CRM TRAINING IN THE
1550TH COMBAT CREW TRAINING WING

Capt. Michael T. Fiedler
1550th CCTW
Kirtland AFB, NM

Good morning ladies and gentlemen. Today I will be talking to you about the training program the 1550th Combat Crew Training Wing at Kirtland Air Force Base, New Mexico, implemented in September 1985. We call our program Aircrew Coordination Training (ACT), and it is designed specifically to help aircrew members work more effectively as a team in their respective aircraft and hopefully to reduce human factors-related accidents.

I'll begin by describing the scope of the 1550th CCTW's training responsibilities and how we structured our program, and I'll follow with a brief look at the content of the academic part of our course. Then I'll discuss our Mission-Oriented Simulator Training (MOST) program, a program similar to the LOFT programs discussed several times yesterday. Finally, I'll discuss our future plans for our Aircrew Coordination Training Program at the 1550th.

Before discussing the program we developed, it's important to know that all of the 23rd AF's C-130 and heavy-lift helicopter simulators are located at the 1550th. We provide training for 39 of these units--of which 11 are stationed overseas from the Philippines to Germany to Korea to the UK. Prior to our implementation of Aircrew Coordination Training, all of these unit's aircrew members returned annually for a five-day simulator systems refresher course. This program emphasized systems knowledge. Little was said about the crew coordination process.

We developed our ACT program around this five-day week. On day one, we now teach eight hours of aircrew coordination training academics. On day two, we schedule each crew for a MOST period. On days three through five, crews are given both systems academics and systems refresher in the simulator. We feel this mix of crew coordination training and systems review results in proficiency in both areas. We've also introduced this program to the students in our basic qualification courses.

We begin the day of academics with a brief introduction, presenting the students with an overview and goals of the course. For the group exercise, we break the class down into groups of seven or eight, send them to separate rooms, and ask them to list the three most common crew interaction problems they see in their units. When these groups return to our classroom, we discuss these as a class. We then discuss the percentage of accidents caused by operational factors in the civil sector, in the Air Force, and in the aircraft our students fly in MAC. We find that these two steps help students focus on our materials as real problems that affect them, not just as abstract concepts.

We next view a slide-tape presentation of a civil airliner that crashed at Salt Lake City in 1977. We discuss briefly how communications, crew coordination, and other

factors may have played a role in this accident.

We discuss the elements of crew coordination--defined as inquiry, advocacy, conflict resolution, decision-making, and critique. We describe and define the responsibilities of aircrew members to make this pattern work, and reinforce this discussion with examples of civil and military accidents. We also identify the barriers that keep these elements from operating effectively in military crews.

After lunch, we wake everyone up with a video presentation on an Air Saudi accident. We ask the class to note, and then discuss, both good and bad uses by the crew of the elements of crew coordination and discuss the barriers that may have prevented better use of the elements.

We then move into communications. We define communications using a simple communications model and discuss again the aircrew members' responsibilities to make the model work and the barriers that keep the model from being effective in military crews.

We introduce the concept of leadership and followership through the use of a grid, but our primary emphasis is not upon leadership theory. Most of our students have seen that time and again in professional military education. We do identify the characteristics of different leadership and followership styles as they relate to crew behavior and discuss ways of interacting with these styles to work more effectively as crews. We close the day with a summary of key points given in academics, and introduce the students to the MOST sortie they will fly the next day.

Our MOST program is similar to the LOFT program mentioned yesterday by Capt. Shroyer. It is designed to let the crews put the communication and crew coordination theory they learned on day-one into practice in a familiar cockpit environment, and it also allows the crewmembers an opportunity to assess their own style of leadership and followership. The mission is structured to enhance decision-making and crew coordination as opposed to reinforcing emergency procedures.

For those military units planning to incorporate MOST, we installed a black and white camera, a recorder, and a 4" monitor in each simulator. We use this equipment to record the crews' actions and communications during the mission. We built three carts with playback machines and monitors for replaying the tapes during debrief. The audio/video equipment cost $18,800 to purchase and install--this price includes spares. Since our local audio-video squadron does all the maintenance on the equipment such as cleaning we have incurred no additional cost.

The MOST period begins with a short mission briefing conducted by the instructor. He explains the rules for MOST and introduces that day's mission to the crew.

Realism is essential to the success of MOST; the crew must, as much as possible, feel that they are flying an actual mission. Crews must accomplish flight planning, check NOTAMS, obtain a weather brief, and file a flight plan. After crew briefing, they proceed to the simulator where the mission is flown and videotaped. The instructor acts only as an observer. If a crew makes a mistake, they live with it for the rest of the

flight. While the mission is being flown, the instructor will note key points on the videotape counter so he can play them back during debrief.

As mentioned by Capt. Shroyer, our experience has also shown that crews will often recognize their own errors and debrief themselves on the use of the elements of crew coordination, communication, decision-making, and leadership/followership styles. The instructor acts as a moderator, pointing out key areas that need emphasis.

As we approach the end of the first year of our program, we have taken a hard look at what to do for year two. While we will continue to teach our present course to our initial qualification students, we will use a one-day format for our refresher students. Their first day will begin with a two-hour class. They will review basic principles, view a video reenactment of an accident, and critique the accident crew's use of those principles. They will also discuss, with the help of post-accident slides, pertinent Air Force accidents. Then they will plan and fly a MOST scenario and debrief it. Days two through five will continue to be used for systems refresher training.

As of the end of April, 654 students have completed our course, and 97% of them have rated our program effective. We think our program leads to better understanding of the decision-making process and crew coordination, as well as the common barriers to those roles and responsibilities. Our goal, and our hope, is that our crewmembers take what they have learned in ACT academics and practiced in our simulators back to their aircraft and become safer aircrew on the flight line.