a while and tried to recoup, so we're glad he's here. (Laughter.)

MIKE PADILLA: I understand we have a representative from Nevada, Congressman Gibbons, and think he appreciates your contribution to that.

JIM HALL: He was actually there giving a speech, I must say in his defense --

JIM HULL: Which is a big gamble in itself.

MIKE PADILLA: Well, we won't talk about Texas. Well, thank you very much for allowing us an opportunity to speak today. I feel kind of humbled after all the comments that preceded us and I feel like it's anti-climatic, but we'll give it a good shot with what we've got today. The state of California -- before I begin, I passed out my comments in writing, there's also some other stuff on the California Forestry Aviation Program which you'll find useful. And you can follow along if you like, or look at that later.

The state of California through CDF operates 52 fire fighting aircraft from 13 air attack and nine helitack bases statewide. Within this fleet, CDF operates 23 air tankers, or one third of the multi engine air tanker fleet in the United States. A significant number. It is our intention in coming before this committee today not to present a case for why the air tanker operated by the Forest Service is working or not working, but rather to show that there are successful, safe programs that can operate using federal assets based on an entirely different model.

We do this in hopes that the committee may find some positive direction that can help it in determining the future direction for a federal program. I think it's important to note that of the 52 aerial fire fighting aircraft and support aircraft that are in the state and that are operated by us, 50 of them are currently owned by the federal government. The pink slips are owned the Forest Service. We receive these on loan through the Federal Excess Personal Property Program, or FEPP. Today CDF has over $200 million in federal property or FEPP property and operates this program on only $20 million.

CDF has operated on a fire fighting philosophy of aggressive suppressive wild land using an initial attack strategy that integrates ground and air assets in a combined coordinated effort. This strategy has resulted in meeting our state Board of Forestries directive to suppress 95 percent of the state's wildfires in 10 acres or less. The board further established a policy to have an air tanker response to any fire in CDF jurisdiction within 20 minutes -- you've heard this before.

This goal has been successfully met by the air program since its inception in 1971. That's our formalized program, not the contracting program. However in the 1980s, like the Forest Service of today, CDF was also faced with an appalling tragedy of unacceptable fatal air tanker accidents. The CDF air program of today evolved as a result of the state coming to the conclusion that if it was going to continue with the program, a viable program, it would have to address fundamental questions that constituted a safe aviation program.

It concluded that there were five elements it needed to implement to establish such a program. First and foremost, newer, better-built, and more reliable aircraft that would operate for a 20-year life cycle and a logistical support program that would support it. Secondly, a maintenance program that was built on the highest standards and not on the cheapest or most expedient methods. Thirdly, a standardized pilot training and annual re-certification program. Fourth, an experienced and multi-disciplined aviation management staff that includes a full-time safety program reported in the highest departmental levels. And finally, and probably as important as all, a recruitment and retention program for the best pilots, mechanics, technicians and managers experienced in the field of aerial fire fighting, aviation management and aircraft maintenance.

The department implemented this program in 1990 and reduced the fatal accident rate from 1.8 annually, an appalling rate, to zero the first year, and have been able to maintain three for a 10-year period, a figure far below that of the current aerial fire fighting industry average of three fatalities per year. CDF's goal, as I'm sure is everyone's, is everyone's is to eliminate all accidents, fatal or otherwise. They will not be happy until we reach this goal.

EARL McKINNEY: Mike, can I ask for clarification? Is it three accidents or three fatalities?

MIKE PADILLA: Three fatalities.

The development of the CDF air program has been focused, constant and consistent from 1971 through today. To achieve this objective, CDF has endeavored to field the best aircraft that meet the needs of the department's mission while providing a reliable and safe platform for aerial fire fighting.

Through extensive studies, research and testing, CDF over the years has evaluated many different airframes. Today the department uses the Grumman S2 airframe as a tanker of choice. We also examined the need for air attack aircraft in the 1970s and selected the Cessna Military 02, which was in service for 20 years and then ultimately retired and replaced by the OV-10, which is in our current fleet. Our helicopter program first utilized the UH-1F and later the UH-1H, which was modified to a Super Huey configuration.

You'll find a description of each one of the aircraft I'm describing in the handout that I gave you. These refer to facts on it. But when we looked at these aircraft, CDF set very high standards for acquisition and evaluation of these aircraft in the airplanes and models that we looked at.

There were eight areas that we looked at, and real quickly, the first one was availability of the airframes for operational use, the availability of airframes for parts reclamation in lieu of procurement, military operational history and sustainability of airframe and engines, ease of reconfiguration for fire fighting, continued military and

civilian support of airframes and engines, availability of excess military tooling, fixtures and parts, availability of technical publications, and finally availability of spare parts support. CDF supports its program through acquisition through DOD defense procurement and FEPP as well.

If a candidate aircraft met the above conditions and CDF acquired that aircraft, the tooling, spare parts, technical manuals and equipment to modify, maintain and operate that aircraft, the whole gamut of support for that aircraft. Another major decision point that has contributed to the success of the CDF air program is a centralized major maintenance depot. CDF determine that it's crucial providing an in-depth central aviation maintenance depot that is well equipped and staffed to provide major modifications, depot level maintenance and detailed component overhaul. That facility is currently located in McClellan, just north of Sacramento or downtown.

With a fleet of 52 fire fighting and support aircraft, the central depot is essential for quality maintenance, standardization, efficiency and cost control. Large aircraft sophistication idiosyncrasies and specialized inspection and maintenance requirements mandates specialized equipment, tooling, procedures and well-trained and experienced personnel to develop, review, execute in-depth maintenance and conduct inspection programs for each model aircraft.

The central maintenance depot has an independent aircraft maintenance quality assurance department, which inspects all work and maintains all aircraft records to FAA standards. CDF has the drawings, has the details on 110 microfiche cards to produce any part of any aircraft that it currently has in its fleet. CDF has its own FAA certified repair station. We have an experienced in-house non-destructive inspection and testing unit. This unit has certified magnetic particle, fluorescent dye penetrant and eddy current inspection capability. CDF is licensed by Allied Signal, Bendicks (ph) Brake Division, to manufacture S2 brakes and component parts. This was achieved due to the necessity to provide quality aircraft brake overhauls and to ensure continued supply of the repaired parts in conjunction with our 20-year program for support.

CDF has developed all of our maintenance and inspection programs and all inspection programs are FAA examined and approved. We also maintain a full aircraft AutoCAD engineering and drawing section with an on staff FAA certified structural engineer to design and review all modifications and structural repairs. CDF maintains an extensive maintenance and overall -- excuse me -- an operational computer system that has tied all 13 air tanker bases and nine helitack bases to our central maintenance depot in Sacramento or Sacramento McClellan.

CDF maintains a well equipped supply warehouse and stocks over 100,000 line items of spare parts, twice the number United Airlines even has in its inventory. During the last 30 years, the CDF has taken advantage of the FEPP, or Federal Excess Personal Property Program, parts during military downsizing and has stockpiled over 200 million, as I said earlier, in spare parts and tooling.

CDF has substantially revised its pilot experience, recruiting, initial training, recurrent training and operational supervision, operational standards and pay structure. The current contract provides for a straight daily pay rate and is not based on flight pay. Pilots are now paid on a salary and are not required to fly for pay. CDF contract pilots are the only ones in the industry to be paid in this manner. The pressure to fly unsafe aircraft or in unsafe weather conditions has been eliminated from the pilot's traditional fly for pay structure. If it is not to fly, pilots' pay is not penalized.

Air tanker candidate pilots go through an extensive initial training program that includes ground school, initial type aircraft training, so they're typed in the aircraft, FAA type certification, initial fire type training, and finally a full summer of senior captain right seat supervision. Three different senior training captains at three different bases.

CDF has developed a two-way air tactical group supervisor, or ATGS, training class which you've heard about earlier and I won't go into that. Our top department administrators have recognized the need for extensive aviation-based education. And prior to job -- and prior job experience for senior level aviation managers and maintenance personnel. All department aviation managers and officers are selected for their aviation experiences, with fire fighting experiences only being one factor for tanker and helicopter pilot certificates or candidates.

Key aviation managers, maintenance managers and pilot managers have more than 20 years of aviation experience prior to appointment to crucial aviation related positions. During the last 30 years, CDF has had problems retaining experienced maintenance and pilot personnel, not unlike the rest of the industry. The original service contracts for maintaining state aircraft follow the fire full service contracts and resulted in low bid, poor quality maintenance of aircraft and inexperienced low paid pilots.

Shock damage to aircraft, lack of in-depth maintenance and frequent accidents were the results and CDF has -- since then, CDF has transitioned and matured its contract specifications to require significantly increased pay for pilots and maintenance technicians, improve benefits including full family medical and dental, that's year-round for our pilots even though they don't work year-round, a 401(k) plan, which can be expanded, and I think DynCorp talked about that earlier, stock option plans, vacation and sick leave, all of which they carry with them year-round. The results are true careers for our contract personnel.

We have stopped the loss of trained personnel and significantly reduced shock damage, increased productivity and reduced our accident rate. Remember we're doing this all on a $20 million a year budget as well, one third of the air tanker fleet in the United States. CDF is proud of the progressive approach it has taken in developing an aerial fire fighting program and places of the safety and well being of its pilots, mechanics, technicians and managers over the low bid. It has done this while maintaining the most cost-effective, efficient and effective operation in the industry.

CDF, although proud of its operations, has not proposed that the federal government accept this highly successful model as the only model. We do present it today as an example of how successful a program, how we feel a successful program can be, with basic fundamental principles of safe aviation organizations are applied and rigidly adhered to. It doesn't matter if you're dropping bombs, dropping retardant or flying helicopters or transporting people.

In conclusion, CDF supports the continuation of the federal air tanker program as it presents a viable tool in the battle to fight wild land fires for both state and federal lands. We feel that this committee has the power to bring about a viable solution to the issues now facing the Forest Service's air tanker program in this historic junction.

The question of how the Forest Service got to this point should not be an indictment on the decision made so much as a lesson on the past and what it teaches us for the future. Thank you very much. Any questions? Actually, Dan, did you want to sort of, make a statement?

DAN LANG: No, actually I didn't have any prepared remarks. I was here to answer questions relative to aerial fire fighting operations and also our command and control system that we use in California.

JIM HALL: Tell us how you all are structured within the state government in California, and then how you interface with federal resources?

MIKE PADILLA: We're under the Resources Agency, which is a secretarial position to the governor, and the Resources Agency has many different compartments underneath it, we are the California Department of Forestry and Fire Protection. And we not only provide fire protection, as we say we're California's fire department, we're also resource managers and manage state forests as well. How we fit into the Forest Services structure, Dan I'll let you go into that.

DAN LANG: Basically, we have a cooperative fire protection program with the federal wild land fire agencies, that we have evolved over many, many years and it's based on written cooperative agreements. We have in the state what we call the four party agreement, which is basically an agreement between CDF, the National Parks Service, the U.S. Forest Service and the Bureau of Land Management. And it's a cooperative fire protection agreement whereby we agree to share our resources back and forth on assistance by hired basis. And basically we also evolved the procedures for the sharing of those resources and for making decisions about resource allocation during times when we had multiple major fires going statewide.

JIM HALL: And I assume at that point in time you bring in outside resources?

DAN LANG: All of the wild land fire agencies, both state and federal, also have access to local government fire protection resources throughout the state through our Office of Emergency Services' Fire and Rescue Mutual Aid program. We have a very

well developed system for mobilizing local government resources throughout the state, that they are then at the disposal of the wild land fire agencies. Also we have a well developed series of agreements with the private sector for mobilizing privately owned bulldozers, water tenders and other fire fighting resources and call-when-needed aircraft, particularly helicopters.

JIM HALL: Do you ever use resources out of Boise?

DAN LANG: Yes we do.

JIM HALL: Well, that's what I'm trying -- how does that work?

DAN LANG: Yeah, basically the way that works is once the resources available to us within California are committed and we still don't meet our resource needs, then requests are placed with the National Emergency Coordination Center in Boise for additional resources. In California we have two geographic area coordination centers, we're the only state that has basically two geographical areas in the same state. And we share the operation of those facilities with the federal agencies. The Northern Geographic Area Coordination Center's at Redding and the southern one's in Riverside.

Basically we work together at those coordination centers, monitor the availability of resources and basically then set our priorities there for the allocation of resources within that sphere of influence. Once the need for resources exceeds what's available within that geographic area, typically the request goes to the other joining area, whether it be the north or the south. When both geographic areas are committed and the types of resources we need are not available then the request goes to Boise and then is filled with the next closest available resources from out of state.

JIM HALL: And who pays for those, do you all reimburse or is that paid for at federal level?

DAN LANG: No, we pay for the resources that we use. We are on assistance by hire with the federal agencies, as are the broader resources.

EARL McKINNEY: You used a number of roughly a third of the budget of the national heavier tanker contract, I was just trying to get an estimate of the size of the state of California where you have fire jurisdiction and the rest of the United States --

MIKE PADILLA: No, that wasn't the budget, it's one third of the number of air tankers, not budget wise. We have 23 air tankers, I believe the Forest Service has about 45, 46.

DAN LANG: Those air tankers basically reflect a decision by the State Board of Forestry and the state government that we wanted to have a high level wild land fire protection here in the state of California for the state responsibility lands. The way the protection responsibility's divided up is that approximately one third of California under

federal government jurisdiction for wild land fire protection, with the Bureau of Land Management and Forest Service or park service. Approximately one third of the state is the jurisdiction of CDF. We provide the wild land fire protection on privately owned forest and range lands of California. And then the remaining one third of the state is under the protection of local government, primarily the agricultural and city lands throughout the state.

EARL McKINNEY: Tell us about your experience with this infrared system aboard the KingAir. When did this start and what have you found out so far?

MIKE PADILLA: It's a new program that we implemented when -- actually we've been trying to implement an infrared program -- we call it strategic infrared program, unlike a tactical one that's used specifically on an incident located on say an air attack aircraft or helicopter. The ARIS (ph) program started this last year with the introduction of the KingAir, which we modified. Its purpose is to provide primarily fire information, strategic fire information across the state to the incident command teams who are fighting the incident, and it provides them with a quick picture initially of what the hotspots are of the fire.

It's downlinked by a satellite to a communications center, it's put on an FTP site on our computer site. And the information is then drawn off by the incident teams or anyone else looking for that information that has access to it. We also bring the information back -- it's all digitized, there's no hard copy print on the aircraft, its digitized and transmitted electronically. We also provide near infrared imaging which looks at the vegetation or can look at vegetation types and the health of vegetation. As a technology in use of it, we know the basic fundamentals of what you can do with infrared, we placed some of the long infrared on our OV-10s when we first got them, I think John Lock (ph) discussed some those earlier and some of the issues that came up with that.

We also discussed the viability of using infrared on air tactical group supervisors or in TGS roles. One of the reasons we went away from that was not only costs but the overload in the cockpit. Task overload, as anyone in aviation knows, is one of the fundamental problems with pilot error and issues that come up with that. I think the Army's addressed that several times in the Apache program. So looking at how you -- and TGS is essentially a back-seater on any sort of mission. That person, his primary function is aircraft control, air traffic control and then ground communications and coordinations. And infrared is very viable and can help that person in that mission. One of the problems, as I said, was task overload.

I think we have people that can do it, and I think we have people that would be overloaded and couldn't use it. So we made a decision several years ago not to go that way with the OV-10s. But the current infrared system we have on the KingAir is really to provide us with an overall general infrared picture. The Forest Service provides that on their KingAirs right now, using line-scan technology. And I believe they're going to go to a new digital type technology in the near future. I'm not familiar with that.

It tries to introduce new technology. Our budget is very limited. I wish we had more, we could probably do a heck of a lot more with better optics, as it is right now we can geo-reference everything that we take down to two meters squared, so anytime you look at the picture you get a lat and longitude down to two meters. Pretty good -- not bad.

EARL McKINNEY: Mike, does it change any of your processes, like you're able to reallocate your S2s rather than before you'd send them to a certain fire. Do you -- has it somehow sped up your decision cycle time or any kind of --

MIKE PADILLA: Yes, it has. And once -- and I have to tell you that we are certainly having growing pains with this. Some days are successful, and I fly that mission and have flown it when I can get away. Being a pilot, you always want to fly. You know, that's your office. But anyway, the mission I think on the last fire we had was very, very successful, the Croy fire we had over in the Morgan Hills area. And that information we provided, the intent is to get the information to the incident team early on while they're making their plans.

Fighting a fire is not unlike doing battle in the military. The more intelligence you have, the greater decision you can place your assets, and that's exactly what we do here. The IAP, or Incident Action Plan is developed in the evening. The more information we can give to those planners so that they can brief the next morning and understand where those assets and resources can be applied -- we've done that on the Croy fire -- we moved ground assets like any military person you can't hold ground unless you have infantry and our infantry are the ground fighters while we're the aviation support on that.

We have not, that I know of, actually moved any air assets but they may have made decisions that night as to the intensity of the fire for the next morning and whether or not they needed to order up additional tankers for the next day. But that all goes into the equation.

EARL McKINNEY: So you're saying really that the accuracy of your planning is better, it's not that it's a different process, in the old days it would still be same folks but their information would be sketchy and you'd have to guess where the fire was, so it's --

DAN LANG: Really the intent is to improve the quality of the information, to get better information available to the decision makers.

MR. : I apologize. (Off mike) -- did you address the difference between your all-risk mission versus the Forest Service's -- (off mike) – equation?

MIKE PADILLA: No, I didn't, but, Dan, you could address that. (Laughter.)

DAN LANG: Well, our mission is, on the surface, not that different from that of the federal wild land agencies. Our mission is to provide wild land fire protection for the privately owned forest and range lands in the state of California. That said, however, that's about where the similarities stop because federally owned land is managed by the federal land management agencies, and they get to make the decisions about what happens on that land and they get to control growth on that land. Privately owned land's much different in that the owners of that land like to be able to build on that, and with the burgeoning growth in the state of California, we have seen over the last couple of decades a continuing migration away from urban centers and in to the rural forest and range lands that we protect.

So consequently there's been a lot of urban growth and residential development in our jurisdiction, which complicates our wild land fire protection mission. The tactics that we were able to use 20 or 30 years ago, we can't use the same tactics in the same place anymore because of the presence of residences and structures that just weren't there in the past. So the way that we have to fight wild land fires, and our jurisdiction has evolved to a point now where the presence of those structures is a primary consideration in a lot of the strategy and tactics. That has caused us to basically evolve into a structural fire protection capability simultaneously with our wild land capability.

So our fire apparatus carry a lot of the same kind of equipment you'll find on municipal fire engines here in the city of Sacramento, we carry breathing apparatus, we carry ladders, we carry medical equipment. We basically do that because there are now people in structures in our jurisdiction that have to be protected from the wild land fire, and we have to still do our primary job putting out the fire before gets to that house.

MIKE PADILLA: We have over 600 fire stations in the state, and almost 4,000 employees.

KEN JOHNSON: Out of your -- you have $20 million a year to spend on all this activity.

MIKE PADILLA: Most of the time, yes.

KEN JOHNSON: Most of the time, yes. Do you have access to supplemental funding if you run out?

DAN LANG: Actually that $20 million reflects that access. About $10 million of that is our annual program operating budget, and about another $10 million of that represents money from our fire emergency fund that goes for paying things like fire retardant, call when needed, helicopters to supplement our air attack, pilot overtime, some of those kinds of things go over and above the normal support.

MIKE PADILLA: They're always -- I'm always being pinched on the budget. I got $9.7 million to run this program, and we struggle every year to make it work. But I think that the 0900 emergency fund is what we use as a buffer in the State of California.

We get supplemented in the department with that, and everyone knows that emergencies can't always be predicted, so our base budget reflects what our operating costs are and then anything above and beyond. And that's always a battle for the budget.

JIM HALL: Ten million covers all those employees?

MIKE PADILLA: I have right now under our contract 152 employees, contracted employees. That's pilots, mechanics and logistics --

JIM HALL: All those stations and those 4,000 employees, that's all --

MIKE PADILLA: No, this is just the aviation --

JIM HALL: I was going to give you the cost efficiency and effectiveness award of the century. (Laughter.)

MIKE PADILLA: I would've taken it too, but unfortunately I can't. I thought $20 million was darn good but --

DAN LANG: Our fire protection program budget in CDF fluctuates and will be reduced somewhat this year, but it's around $350 million. That's for the total program on the fire protection side. The balance of that goes to resource management program.

JIM HALL: I notice the name is the Department of Forestry and Fire Protection. Was it changed to add fire protection or has it always been that way?

DAN LANG: That change came about in the late 1970s.

JIM HALL: Do you remember why? Just to better reflect what you're doing?

DAN LANG: That was primarily it. I think a desire on the part of the employees to better reflect the true mission of the department. The department started in 1927 as the California Division of Forestry. And at that time we were part of the Department of Natural Resources, and the goal was still the same, to provide wild land fire protection for privately owned forest and range lands in California. But the complexion of California was much different in 1927 than it is today, and so we've evolved from the protection of forest resources to the actual fire protection mission, which really is protecting not only all of those resources but also the other and equivalent values in our jurisdiction.

JIM HALL: It's a little thing, but I think that's important because the public can identify costs with fire protection more than forests sometimes.

EARL McKINNEY: Mike, you stepped back kindly and said that you wouldn't necessarily recommend or propose that this model, which seemed to work very well, be

extended to the federal level. Why not? Are you just being nice, or is there some reason it wouldn't work, or is there some reason it wouldn't work? (Laughter.)

MIKE PADILLA: Nice is a good word. You know, I don't want to be so presumptuous to tell the federal government today it should run their program a certain way. We have partnerships with them, and their mission is somewhat different as well. You can't apply this model straight across. And as Dan pointed out, we have a different constituent to the Forest Service. Now the Forest Service, maybe their constituency is changing as you can see the urban interface, are we there to protect farms and property, or the forest? Those are fundamental arguments that are going way beyond this committee and occasionally get carried out in the field between, you know, who fights fire best? And those are fun discussions we can have all day with our partners in the Forest Service. But for the model that we propose or the model we are currently operating under is a good one.

The fundamental issues of what's a safe program are the things we're trying to present here. Whether, as I said, you're dropping bombs, whether you're dropping retardant or transporting people, a safe aviation program is what's fundamental.

JIM HALL: So the Forest Service can get this surplus equipment, because you are a government agency, and we can't get the equipment under this other act, is that correct?

MIKE PADILLA: That's correct. And we also are the pass-through agency, oversight agency to our contract counties. We have contract counties that also operate aircraft or helicopters under our jurisdiction and review.

DAN LANG: One of the key differences between our operation and the federal air tanker contract program is the fact that the federal government still holds the title to all of the aircraft that we operate, there --

JIM HALL: Who has the certificate? The Forest Service?

MIKE PADILLA: The Forest Service has the pink slip.

DAN LANG: If you get the opportunity to visit our facility you'll see what the aircraft look like when they --

JIM HALL: Well I thought I was invited there tomorrow, right?

(Cross talk.)

DAN LANG: We get the aircraft from the federal government through the Forest Service, and then basically rebuild them from the ground up, and turn them into quality aircraft before we ever put them on the line. So the state has a huge dollar investment,

even though the federal government owns the airframes, all of the money to make them into viable fire fighting aircraft was spent by the state.

MIKE PADILLA: We didn't come by this easily. The model we currently operate under -- and the point I was trying to make earlier was that we went through the same maturation and growth process that we think the Forest Service is probably going through at this point as well. And it was driven by fatal accidents, and is driven by the -- and I just recently retired from the Reserve Military for 31 years and active duty as well, and one of the things that was -- I was a safety officer in the military -- and one of the things that drove them was the same thing, the inexcusable loss of life. And unfortunately that's what drives safety, the inexcusable loss of life in what should be a safe program.

When we were in Vietnam, 56 percent of all the helicopter accidents were caused through pilot error and not through combat losses. And that was because of pilot error, and we learned the hard way, and we thought would apply these same ideas when we came in to CDF. The staff that we currently have, and I started out with the staff in 1990, but prior to that in 1986 I did a study for the director, a special assignment from agency to look at the aviation program. I went back and reviewed that today, you know, it was fundamentally sound, and what we could propose then is still fundamentally sound and what we should propose today and where we should go.

And it's not based again on delivering the targets, it's based on flying a safe program and what do you need to fly a safe program?

JIM HALL: Have you seen much of an increase in your use of aviation assets in the last 10 years?

MIKE PADILLA: Absolutely. Our flight hours have been --

JIM HALL: How much of that's due to TV? (Laughter.)

EARL McKINNEY: Let's say "public expectations".

MIKE PADILLA: I tell our pilots, just look for the cameras and drop, don't worry about – (laughter).

EARL McKINNEY: Can I ask -- maybe it's my ADD or something kicking in. This five pages was -- can I distill that down and say two of the main lessons that you've learned over the years is stronger centralization and tighter control of processes from a centralized point of view has led to a reduction in error and mishaps?

MIKE PADILLA: I would say in a really simplified impact, yes. We went from a decentralized approach, where we contracted for aircraft as well. And by happenstance, or plan, I'm not sure, I don't think I was born then, but they decided to get S2s through the federal program. And with that the program began to grow. They acquired the

aircraft -- and I can tell you, there were some pretty good horror stories -- we contracted out and we had some problems with contractors and how they were operating. So the growth of where we're at today came as a result of centralizing and consolidating our efforts to the central maintenance depot in support of the 22 bases out in the field. We tactically support 22 bases in the field, with an operational readiness level or OR availability of almost 100 percent.

JIM HALL: Do you still contract for any equipment?

MIKE PADILLA: Not any more, except call-when-needed. But we do contract for our maintenance and our pilots. Our contracting dollars have grown significantly, it's just where we've placed them.

DAN LANG: Another advantage to the centralization of our maintenance activities is that it allows contractor oversight by our aviation management staff. So we have a very close every day working relationship with our maintenance contractor. We have CDF aviation officers who are A&P (ph) mechanics, who run our program who monitor the performance of the mechanics, and basically provide that second level of quality assurance. The contractor has a quality assurance section within his operation, but we're basically are the customer, and so we are on site, we get to basically do all employment control.

JIM HALL: I'm trying to understand your structure in terms of your employees, your state employees, that some of them aren't full time?

MIKE PADILLA: Yes, that's kind of confusing. Let me -- you got a moment? The growth of the program is such that currently right now, we're really an oversight program, an aviation management unit. There's 10 uniformed officers who manage elements of the program. It's essential that each part of the program be managed by individuals who are state employees, who are agents of the state, who oversee 152 employees who also procure and spend state money and acquire federal property. We've been audited numerous times by the federal government, Forest Service, our own internal audits and have been given a green light on where we're going and what we're doing with this program.

I guess you could label it privatization if you wanted to give it a word. But the staff of 10 individuals -- 11 if you want to count the senior chief and myself all have varied experience. Our chief of our maintenance program, Roger Madsen (sp), who's behind me, came from Arrow Union (ph). He had years and years of experience in turning nuts and bolts, and was their chief of maintenance out there. We have air tanker pilots who are working for us, we have helicopter pilots, and I myself have been flying since '69 and have been flying fires since '74, and have both aircraft and helicopter experience in fire fighting, not to mention that I beat Dan into CDF two years back in 1964. But we won't go there.

All right. So that's the diversity in staff. And that diversity oversees our program, because they're experienced, and they understand it, and they come from, like I said a multi-disciplined function.

JIM HALL: But they're not all -- I'm sorry -- they're not all full time employees?

MIKE PADILLA: No, we have DynCorp who provides our aircraft services and maintenance and they are out in the field and they fly our airplanes, our tankers and air attack and we have a state employee who isn't under my control who is the ATGS in the back out in the field. We have Logistical Specialties Incorporated which is a logistical support contractor -- both these contractors by the way are major players with the department of defense, and I think that DynCorp covered some of that already. They have I think 30 or so employees with a total up to about 150 contract employees.

Our helicopter program, on the other hand, which is a year round program. The pilots aboard those aircraft are state employees. We initially contracted with them through different companies, and some of the operators are here that we used to contract with. These employees have worked for us full time and there's two pilots at each of the nine bases. And that provides us with a helicopter asset year-round, because we use these not only for fire fighting but in all risk organizations for search and rescue and other support activities. Does that answer everything?

BILL SCOTT: Mike, I have a question about the depot. That seems to be pretty central to what you do. McClellan was a depot before, a DOD depot, and did that really simplify things for you? Were you able to step in and take over a lot of facilities, perhaps equipment and a workforce in the general area that was pretty much tailored, geared for depot work?

MIKE PADILLA: Yes, yes, to answer your question. We also were at Mather, which was a closed base, earlier. We had the first contract with the Department of Air Force for use of a closed base by another government agency, and we did that, gosh, maybe seven years ago when Mather first closed. Our eyes were set on McClellan when we heard it was going to close. What the advantage of McClellan is, is that the state action owns the property, we don't lease it. So we own 22 acres there with rampant hangar space.

Yes we did take advantage of the individuals that came from there, but prior to our move to McClellan, many of these peoples had worked for us over the years and had come out of it -- in fact 99 percent are ex-military, either pilots or mechanics -- so many of these people, we picked up when we picked up the OV-10. We got a long of people from the Marine Corps and the Air Force who were maintenance people from those squadrons. So it's fun to go out there and start jabbing who's Navy and who's Marine, you can get quite a discussion going on out on the floor with that.

EARL McKINNEY: Do I understand there's some airborne fire suppression done this summer at night?

MIKE PADILLA: I am not familiar with it, but I can --

DAN LANG: Not anything that we did.

EARL McKINNEY: Okay. I think it was a local story where helicopters were brought in at night there.

MIKE PADILLA: I think the jury is still out on fire suppression at night, but as far as CDF is concerned, it's in and we don't do it. I've flown both night and day fires, I've flown with MBGs (ph) and I can tell you that it's not a pretty sight. There's a lot of technology out there, but again I believe the Forest Service didn't want to talk about the risk factor, risk management, is the risk there? We are really good at what we do because whatever was burning last year is out. That's what I tell my -- (laughter) --

So don't go out and risk yourself for it. Fighting fires is our job. It's not an emergency to us.

AL HYDE: Anything else from the panel?

JIM HULL: Dan, I've had the opportunity to visit a number of your locations, aircraft training academies for your firefighters and things like that and have great admiration for the commitment that CDF has in all of those arenas. I run into your firefighters, your pumper units and all that all over the United States that are out helping out others. And I guess I ought to know this question, but I don't. Do you ever mobilize your aerial resources outside the boundaries of the state of California?

DAN LANG: Yes, we do. But we're -- we kind of jealously guard our aviation resources, primarily because, number one, the state of California funded the program to protect the state responsibility wild lands in California, so we owe it to the taxpayers of this state to be sure that we can continue to provide the level of protection they expect. But we recognize that we do share resources back and forth across the lines, so we basically have a policy that we will respond our aircraft across the state line into Arizona, Oregon and Nevada if our resources are the closest available to that fire emergency. But as a general rules we keep those resources in the state.

JIM HULL: And I assume that also part of the reason for that would be so that they can return back to a home base for their maintenance and support and all of that.

MIKE PADILLA: Certainly if you're going to deploy outside of your home base you're gong to need to support that aircraft, any parts, pieces, maintenance and other -- in fact, even to the point where your credit cards have got to work someplace.

JIM HULL: Yeah.

DAN LANG: Another consideration is the fact that Mike mentioned, that we have in the state a mix of state air tankers and federal air tankers. And the federal air tankers are not constrained by state boundaries and we find ourselves many times during the summer looking around in our federal partnership dollar. And we're not only relying on ourselves for that aerial fire protection, but the federal agencies in California are relying on us as well.

JIM HULL: I might follow up on a statement that you made a while ago because I think it's significant for what the assignment of this commission is all about. But you indicated that your mission is different from the federal mission and thus some of the things that you do. But one of the things that is going on around the nation is, and Texas is a good example of it, we greatly depend on the federal resources for mobilization into Texas because we did not have our own fleet.

However, when they come to Texas they're not doing the federal land protection deal, they're doing the same thing that you do here in California. They're protecting the Wooey (ph) and other structures and wherever else we happen to use them. And so I think this is a real consideration if we look at this national fleet as to the changing demands on that fleet to address a wide range of protection needs.

MIKE PADILLA: I think that given what I've -- you know, I'm chairman for the Western Aviation States Aviation Committee and also part of the forming group for the National and States Aviation Committee. And of the issues that we've faced is that the states have a different philosophy in fighting fires. Not that the federal government shouldn't have its own philosophy, but we share some common ground when we look at aviation resources and utilization of those.

We're fortunate in California not that we have all these fires, but we're fortunate that we have the tools to address this. And we do have because we've had a consistent threat to the year after year and it's been easily identified to the taxpayer. Some states as a result of when we're facing extensive droughts or have to face that problem now and it's becoming an extended problem year after year. Should they acquire those assets or should they rely on federal assets is still a major issue.

And it all boils back down to the initial attack, extended attack, on and on and on. How do you use those resources to best fight the fires? The state of California likes to get them while they're small and overwhelm them.

JIM HALL: Do you use your large tanker for extended attack?

MIKE PADILLA: We don't have a large tanker, it's a federal -- we do, yes, yes. We do if necessary. But we like to bring our aircraft back for initial attack purposes.

JIM HALL: Do you ever need the larger tanker?

MIKE PADILLA: Oh, yes, we use it. There's another --

JIM HALL: Have you ever thought of getting your own big tanker or not?

MIKE PADILLA: I have but they won't let me, no.

(Laughter.)

DAN LANG: Actually, we did an analysis back in the mid 1990s when it was becoming apparent that our S2A air tanker fleet was rapidly becoming obsolete. We did an analysis at that time to look at our options for the future and look at available aircraft types and also to look at the argument between large versus medium sized air tankers. And the conclusion that we reached basically headed us in the direction that we're not headed, which is the continuation of use of the S2 airframe but not we're turbinizing that and increase the capacity.

But our philosophy basically was, as Mike said, that was initial attack and we accomplished that by having lots of smaller air tankers spread at numerous bases throughout the state rather than fewer larger air tankers at fewer bases. The gallons per hour that can be delivered ends up being about the same, but we're able to get to more fires while they're still small and while our 1,200 gallon retardant load can still be effective. So that's why we run with the model we have.

JIM HALL: Has the growth of interface impacted your use of resources versus ground and air?

DAN LANG: Yeah, enhanced because the combination of helicopter, air tanker has been -- and our ATGSs are very aware, as John Watt pointed out, how to utilize those resources in a combined effort. It's another tool. It's like adding another type of weapon to your arsenal. And when you look at the interface issue, we have to be able to protect property and the use of heavy helicopters is an increased use. In fact, it's significantly increased Type 1 helicopters created a -- also that's the evaluation, and when you come out tomorrow I'll give you a copy. It's called the Spaulding (ph) Report, which --

JIM HULL: I hope I can pick up one of those patches tomorrow too.

DAN LANG: You certainly may, and I think I have a couple of other things as well.

EARL McKINNEY: You know, I think we've had the Spaulding Report. Is that the '94 report?

MR. : Yes, yes, okay, we've got that.

JIM HULL: Yeah, great.

AL HYDE: I've got two more people who want to get in, and -- (off mike). Thank you very much, I appreciate it.

MIKE PADILLA: Thank you very much.

AL HYDE: Tim, get up here.

(Cross talk.)

JIM HULL: Well, after that last presentation the Blue Ribbon Panel decides we need our own uniform. (Laughter.)

AL HYDE: (Off mike.) Please, get started.

TIM QUIGLEY: My name's Tim Quigley. I'm the current smokejumper base manager at the Region 5 Smokejumper Base in Redding, California, and I've been a smokejumper for 24 years now. And I'm not sure what the panel has heard about smokejumpers and what kind of influence you're going to have on the program through the Blue Ribbon Panel, but in any case I'd like to provide a little bit of information about our program to you. And there's basically a couple of points I'd like to make.

For anybody that isn't familiar with smokejumpers, smokejumpers are firefighters that are delivered by fixed wing aircraft and parachutes to wild land fires. So basically from our fixed base of operation we fly out in our fixed wing aircraft, get to the fire, try to find a safe area close to the fire that we can deploy our smokejumpers by way of parachute, and we've been doing this for over 60 years now.

The handouts that you have there include a little bit of information about the smokejumper program on the first couple of pages and then after that there's some maps that help provide some information about each of our smokejumper aircraft that are used on a national basis. And after the maps there's a handout, the USDA Forest Service national smokejumper report for last year, 2001. It's a combination of all the Forest Service smokejumper bases that come together and provide information for this national report. And there's some interesting information on particular fires of 2001, which smokejumper program made a significant contribution.

A little bit about the program -- it's a national program that includes seven U.S. Forest Service bases and two Bureau of Land Management bases. In addition to these nine bases, any of these bases are capable of setting up a temporary what we call a spike base at just about any airport throughout the western United States. There's over 400 smokejumpers in the national program, and there are 20 aircraft, and there's about five different aircraft that we use for our program. I'd like to make two key points today, and the first one concerns our aircraft, our fixed wing aircraft.

They're probably one of our program's biggest assets. They're high speed, long range aircraft. They have very big payloads and the best thing about them, I believe, is

they're very cost effective. This combination provides fire managers with an excellent opportunity to catch fires during the initial attack phases. I'd like to speak a little bit about those attributes -- speed, range and payload, cost effectiveness -- a little bit here. The first one I'd like to address is payload. Like I say there's five different aircraft that we're using right now. And they range from carrying eight to 18 smokejumpers on the aircraft. Also on that aircraft they can provide equipment and supplies to these firefighters to last for up to three days.

So basically you're getting anywhere from eight to 18 firefighters that are going to be self sufficient for probably up to three days. Along with this payload of firefighters and equipment they also can carry enough fuel to fly for two to three and a half hours, depending on which aircraft we use. So this provides self-sufficient firefighters that can go a long ways from the fixed base. These aircraft are also capable of dropping a great deal of paracargo to support fires. Portable pumps, hose, food, water. They have, like I say, a huge payload that they can provide that for any type of fire out there.

Also one of our bigger aircraft, the Turbine DC-3 that holds 18 jumpers, it can provide -- that's considered a type one crew -- that can be provided to an emerging fire, an initial attack fire. But it also can maybe staff multiple fires. We get lightning storms, and you'll get several fires in one particular area. That aircraft can probably staff up to five fires on one fuel cycle basically. So big payload is a big deal as far as the smokejumper program's concerned.

Also in the aircraft speed is a big issue, a big attribute. These aircraft range 150 knots to 210 knots per hour, and that provides a fast means of getting firefighters to fires no matter where they're at. If you combine that fuel payload and the speed of these aircraft, you get a huge range, and the range of these aircraft can travel a great distance in a relatively short period of time. If you turn to about the fourth page of your handout, you get a series of maps with the aircraft that we use. The Douglas DC-3 Turbine aircraft is the biggest aircraft we have. And the U.S. Forest Service operates three of them. One out at Redding, California, one out at Missoula, Montana and another one that's based out in McCall, Idaho, but is starting basically to be staffed out of Ogden, Utah.

And you can see some circles there that show the range of those aircraft with the speed and the range, fuel load that you can get and initial attacker fire. So you can see with those three aircraft there, they have a range that basically covers the western United States. It's a great aircraft, now that they've turbinized them, and to get a type one -- you can see if a fire's started in Eastern Oregon, all three of those bases can respond and provide almost up to 60 people in a relatively short period of time. And as you can see, some of the other information on there, it does carry 12 to 18 smokejumpers, and the hourly flight rate, the average of those three aircraft is approximately $650 and that's a pretty cheap rate in today's world.

Other aircraft that we use, as you turn the pages, the Sherpa, it holds 10 to 12 jumpers, these are all government owned aircraft. And you can see that we have one in Redding, there's two in Redmond, Oregon and one in Missoula Montana, and they have a

pretty good range too, and there hourly flight rate's about a little over $1000 per hour. A couple of other aircraft that we have, on the next page, is the De Havilland Twin Otter. That's a smaller aircraft, carries eight smokejumpers. The Forest Service owns two of these out at McCall, Idaho and Grangeville, Idaho actually has one on contract. And the BLM in the Great Basin has about, I believe, three or four of these that cover Nevada, Utah, Colorado area.

They have a shorter range, but their capability -- they have a short take off and landing capability, and that works great up in Idaho where they're based because there's a lot of backwards airstrips that they're able to get in to and retrieve people and provide some other services. And on the last page, as far as the aircraft that we use, out at Winthrop, Washington there's a CASA 212, which is also used in Fairbanks Alaska, they have several of those. And you can see its range covers all of Washington, a good chunk Oregon and Idaho. And an hourly flight rate of just $600 an hour.

And then the Dorney Air (ph) out of West Yellowstone. It's another eight-person aircraft, and its biggest attributes is its speed. It's one of the faster aircraft, and you can see it has quite the range, that covers a good chunk of the northern states there, and an hourly flight rate of $590. So my point there is I just wanted to share how efficient these aircraft are and what they can provide the taxpayer and our users.

The second point I'd like to make is -- I'm not sure if the panel is familiar with a study called the Aerial Delivered Firefighter Study. Have any of you heard of that?

EARL McKINNEY: We didn't see it.

JIM HULL: We haven't seen that study.

TIM QUIGLEY: Okay. Well, it was an extensive analytical study to assess smokejumper and helitack programs – (audio break, tape change) --

[END, TAPE 4]

-- the way the table works is, if you were to look at helitack program -- if you added at the very bottom of that column, $2 million -- and these tables come right out of the ADFF study -- if you added $2 million to that program and you take it over to the gray area under the "zero dollars" heading, you're basically saving in resource value up to $21 million, which is a great deal. And if you look at the smokejumper program level changes over to the very far right, if you were to add $2 million to the smokejumper program you could save in resource values $37 million. So both programs really show a large savings for the taxpayer if you can increase the level of spending in each of those programs.

EARL McKINNEY: Tim, can you -- before you move on and tell us more -- just to get our minds around it, how much forest is that? Thirty-seven million dollars, is that a 300,000 acre-fire, is that a 30,000-acre fire; is that a 3,000-acre fire?

TIM QUIGLEY: What that figure represents, it's a little bit hard to decipher, it's a cost plus net value change, and that basically, from what I understand in reading the definition of that term is the sum of costs which include both the fixed annual cost for the fire program and the variable suppression cost and net resource value change. As far as, you know, what that means, what you spend on a fire, I'm not sure if that's a conclusion you can draw from that. I'm under the impression that you could save that much money in resource value, and I'm not sure if that includes the suppression costs of, you know, stopping a large fire or not.

On the next page, there's another table that deals with the Pacific area. And the Pacific area included California, Oregon and Washington. And the significance about that is the Pacific area was deemed to have higher resource values because of the timber and I believe the urban interface that we have, but mainly for the amount of timber in these states. And you can see that if you add those program dollars to both the helitack program and the smokejumper program you do get significant savings in the resource value.

If you add $2 million to the helitack program, they say you can save up to $12 million in resource value. That same $2 million for the smokejumper program can save up to $43 million according to the models that they've created. So there's been an extensive study that basically supports both programs and, like I say, I'm not sure what your charter is as far as these type of programs, but if you haven't heard it I was just thinking that you needed to hear something about -- a little bit about our program and what it's all about.

EARL McKINNEY: Does the state of California operate any smokejumpers?

TIM QUIGLEY: No, they don't.

EARL McKINNEY: Do you know why?

TIM QUIGLEY: No, I don't. Occasionally they use us on their fires, but it's not a real common practice.

EARL McKINNEY: Do I understand that smokejumpers in the BLM and the Forest Service, one group uses square chutes and the other uses round chutes?

TIM QUIGLEY: Exactly, the Forest Service uses a round.

EARL McKINNEY: Why would that be?

TIM QUIGLEY: At one time we both used the round parachute, and then BLM got in to the development of the Ram Air square parachutes. They operate in Alaska and the Great Basin, you know, basically Nevada, Colorado, Utah. And those areas are a little more wide open than the national forests that you're talking, in Alaska, a kind of

open, rolling, tundra type of topography. And in the Great Basin a little more deserty type of vegetation, so it's a little more open. And the Ram Air parachute is really good for that scenario because it's -- those areas tend to get windier, and the Ram Air parachute can jump into higher winds. And so it serves their purpose really well.

For the Forest Service, a little more mountainous terrain, with a lot of tall timber and we have to get in to smaller jump spots. And the round parachute is capable of dropping straight down a little bit better than the Ram Air parachute. The Ram Air parachute is more like a wing and needs a runway a little bit. There's a committee together right now that is trying to develop a parachute that will suit both our needs, and that we can be on the same systems. But we do operate together. We have mixed loads that -- we help them out and they help us out when need be.

JIM HALL: Well, thank you for your service. We have heard from smokejumpers during our hearings, but this has been very beneficial, and we appreciate your willingness in coming forward.

AL HYDE: I assume, Tim, you'll have no problem with my putting that on the official record as your remarks -- (off mike).

TIM QUIGLEY: No problem.

JIM HALL: Thank you for your service.

AL HYDE: Thank you for your patience.

I have one last person -- Norm.

JIM HALL: Norm, not only are you the last person today, you are the last person this panel's going to hear from in a public session, unless somebody else gets up at the back there, so.

NORMAN STUBBS (sp): I promised myself I wasn't going to do this, but -- (off mike).

JIM HALL: Well, we appreciate you coming forward.

NORMAN STUBBS: My name's Norman Stubbs. I'm the maintenance supervisor for TBM, Incorporated. I've worked with them since 1972. I've been the maintenance supervisor since 1987.

JIM HALL: Norm, if you don't mind, I think all this is being recorded, so if you would pull the microphone over a little.

NORMAN STUBBS: All right.

JIM HALL: Thank you.

NORMAN STUBBS: TBM Incorporated currently operates eight aircraft on contracts with the U.S. Forest Service. We've been in business since 1959. We have DC-4s, DC-6s, DC-7s and C-130As I hope. Our maintenance program is under FAR 91-404F4, and we operate under Part 137 and maintain under Part 91. I'll speak to the C-130 inspection program, because that's kind of what driving this whole affair here I think. Our inspection program or the -- again I'm going to have to speak to TBM Butler's aircraft because I'm not familiar with the other operators.

But our inspection program was developed under the Air Force Dash-6 card system. Then in 1995 the FAA decided that we had not included depot maintenance in the inspection program so AFS-500 summoned us to Washington and informed us that we needed to juice up the program a little bit. So AEG from Long Beach got the job of helping us write a inspection planning guide which is entitled IPG 182. And from that we went back to our PMI and developed an AIP based on the added -- what they had us do, and basically the IPG added a bunch of PDM work specifications that were thought -- deemed appropriate by the FAA. And we worked those in to our planning guide and then moved to develop the AIP. We took that to the FAA, and that's where we're at.

The program's only as good as the people you've got looking at it. Everybody in the room can have the same piece of paper and you're going to get a whole bunch of different results. We do have a 145 repair station, but that, as far as I'm concerned, has no bearing on maintaining the aircraft whatsoever.

EARL McKINNEY: Norm, can I ask a question about -- how many 130s did you say --

NORMAN STUBBS: Three.

EARL McKINNEY: I understand the FAA's got them currently on a grounded status.

NORMAN STUBBS: You are correct, yes. The AD note 200-1914 has grounded them until we come up with a damage tolerance assessment and a inspection for this area that they have deemed needs to be looked at.

EARL McKINNEY: Do you anticipate being able to come up with something that will satisfy those requirements?

NORMAN STUBBS: Certainly can.

EARL McKINNEY: You certainly can?

NORMAN STUBBS: Yes.

JIM HALL: We've heard from other people that the wings on these things have been rebuilt, and when they came from the Air Force some were rebuilt, some weren't rebuilt -- do you know the history of the three aircraft you have?

NORMAN STUBBS: I certainly do. All three of the center wings were rehab'ed, I can give you dates and hours -- basically, the center wings on my three aircraft have got approximately between 3,500 and 5,000 hours time since they were rehab'ed. That was in the early to mid '80s.

EARL McKINNEY: Norm, in your opinion, since the maintenance schedule for the 130 was designed for sort of a different plan in the military, now that we're flying it in fire suppression, do you think maintenance programs have adapted well enough to continue to generate an airworthy vehicle for the next given number of years?

NORMAN STUBBS: I have no problem whatsoever with my maintenance program, and neither do any of the people who fly our airplanes have a problem with that.

EARL McKINNEY: Not to be too indelicate, I would assume that people at other contractors felt the same way before their airplanes came out of the sky. I can't imagine they got up in the morning and said --

NORMAN STUBBS: You're absolutely right. But with that having happened, today none of my people have a problem with -- none of our people have a problem with the airplane.

EARL McKINNEY: How do you know that?

NORMAN STUBBS: They told me so.

BILL SCOTT: How do you assure them, though? I mean, if I was a pilot working for you and I saw wings coming off on somebody else's airplane, I'd say, Norm, give me a warm fuzzy; why are ours good?

NORMAN STUBBS: Well, they give me the warm fuzzy because they are out and they're talking to and associated with all the other pilots in the industry. And they know what goes on and what doesn't go on and so on and so forth.

BILL SCOTT: It comes down to difference in maintenance between companies?

NORMAN STUBBS: It comes down to different maintenance, different philosophy. Like I expressed earlier, you can interpret something one way and do something one way, and I can interpret and do something, we're both reading the same document.

JIM HALL: How much is cost a factor in that?

NORMAN STUBBS: My boss has never told me not to do anything that I deemed necessary.

JIM HALL: No, I wasn't -- I was asking in that situation --

NORMAN STUBBS: Well, I don't know because each of the inspection programs was approved by the -- you know, you take the planning document and you go to your FSDO (ph) and I go to my FSDO, and what my PMI will allow, this guy might not. And I had a big hassle with mine over cleaning the leather on the seatbelt buckle, you know, they wanted this included in my inspection program. These people were very meticulous, where somebody in another FSDO might not be the same.

EARL McKINNEY: I'm sorry -- I thought you'd paused there, I didn't mean to interrupt.

So you've hit the nail on the head. Everybody looks at a document slightly differently. Everybody looks at a C-130 slightly differently. Some maintenance shops find things to fix ahead of time, and others don't find those things. How does the federal government keep private companies out there from gambling with people's lives, right? How do we set up a system so that maybe this is the best maintenance that can be done and you'll never have an accident -- I can't say that that's not the case. But how do we set up a system where we can assure that level of maintenance across the entire fleet of old aircraft?

NORMAN STUBBS: The only way I would see that something like that would happen would be if you had everybody working off the same program, page by page.

EARL McKINNEY: And, I don't see how that happens in private industry. I see how that happens when the state of California centralizes maintenance at one location --

NORMAN STUBBS: Well, I've got my planning document or my inspection program, and if the Forest Service was to say okay if you've got airplane X, all airplanes will be maintained under this document. And when I built my planning document I took the Air Force Dash-6 work card -- a stack about this high -- and they've got a sliding graph in there for flight hours per year and how often you do the inspections. Basically there's four inspections, FSDO, inspections. And because the airplane was new to me or new to us, and the way the system broke down, I didn't want to inspect one wing one year and another wing the next year, I combined everything and basically I do in three years what the Air Force took four years to do, based on the number of man hours or flight hours that the aircraft is doing a year.

EARL McKINNEY: I'm just trying to figure out how a federal agency would generate a standard level playing field for the maintenance of various -- it's almost like telling somebody how to maintain their own airplanes.

NORMAN STUBBS: Well, you're absolutely right, I mean, that's --

EARL McKINNEY: And I love your system, but I like Jerry's over here, and I'm also convinced that Smitty over here's got one that's cheaper, you know.

NORMAN STUBBS: What's right for this guy and, you know, what they can work with and what we work with, as long as you produce the same results, it shouldn't make any difference. But if somebody's not producing the same results then we need to look at somebody's, maybe not everybody's.

EARL McKINNEY: But how do you know ahead of time which body that is?

NORMAN STUBBS: Maybe the somebody who's having a lot of problems could be the somebody to look at.

BILL SCOTT: And what if I, as the FAA, go to that somebody and get a clean bill of health. Then what do you do?

NORMAN STUBBS: Change doctors. (Laughter.)

BILL SCOTT: What we're getting at is there seems to be different rules, based on the FSDO or whomever --

NORMAN STUBBS: You are absolutely correct, yes. Some guy over here, oh my God he's getting away with murder over here, you know, he can do anything he wants and my PMI says you've got to clean the leather on the seatbelt every 100 hours or so. But the government is the customer and they can ask for whatever they want. They want airplanes painted purple -- well, do you want the job, by god, paint them purple.

BILL SCOTT: Do the contracts, the Forest Service contracts, help move you in the direction of ensuring a very safe operation or does that fall to the FAA, in your experience?

NORMAN STUBBS: It's an FAA -- it's the FAA's jurisdiction or however you want to say it.

EARL McKINNEY: So the Forest Service hasn't found somebody out there doing something particularly well with a 130 or a DC-6 or something and written that into the future contracts, like let's do this maintenance, or let's do -- never happened?

NORMAN STUBBS: No, not to my knowledge. And this is one of those things that might be a function of competitiveness maybe. You know, I can skin a cat better than you can, so I can produce a product for less money than you can.

BILL SCOTT: Do you feel you can make a worthwhile profit, and do your maintenance program or are you taking a smaller profit as a result of it?

NORMAN STUBBS: We've been operating C-130s for about 11 years now and we've been in the tanker business since 1958 and there used to be at every crop duster strip up and down the San Joaquin Valley there used to be somebody who had a TBM or a Twin Beech or a N3N or something, they were dropping chemicals on forest fires. And there's about seven companies left in the United States that do this now, so somebody at our company's doing something right.

BILL SCOTT: Where are you based, Norm?

NORMAN STUBBS: We have a maintenance facility in Visalia, California and one at Redmond, Oregon. Butler Aircraft is owned by TBM even though they don't want to admit it.

AL HYDE: (Off mike.)

NORMAN STUBBS: Yeah, Dave --

JIM HALL: Any other suggestions or directions to us, Norm? We're trying to look at this -- you read our mandate and --

NORMAN STUBBS: Yeah, I was hoping that I could -- you would have some questions about our inspection program that might make somebody feel warm and fuzzy. One thing that was kind of discouraging is that I was at this meeting in Phoenix two weeks ago and we were told by the Forest Service that the decision to continue to operate the C-130s would be based on the amount of political exposure that was generated by the decision, not whether I could produce a safe or guarantee them that we have a safe airplane.

JIM HALL: Who made that statement?

NORMAN STUBBS: The people from Tony Kern's office.

JIM HALL: Not from the FAA, from the Forest Service?

NORMAN STUBBS: No, from the Forest Service. But we are currently working on a resolution to the AD note. We hired an engineering company in Colorado. And we've looked at several NDI techniques for -- we first have to determine what a critical crack length is and --

JIM HALL: Do you all do anything to monitor the actual performance of the aircraft on the mission, in terms of --

NORMAN STUBBS: No, I do have one aircraft that has a life history recording system in the airplane, or had it in the airplane. It still has the strain gauges in it, except for one that got broken during some maintenance. Most of the black boxes -- all the black boxes are gone but the wiring is still there. I've suggested on several occasions that

maybe we see if we couldn't put this thing back together, get it operating again. I mentioned it again to Mr. Markowitz (ph), and at this particular juncture he said yeah he would be interested in that.

I did contact the Air Force at Warner Robbins a number of years ago about that, and they said at the time they still had the printout data and I asked well, could I get it in paper form, and they said well, yeah, but you've got to have a boxcar to haul all the paper around in. And the other thing is we're maintaining our aircraft, if the pressurization air conditioning system works in it, we can go IFR to altitude, and all the anti-icing systems work, and it'd be a shame to dispose of an asset for political exposure reasons. It really is kind of tough when it breaks apart in flight and everybody in the world sees it on CNN.

JIM HALL: Well, we appreciate you being here. Jim, I guess --

JIM HULL: Just one quick question. You raise a real interest. On this FAA AD report that you're addressing, is there any kind of coordinated centralized, let's all figure this thing out together approach, or is your company doing it, and this company and --

NORMAN STUBBS: The C-130A community is fairly small, and we are working with International Air Response, T&G -- I think you talked to Fritz Wester (sp) the other day. And we're working with them on this process and we will share the information with H&D (ph). International Air Response and TBM are working together to resolve the problem.

JIM HULL: Okay.

EARL McKINNEY: This inspection program you want to tell us about -- frankly, probably I'm not going to understand all the acronyms you use, but can you give us a generalized overview of it and does it differ substantially from what everybody else is doing?

NORMAN STUBBS: Well, I haven't seen everybody else -- it's a fairly thick document, got lots of illustrations and stuff in there showing people, you know, look here and there's --

JIM HALL: Can I ask a question, if you've got a small community, why is there so much difference? Wouldn't there be the benefit of having some standardization of how you do maintenance?

NORMAN STUBBS: Seeing the mess that the thing's in, yes, but like you have anybody that's got -- this guy's got his way of doing stuff and I've got my way of doing stuff and it's just pretty much another way of what's driving the thing, I think.

JIM HALL: Well, we really appreciate you coming forward, and we -- obviously you're very proud of what you're doing, and keep it up.

NORMAN STUBBS: I hope we can.

JIM HALL: Thank you, sir.

AL HYDE: Thank you for staying with us all day.

Is there anybody else who'd like to talk?

JIM HALL: Anyone else want to be the last person to appear before this --

AL HYDE: You're going to give Norm the last word. I don't believe it.

Thank you for being here, and if you are interested in a transcript of this, a report, whatever, it'll probably be about two or three weeks, don't hesitate to -- it will also probably be up on the website. So if worse comes to worse, give me a call -- (inaudible). Thanks for coming.

[END OF EVENT.]