

# **Panel Presentation: Perspectives on TRM Training for Maintenance - Russell**

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## **INTRODUCTION**

I couldn't help thinking -- sitting there listening just now and, of course, all day yesterday -- it would have been nice to have all this information 25 or 30 years ago.

The first thing I have to do is clear up some confusion. I discovered yesterday in talking to some of you that there is confusion about the name "Flight Safety". When you say "Flight Safety", some people think of the Flight Safety Foundation, and some think of Flight Safety International. For those of you who don't know the difference, the Flight Safety Foundation promotes safety interest of the aviation industry. Flight Safety International is what I am discussing. We are a training company. I just want to make that distinction today so we don't have any confusion. Let me give you a little background on Flight Safety International.

We are, as I said, a training company. We started back in the '50s when our founder Mr. Al Ueltschi began teaching Pan Am Crew members some instrument training on a sort of part-time, ad hoc basis. By the early '60s, he had the training program up and running. Since then we have been moving onward and upward. This year 45,000 to 50,000 people will receive some form of Flight Safety training. The vast majority of those, of course, are flight crews. That's what Flight Safety is really known for -- training flight crews. However, we have over 200 active maintenance courses right now. We have been involved in the human factors training for about two decades, perhaps a little longer than that. In the field of human factors training we are best known for CRM -- Cockpit Resources Management. Literally thousands of air crew members have been trained in CRM by Flight Safety.

We are also active in the petroleum industry. We teach human factors to refinery folks. Like flying, that's an industry that has a very great need for human factors training. Our third major involvement in human factors training is the maritime industry. We have a course that we call Bridge CRM for ship captains. We have been doing that for a number of years. It seems ironic to me that in spite of this background here at Flight Safety International, specifically in human factors, it was only last year that we brought human factors training to the maintenance environment. We are guilty, like a lot of folks in the industry, of not recognizing the need or being able to convince folks that the need is there, and convincing them well enough so they are willing to pay for the training. My purpose here is to discuss our concept of human factors training for the maintenance environment. What we try to accomplish with this training, the content of this course, benefits to the recipients, and the problems that we have to overcome to present this training effectively.

## GOALS

Our concept is to focus on the basic human factors issues. Human factors in maintenance are not that much different from some of the other areas of industry in which I've been involved. Our goal is to take basic human factors and bring them to the maintenance industry. We are using non-technical human factors training to influence technical outcomes in the maintenance environment. That's really what it boils down to; that is what nearly everybody in this business is doing.

We do this through a two-day interactive workshop -- 16 hours. It's aimed primarily at technicians and lead technicians, supervisors, although it's applicable to everybody. I like the ideas, the discussions, we have heard here about diversity. Diversity in the classroom really does help. We try to keep the class not less than six to eight. We really don't like to have less than eight people or more than 12 to 15. One of the things about the class is that we have people from different companies; that adds a little more diversity, and seems to help, too. Basically, what we are trying to do with this training is to enhance performance through awareness of basic human factors concepts. Safety obviously, is a priority, but you also look to enhance efficiency and productivity.

## COURSE CONTENT

As for course content, these are the six broad issues, concepts, we explore in our two-day workshop.

1. Situational Awareness, of course, you heard the importance of that. We try to define it, to teach how it reduces risk, how you achieve it, how to know you have it, how to know you have lost it -- if you lose it. We think situation awareness is very, very important and I, personally, really enjoyed hearing all the discussions we have had about it.
2. We also spent some time on Error Chain. We think there are 12 factors or links that make up the error chain. We use many examples of real accidents, most of those you have already discussed here. To us right now, a series of seemingly unrelated events link up to cause accidents, incidents, problems.
3. Communication Skills. We have already touched on the basics. What we are trying to do is expose people to many of the qualities of effective communication -- what are the processes, what is the basic process. We give them some techniques to improve the process. We talk about some barriers to effective communications and try to give them some specific skills to overcome these barriers.

4. Synergy, and Team Work. We are just reintroducing the dynamics of what is synergy, what is team work. Are they related, if so how.? We introduce and explore types and quality of effective leadership, leadership styles, characteristics of team support, suggestions for building effective teams and conflict resolution.
5. Decision Making. We talk a little bit about the process and use some of the models for decision making. Of course, some of the folks, actually a lot of them, have never had any exposure to this. We try to keep this fairly basic. We don't want to have an information overload on this, and you can. We talk about the decision process, accelerated response process, techniques to improve decision making. What we are trying to do is to give people some tools to make better decisions in an environment that sometimes requires quick decisions. The tools to make decisions when you don't have all the information that you would like to have.
6. Lastly, Stress. We try to identify what it is, give people an awareness of what it is, how it effects them, that it doesn't effect everybody the same way, what are some of the signs, how do you observe it in others, how do you know when it is affecting the performance of others, and how do you cope with it, or how do you manage it.

## HOW THE CUSTOMER BENEFITS

We believe the benefit to the customer is safety, safety, safety. As you see here, that's the thing that all of us have to keep in focus in this industry. It is paramount. This industry should be like the delivery room in a hospital. Theoretically, there are no dropped babies in hospitals, and we should have the same standards. Quality, efficiency, productivity -- those are all important, and they all should be affected, if the training is effective. As for quality of life, we believe that there is enhancement of the quality of life in the maintenance environment for folks who are exposed to this kind of training. It improves their confidence because they know more than they did before. I also believe there is another benefit. I think it enhances professionalism. People who take this course have exposure to concepts that are unfamiliar to many of them.

These are what we think are the benefits to the user.

## OVERCOMING HURDLES

Some of our hurdles as a producer of training are internal; some are external. Externally, we, like most of you, know that the need for training is out there. The need is out there, but not, perhaps, the demand. The difference between need and demand is perception. The demand is just not as great as the need. A lot of folks view training as an added cost program. It's just something that is another cost, and they have a hard time seeing the benefit of it. This is not necessarily the view of the maintenance folks, but the folks who approve the dollars to get the training.

Internally, one of the problems is a limit on time. Some of you folks know this better than us. You can only have access to these people for a limited amount of time -- two days seems to be about it. You can't get them away from their jobs for longer than that for this kind of training. The task then becomes how do you build real substance into two days. You can spend two days on any one of these six major areas. We see that as a challenge -- exposing these folks to some real substance, yet confining it to two days. Of course, like every other business, we have the problem of producing this training and being able to make money doing it. We have to be cost-effective.

## WHAT'S NEXT

In summary, the need is out there. Our initial efforts has been very well received. We are scheduled through June/July right now. We do take this program around the country. The seven or eight sessions that we have scheduled now are in different cities. We will bring it wherever we need to take it for a group of at least six, seven, or eight -- something like that. The rest of the year is still out there. We see ourselves overcoming the perception that training is an added cost program, that it doesn't contribute anything as a marketing problem.

What we got to do is go out there and convince folks of the benefit of this training. Typically, we are dealing with the chief of maintenance, or somebody who feels like he wants it. He or she needs it; he knows he needs it; he knows his people need it, and his people are all for it. But the folks who approve the money -- that's were the stumbling block comes in. If we are going to stay in this business, we've got to overcome this stumbling block one way or another. Perhaps that is a marketing challenge. We are probably going to devote more resources to it. There is such a need out there for training.

This has been a real quick summary of how we go about trying to train maintenance technicians and maintenance resources management.