THE AVIATION SAFETY REPORTING SYSTEM

W. D. Reynard

MR. REYNARD: Good morning. Happy to be here to give you a few minutes worth of description and a background on the Aviation Safety Reporting System.

Jack and I are in the information business. One of the greatest travesties that exist in any industry, but particularly in aviation, is to have one group of people possessed of useful information that cannot, will not or somehow is not shared with another group that could use the same information. We try to overcome that by the Aviation Safety Reporting System. It's an incident reporting system that was initiated in 1975 at the instigation of the Federal Aviation Administration as a result of TWA 514 at Dulles Airport, as well as recommendations through the course of years. As you all know this incident reporting is nothing new.

In 1975, the FAA instituted the Aviation Safety Reporting program, ASRP. It looked very much like the ASRS looks now. The problem was the reports were being sent to the FAA. You can imagine how thrilled the community was at the prospect of sending reports of human error and incidents to the same organization that's going to be writing the tickets if, in fact, there's a violation of the FAR's. Consequently, the FAA, in its wisdom, looked about for a disinterested third party. Everybody agreed on NASA simply because we have a good research background, we've got talented human factors people, and most importantly, we don't have an enforcement mandate.

Consequently in 1976, the Aviation Safety Reporting System, ASRS, was initiated. And it's housed here at Ames primarily because we have the life sciences directorate and the human factors research group in this facility.

The purpose of the ASRS is essentially twofold. We identify deficiencies and discrepancies now. And if we can put a fix on and get something cured in a short term, that's good. If we can also use the data for long term identification of problems, explanations of why and provide data for planning and policy making, that's even better. So we essentially try to approach it with those two objectives in mind.

The concept is a relatively simple one. The Aviation Safety Reporting System is absolutely voluntary. Nobody has

to report to ASRS. As opposed to the Australian system and the British system, our system regarded voluntariness as absolutely critical. We didn't want anybody to feel compelled to do something in the sense that all of us have had to fill out forms, accident reports forms, any number of things that involve a discussion of what we've done. In those circumstances you usually end up with somebody just filling in the blanks. They tell you as much as they need to tell you, and that's it. We wanted to get over that, because the real goal was to set explanations of why things happen.

It's confidential. We're absolutely paranoid about confidentiality. In the course of seven years we've received in excess of 35,000 reports, and we've never blown anybody's identity. That is the cornerstone as far as I'm concerned of the ASRS system. We deidentify all the information that is put into our data base, so that by the time it's put in there for use for research or whatever, you cannot tell who sent in the report, nor can you tell any of the actors in the report, because we deidentify everything. Not just the person's name, but also the time of day, the date, the make, model, flight members, air carrier names. We have found suitable substitutions, because what we're dealing with are safety issues. We don't really care who did it. We want to know what the safety issues are, and even more, why it happened.

And finally, it's nonpunitive, and in this respect, it's nonpunitive in two ways. No. 1, NASA's mandate does not include enforcement. We couldn't nail anybody's hide to the wall if we wanted to. We just don't have the authority. So consequently, we won't proceed against anybody if we see information. We don't even tell the FAA when we see a violation. The agreement that we have with the FAA is if they can find out about an enforcement violation through some other means, then they obviously have the right to pursue it, but they can't use our data to do that. Nor are we going to call them up and say such and such happened at Chicago on such and such a date and think you should look at it. We simply don't do it. They don't ask, and we don't give.

Secondly, and this is something that most of you may have had some familiarity with, the FAA in conjunction with the ASRS offers a waiver of disciplinary action. This has been true ever since day one of the program. Essentially what that says is, in fact, the exact words in the advisory circulars are, "Reporting to the Aviation Safety Reporting System is indicative of a constructive attitude." Therefore, we (the FAA) will provide a waiver of disciplinary action for those people who qualify. Essentially what the qualification is, the act has to have been inadvertent and not deliberate. You cannot have been found guilty of a

violation of the FAR's since April of 1975. Now, as we grow older in our program, we're going to change that so that the date slides, because obviously the further away April '75 gets, the less meaningful that becomes. So we're going to put in a sliding scale on that and that will probably be in effect next year.

You also have to report in a timely fashion. You have to have mailed the report within ten days of the event. And the lawyer in me wants to point out that if you are, in fact, interested in immunity, you have the burden of proof of establishing that you met that ten day period. So one of the great legal tricks is send it certified return receipt requested. That way the post office gives you proof that you mailed it and it also gives you evidence in case it gets lost somewhere between you and me.

Regarding disciplinary action, it essentially says the FAA can investigate an incident, and if there is a violation of the Federal Aviation Act or the Federal Aviation Regulations, they can, in fact, find you guilty of having violated whatever FAR is involved, but they can't do anything to you. There will be no certificate suspension, there'll be no civil penalty, they simply go up to the point where they say well, we've investigated it, you did it, but because you shared the information with the Aviation Safety Reporting System and it's there for safety purposes, we are not going to impose a penalty. It's a very workable system, and it has worked quite well in the course of seven years. We had a little ripple in 1979 when there were some misunderstandings, but we got that straightened out, and I think we actually have a stronger system now than we did going into that misunderstanding.

This is the reporting form. Hopefully all of you have seen. Hopefully all of you have copies. Tomorrow night or tomorrow afternoon when you leave here, I will have on the back table as you go out the door a sufficient supply of various publications and reporting forms that if you want to, you can take them back to your domicile. If you need more, simply let me know. The address will be associated with the information I have, and you can get a supply of as many as you want. We print about a hundred thousand a year. So we aren't lacking for supplies, and if we know ahead of time that you need an unusual amount, we can also include that in the printing order.

You can see that it's in two forms, essentially. The top part is an identification strip that is hopefully filled out along with the bottom part, which is essentially the meat of the form. The top part serves two purposes. No. 1, it's a mailing label, if you will, to send information back to the person who sent the report to us. There's nothing

worse in Government circles as far as safety than sending information that has been volunteered to a Government organization, and then never hearing anything. It's like there's this huge crack in the earth and all the information goes into it and nothing ever happens. Well, we've tried to overcome that, because whenever anybody sends us a report,we send the ID strip back with a thank you letter, two blank reporting forms, our monthly safety newsletter, and, of course, the ID strip, which serves as a receipt in case the FAA does pursue an enforcement action. The last paragraph of the current FAA enforcement letters, which will notify you of the finding of guilt, saying if you have filed a report with the Aviation Safety Reporting System and can provide proof of that, then the disciplinary action will be waived if you meet the qualifications. So what you simply do is xerox a copy of the ID strip and send it back with your response to the letter, and it works.

The bottom part of the form is what we use for our analysis. It has 14 items of what we call fixed fields, and the very bottom part is the narrative description. That's where the reporter says what happened and essentially provides a description of the event, a discussion of what the basic underlying reasons were, and possibly recommendations to avoid it. I am convinced that's where the pure gold is. You can fill out all kinds of little boxes like that on other forms, but when you have the chance to have somebody fill out the reporting form and say this is what happened in his own words, it does two things: No. 1, it helps create a good safety base which we can then turn around and share with the aviation community. So when you sit down and think about what happened and analyze it, putting it down has proven to be very beneficial on the part of the reporters. I don't think I've gone to a major pilot meeting yet where one of the pilots hasn't come up and said I don't give a damn whether you people do anything with that information or not, just sitting down and having to think about what happened has been beneficial to me. So consequently we're getting a double benefit on that section.

I do want to note that we do not accept reports of accidents or criminal activities. Those are specifically excluded. Accidents have to go to the NTSB and criminal activity reports are forwarded to the Department of Justice. It hasn't been much of an issue, but I feel compelled to tell people that simply because every now and then you get a report of an accident. We're like anybody else. If we possess information about an accident, we have to send it to the NTSB. But that's the only exception. Under no other circumstances does data ever go out of our office identified.

The database consists of three basic elements. The fixed fields, which are essentially those first 14 items on the reporting form that talk about the time of day, the flight conditions, et cetera, the factual as well as administrative. It allows us to recall the information in a timely fashion. Secondly, diagnostics are put into the database by our analysts. Our ASRS analysts are all retired aviators, either retired controllers, retired pilots, general aviation, air carrier, military. We made this decision early on because we thought it would make more sense to have somebody doing the analysis who knew the aviation system as opposed to somebody who knew analysis but not the aviation system. So consequently we've got what we call our "gray beards". These guys are all retired, and they've been around the system for a long time, and they know what they're looking at. They can provide the analysis and diagnosis. In other words, they describe beyond the words of the reporter what they feel were the circumstances and the factors which caused it to be an incident as opposed to an accident.

And finally, there is the free text. We retain the narrative description of every report that we get in, even though it costs a little bit more to do that as far as computer space is concerned, when crunch time comes, you want to do some meaningful research, the best thing you can do is read the narratives, because that's where you find out exactly what happened.

The program output has two functions: We want to notify the aviation community of alleged hazards by trying to turn the information around as quickly as possible to try and cure something if we can do it. If we have to do research, if the problem is a little bit obscure, we'll give it a priority that will allow us to do it in a timely fashion. We also want to explain "why", why does something happen. The value of the kind of information that we have in the Aviation Safety Reporting System goes to the heart of the fact that people will tell us things they don't tell anybody else, because they know that confidentiality is pledged and in the course of seven years and and 35,000 reports, it's been delivered. So consequently we can explain why something happens. The FAA may know that something happened or the NTSB may know that something happened, but in many cases, we can explain why it happened simply because the people will talk to us about it. Finally, the ASRS has an output program, and this is primarily what I want to talk to you about, albeit, briefly. We have five ways of getting the information out. And like I said, we're in the information business. We take it from party A and give it to parties B, C, D and whoever else wants it and can use it. The first and most timely example of this is our alert bulletins. If we see something

reported that seems to require immediate correction or investigation, we have the ability to either send a one-page notification, a telegram or pick up the telephone and call somebody, usually the FAA, who's in the best position to investigate or correct the situation. We let them know that we are possessed of information that would indicate that a particular problem seems to exist, and we think they ought to go out and investigate it, and if it is existing, they ought to fix it. Again, we do not identify the source of the information. We just simply say we have sufficient information that makes us believe that such and such ought to be investigated and possibly corrected.

In the course of the seven years we've been in business, we've issued 778 alert bulletins.

Quarterly reports, those are our program reports. Those are the means of reporting to the community what we've seen. They provide the de-identified reports for safety and training purposes, and they let the community see the kind of issues that we're addressing.

Technical reports are single issue research reports. Special search-study reports, that's kind of a two dollar word for a data dump. If you're going into a training mode, for instance, and you want to have data on, let's say, weather operations in the Northwest, you could call us up and ask for all ASRS regarding weather operations in the Northwest. We'll push the Northwest button and the weather operations button, and whatever else is appropriate, and send you a printout. That way you can use it in your training programs, you can use it to develop scenarios, any one of a number of things. Now, obviously, we're not a flight service station; we can't do a real quick turnaround, but if you have a legitimate, genuine interest to do some type of training or research, give us a call. We've got over 23,500 reports in the active database, 35,000 reports total, and we can respond to almost any inquiry.

And finally the newsletter. Those of you who are listed in the RAA directory of last year are already getting a copy of CALLBACK. If you are not getting CALLBACK, let me know. We can also make an arrangement whereby your pilots, individually, get CALLBACK monthly. Again, see me sometime in the course of the meeting.

We discovered several years ago, that the program reports are great, that the technical reports are great, but they were running 40 to 50 pages long, and most of us don't want to take the time to sit around and read 40 to 50 pages. So we came up with a single page newsletter issued monthly, that deals with safety, and is in common language. You know, people like us just don't talk the way Ph.D's do. The

fact of the matter is, pilots talk "pilot talk" and that's the way the message is best conveyed. So consequently, we've put out this single page newsletter that is basically safety oriented. We've tried to keep a light touch -- if you've ever seen CALLBACK, you'll know that every now and then, in addition to looking very serious about a safety problem, you'll also end up chuckling a little bit too. But we've tried to get the safety message to the community, and it's been very successful. We've won some awards for safety publications, one from the Flight Safety Foundation, and we're very grateful for that; but we're also very proud of the fact that we think that by the time you finish reading CALLBACK, whether you've chuckled or not, we've got you. You've read the information and the safety data has been transferred, and that's the name of the game.

Well, let me wrap up by saying that for the first couple of years, I felt like a carpetbagger going around the country saying gimme, gimme; gimme, because I needed to get reports into the database. We still want to get the reports, and I have to note that the smallest percentage of data supplied is by the commuter industry, and I would like to cure that. We stand ready to cooperate in any way by providing forms and publications. But more importantly, as far as safety and training and education are concerned, we have a massive database that we've collected over the course of seven years that is usable, not only from the standpoint of training programs, but simply to give to pilots and say here, read it. You'd be amazed how often people will read a report and say "I thought I was the only one that did that". As a matter of fact, I got a letter last week that was a little disturbing. The guy said, "please cancel my subscription to CALLBACK. Every time I read something in it I think 'who could be so dumb to do that', and invariably, within a month, I've done it. So he says, it has to have something to do with his subscribing to CALLBACK, so please cancel the subscription. He was kidding .... I think!

But the fact of the matter is, the data is there to be used. There is no charge for any of this. If you can use it, don't hesitate to call. If you can't find me, you can find John. If you can't find John or me, you can call RAA, and they can find us. It's there to be used, and I encourage you to use the ASRS data. Don't be bashful. We can work something out. Thank you.

DR. LAUBER: Thank you, Bill. Are there any questions for Bill Reynard? We have one right here.

MR. KOERNER: Norm Koerner, Richards Aviation. You said you didn't identify the aircraft in any of your reports. What about aircraft related problems that may come up?

MR. REYNARD: We see very few of those, and the reason for that is there are other systems that identify hardware problems. Most of the information we have deals with the human element. Now, there are times when we do identify an equipment problem, in which case we will get back to the reporter and outline the ways in which he or she can initiate the curing of the problem internally, or, if after discussion, the reporter would still prefer to remain anonymous, he or she can give permission to contact the appropriate party. Once we've gotten the permission from the person to do that, and they're aware of all the options, then we may go to the manufacturer, but we still don't identify the airline or the person; we simply call up the manufacturer, for instance, and say have you looked at such and such. They have no idea where the information came from. Fortunately, over the period of the last seven years, I think we're nearly in the same category as E.F. Hutton, when we talk, people generally listen.

CAPT. YOCUM: Mike Yocum, Pennsylvania Airlines. Let's assume that I'd like to develop some scenarios, and I'll narrow it down as best I can at the moment that I'd like to examine approach and landing, human factors accidents. Can you give me some examples of how to further categorize this so that you could give me the special search and safety reports on a more specific subject?

MR. REYNARD: Sure. In the first place, you would call me up and we'd talk about it, and we'd define the request on the telephone. You'd tell me what you want to look at and I'd ask you whether you want to limit them to your geographic area, or do you want nationwide data. Do you want to limit them to any category of aircraft? Do you want it limited to IFR or VFR or do you want both. Do you want the data to include ATC involvement or no ATC involvement. Our computer base has become very, very flexible, and we can set up a matrix of whatever issues you want and pretty much respond to that request, but it's a function of sitting down and finding out what it is you want to get at, and once we know what your objective is, then we can start tailoring the request to your needs.

CAPT. YOCUM: It sounds like a dynamic source for scenario design. Thank you.

MR. REYNARD: I'll tell you, we're one of the best kept secrets in the industry

DR LAUBER: Anyone else?

MR. NELSON: Jim Nelson with Dash Air. Bill, what's your phone number?

MR. REYNARD: 415 965-6467. And don't hesitate -- if I'm not there, my secretary usually knows where to find me, and I can get back to you.

DR. FOUSHEE: Bill, I might like to point out since the subject of this workshop is resource management, the database is also an excellent source of that type of information.

MR. REYNARD: To elaborate on what Clay said, we've had several major air carriers come to us who were in the process of putting together resource management programs or line oriented flight training programs to ask for a set of incident reports that they could use to create scenarios for their training environment. To date, we've had feedback from at least three of them, and the data has proven to be very, very useful.

MR. FISCHER: Bob Fischer, Summit Airlines. Bill, in this country, with this kind of a nonattribution approach to what's wrong with the system, maybe we're not getting all the answers, but at least we're getting some of them. What are approaches of other countries such as Great Britain, Germany, et cetera? Do they have more of a "kick ass and take names approach to this, or are they as open with their information?

MR. REYNARD: They fill the whole spectrum of possibilities. The British have a mandatory reporting system that in the past has been identified as being a little bit of a "kick ass and take names" process that has been modified over the course of the years, and they've found a more constructive approach to human factors research last December when the Civil Aeronautics Authority in Britain instituted what they called CHIRP, I keep forgetting what the acronym means, but it's the British ASRS. The Japanese are starting an ASRS type program through their pilots organization, not through their Government. The Canadians are on the verge of instituting a Canadian ASRS.

Then, of course, you have individual organizations that have incident reporting systems. United Airlines, for instance, has a Flight Safety Awareness program which is incredibly good. We have found that the community is extremely receptive to this concept. Pilots and controllers genuinely give a damn about safety, and they should; they're the ones that are most critically involved. And they really want to be able to talk about it, but they also don't want to hoist themselves on their petard.

DR. LAUBER: Any other questions? Okay. Thanks again, Bill.

DR. LAUBER: I'm on the mailing list for literally dozens of flight safety bulletins and publications from around the world. When any of these come in virtually, without exception they contain material excerpted from CALLBACK and other ASRS material. It's an incredibly inexpensive, readily available source of information that you people can use to put together your own flight safety bulletins, and we encourage you to discuss more of that concept when you get into the working groups this afternoon.

The last formal presentation we have on the program should have come early in the program yesterday. In fact, Lee Bolman presented the lead paper during the 1979 workshop on cockpit resource management that you've heard several references to throughout the course of these proceedings. At that time we collectively were still struggling, I think, with the definition of cockpit resource management and exactly what it meant. I felt to lead that workshop off, it would make good sense to have some presentations which showed some basic approaches to the problem that people could use to tackle and define operationally what we were talking about with cockpit resource management. Lee Bolman's presentation did that in an excellent fashion. I know you're going to enjoy hearing what Lee has to say.

Lee has a Ph.D from Yale University in organizational behavior, and has been a lecturer at the Harvard School of Education since 1972. He's involved in many management consulting activities, and especially since the 1979 workshop with the airline industry in helping define specific cockpit resource management programs. Lee is also the author of a forthcoming book on understanding organizations.