

**BY ORDER OF THE COMMANDER
AIR FORCE SPACE COMMAND**



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Supplement 1

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Flying Operations

**COCKPIT/CREW RESOURCE
MANAGEMENT PROGRAM**

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This supplement implements and extends the guidance of Air Force Instruction (AFI) 11-290, **Cockpit/Crew Resource Management Training Program**. The AFI is published word-for-word without editorial review. The Air Force Space Command (AFSPC) supplemental material is indicated in bold face. This supplement describes AFSPC's procedures for use in conjunction with the basic AFI. This supplement establishes the Cockpit/Crew Resource Management Training Program for AFSPC flying activities. This supplement applies to all AFSPC commanders of flying units, flying operations supervisors, and aircrews assigned to or attached to all flying activities within AFSPC. This supplement does not apply to Air National Guard nor Air Force Reserve Command units. AFSPC units will send all AF Forms 847, **Recommendation for Change of Publication**, for this publication to Twentieth Air Force Helicopter Operations Section (20 AF/DOH) for coordination. 20 AF will forward the AF Form 847 to Headquarters Air Force Space Command Helicopter Operations Branch (HQ AFSPC/DOMH), 150 Vandenberg St., Ste 1105, Peterson AFB CO 80914-4180. Use this integrated supplement in lieu of the Air Force basic publication.

2.1.1. Reference AFI 11-2H-1 Volume 1, **H-1 Helicopter Aircrew Training** for this information.

2.1.2. Reference AFI 11-2H-1 Volume 2, **H-1 Aircrew Evaluation Criteria** for this information.

3.1.11. HQ AFSPC/DOM.

5.1. The Headquarters Air Force Space Command Director of Operations (HQ AFSPC/DO) is responsible for the overall management of the H-1 cockpit/crew resource management (CRM) program. The AFSPC CRM program manager is HQ AFSPC/DOMH. HQ AFSPC/DOMH assumes all lead command responsibilities for H-1 helicopters and is the waiver authority for this supplement unless otherwise specified. AFSPC units will forward waivers to this instruction through 20 AF/DOH to HQ AFSPC/DOMH.

5.1.1. HQ AFSPC is the lead command for H-1 aircraft. HQ AFSPC/DOMH publishes AFI 11-2H-1 Volumes 1 and 2, and will incorporate CRM guidance.

5.1.10. (Added) Reviewing CRM program reviews and critiques (OPR: HQ AFSPC/DOMH).

5.1.11. (Added) Reviewing AFSPC and formal syllabi for CRM compliance (OPR: HQ AFSPC/DOMH).

5.1.12. (Added) Reviewing mishap reports for findings and recommendations impacting CRM training (OPR: HQ AFSPC/SEF/DOMH).

5.1.13. (Added) Reviewing Stan/Eval CRM trends (OPR: HQ AFSPC/DOMH).

5.1.14. (Added) Recommending improvements for CRM program (OPR: HQ AFSPC /SEF/DOMH).

5.3. (Added) AFSPC CRM Policy. Teach CRM training in all training mediums and build on the awareness and introductory level of training students receive at the formal schoolhouse. Classes should discuss application of CRM skills at each crew position and provide crewmembers with the opportunity to interact and learn from each other. Crewmembers should attend CRM academic classes together. Use case studies to give crewmembers positive examples of CRM skill application. Include core CRM skill review during discussion of aircraft-specific skill application.

5.4. (Added) AFSPC Helicopter Flight CRM Programs. Helicopter flight commanders (HF/CCs) will appoint an instructor pilot or engineer as a flight CRM representative to provide oversight, act as a central point of contact for CRM issues, provide feedback to the AFSPC CRM program manager and to advise the commander. The representative will develop and maintain CRM continuation training meeting topics (**Attachments 3 and 4 (Added)** of this supplement), disseminate CRM material, and provide feedback as required.

7. HQ AFSPC/SEF, working in conjunction with 20 AF/SEF, will screen mishap reports for human performance errors and disseminate to respective helicopter flights and HQ AFSPC/DOMH. The mishaps screened should not be limited to H-1 or helicopter mishaps only, as CRM principles can be learned across a broad spectrum of aircrew and aircraft.

8.1. AFSPC flight training uses AETC-developed courseware to train CRM concepts, principles and terminology. AETC-developed flight training syllabi contain CRM core concepts and associated CRM skills (reference AFI 11-290 and AF Form 4031) in the course training standards. HQ AFSPC/DOMH will dialogue with AETC training channels to ensure these core and introductory training standards are upheld.

8.3. Continuation training is defined in AFI 11-2H-1, Volume 1, *H-1 Helicopter Aircrew Training*, and is specific to the crewmember's position and mission. Emphasize instructional techniques that create opportunities for students to practice CRM skills. Training should be updated based on evaluation trends and mishaps and follow guidance in AFI 11-2H-1 Volumes 1 and 2.

8.3.1.1. (Added) Helicopter Flights will use the AETC schoolhouse approved CRM training curriculum found on the contractor provided media. This program is designed in a building block approach and as an integral part of the syllabus. Basic definitions and principles are the primary focus during formal schoolhouse upgrade and/or refresher training. Teach these concepts using guided discussions, case studies, videos, and role-playing exercises. Classroom instruction will be reinforced during flight line briefings, and aircraft and simulator pre-briefs, flights, and debriefs.

8.3.1.2. (Added) Aircraft Sorties. Discuss CRM skills as part of all training event pre-briefs and debriefs. Use positive and negative CRM skill application observations to generate post-flight discussion. Use **Attachment 5 (Added)** as a guide to promote points of CRM discussion for flight briefings and debriefings.

8.3.1.3. (Added) Standardization Evaluation Criteria. CRM skill evaluation criteria are included in AFI 11-2H-1 Volume 2, *H-1 Aircrew Evaluation Criteria*. Reference AF Form 4031, **CRM Skills Cri-**

teria Training/Evaluation, for initial and recurring AF Form 8, **Certificate of Aircrew Qualification**, evaluations.

8.3.1.4. (Added) The unit CRM representative will conduct at least one training session every six months that includes CRM topics based on guidance contained in Attachments 1 and 2 of this supplement. The HF CRM representative (Reference para. 5.4.) will update scenarios and grading situations annually. This is an excellent forum to facilitate understanding of CRM skill application on training sorties. Topics should focus on the role CRM plays in preventing mishaps, observation, and reinforcement of CRM skills and techniques to enhance student training. Aerospace physiology units (if applicable) have CRM videos and reference materials suitable for case studies and discussions. Training session meeting minutes will be forwarded to HQ AFSPC/DOMH and 20 AF/DOH within 30 days of training completion.

8.4. Flight training instructors are key to a successful CRM training program. Instructors must be able to integrate CRM training into all flights. CRM continuation training will be conducted consistent with paragraph **8.3.** of this supplement. Instructors are responsible for developing trainees' CRM skills and for demonstrating positive CRM practices.

8.4.3. (Added) AFSPC CRM instructors will be trained to the standards set in **Attachment 6 (Added).**

Attachment 3 (Added)

Attachment 3 (ADDED)
TRAINING SESSION SCENARIO DEVELOPMENT

A3.1. Format. Develop and document training session scenarios and grading situations using the following steps. Use case studies (following the format at Attachment 2 (Added) to:

A3.1.1. Support academically based CRM training.

A3.1.2. Aid aircrew in identifying occurrences of ineffective CRM and correlating them to specific CRM skills.

A3.1.3. Stimulate aircrew CRM awareness and knowledge of CRM skills.

A3.1.4. Serve as a basis for further development into flight scenarios.

A3.2. Step 1. Determine a focus CRM core concept and associated skills. Begin with a brief (three to five line) description on how the associated skills are applied to your aircraft.

A3.3. Step 2. Identify an existing incident or mishap or develop a scenario or grading situation. Sources include Air Force safety mishap reports (ensure the reports are sanitized according to safety guidance), squadron member flight experiences, student sorties, Federal Aviation Administration and National Transportation Safety Board reports, Internet, flight safety magazines and anonymous reports.

A3.4. Step 3:

A3.4.1. Write a concise and sanitized synopsis of the event. The case study synopsis is a 1/2 to 2-page narrative description of pertinent facts derived from your selected source material. It should:

A3.4.1.1. Paint a mental picture of the situation for your audience.

A3.4.1.2. Provide enough information to make sound judgments about how the crew handled their situation.

A3.4.1.3. Establish clear cause-and-effect relationships.

A3.4.2. Often the source material you have chosen for development lacks sufficient information in some areas to paint a complete picture of the situation. In these cases, you will need to fill in these details to maximize the effectiveness of your synopsis. Enhancements and additions to the source material should:

A3.4.2.1. Fill in details missing in the source material.

A3.4.2.2. Ensure a clear representation of cause-and-effect relationships due to CRM skills usage.

A3.4.2.3. Emphasize particular CRM skills.

A3.4.2.4. Be tailored to your audience. Consider time constraints, experience level, and any other relevant factors.

A3.5. Step 4:

A3.5.1. Develop focus questions to guide a discussion. Questions should be "how" or "why" type to encourage discussion and to lead the group to discover positive CRM examples and points that may indicate a breakdown in CRM skills. Encourage students to suggest alternative actions when a breakdown in CRM skills is identified. Case study focus questions:

A3.5.1.1. Serve as a catalyst for productive discussion.

A3.5.1.2. Highlight the use of focus skills.

A3.5.2. Focus question formation involves:

A3.5.2.1. Note each occurrence of focus skills and whether it helped (or could have helped) in accomplishing the mission.

A3.5.2.2. Select the best of these instances and write 5 to 10 questions to bring out key points.

A3.5.2.3. Developing the answers you hope to get in response.

A3.6. Step 5. Generate two or three summary teaching points for your case study to reiterate the lessons learned during study of this aircrew experience. Add any additional lessons learned during the discussion to the list.

A3.7. Step 6. Present the case study. Allow time to read and discuss the synopsis in relation to the focus questions. Lead a discussion highlighting key points as the discussion develops.

Attachment 4 (Added)**SAMPLE CASE STUDY FRAMEWORK (ADDED)****COMPLETED CASE STUDY (Aircraft)****TITLE:****FOCUS CORE CONCEPT AND SKILLS:****SOURCE:**

OBJECTIVE: To review mission specific CRM skill application and enhance instructional techniques.

INTRODUCTORY TEACHING POINTS: *(Give a short brief on the focus CRM concept and skills.)*

DESCRIPTIVE SYNOPSIS: *(List the synopsis with CRM skill annotations.)*

FOCUS QUESTIONS AND ANSWERS:**Examples:**

1. How did a breakdown in situational awareness lead to the mishap?
2. What resources did the pilot have to regain situational awareness?
3. What indications did the instructor pilot have that the student was task overloaded?
4. How can the instructor teach the student to recognize when he or she is overloaded?
5. What techniques can the instructor give the student to effectively manage his or her tasks?

SUMMARY--LESSONS LEARNED: *(Cover lessons learned and the role that specific CRM skills played in this scenario. How can instructors use this scenario for student training?)*

Attachment 5 (Added)

CRM BRIEFING AND DEBRIEFING GUIDE (ADDED)

Table A5.1. CRM Insert.

I T E M	A	B	C
	CRM Skill	Positive Factors	Negative Factors
1	Mission planning brief	Organized; clearly assesses and defines mission, environment, aircraft and situation; covers contingencies; checks understanding	Neglects, rushed, incomplete, vague, lectures, ignores
2	Situational awareness	Anticipates, monitors, prevents loss recognizes own/others loss, regains	Disoriented, confused, lost fixated
3	Crew coordination and flight integrity	Leads, identifies roles and expectations, sets tone, respects, encourages, assertive	Judges, ridicules, overreacts, ignores, imposes, accepts error
4	Communication	Clear, concise, listens, interprets, efficient, gets or gives feedback	Interrupts, withholds, discounts ambiguous, mumbles
5	Task management	Prioritizes, assign tasks, creates time, plans, delegates, checklist discipline	Rushed, overloaded, complacent, misprioritizes
6	Risk management and decision-making	Identifies and assesses problem explores solutions, makes appropriate decision, involves and informs crew	Avoids, delays, vacillates, argues, fails to consider consequences of decision
7	Debrief	Objective, thorough feedback Non threatening, recaps key points, solicits inputs, provides corrective actions	Rushed, incomplete, vague, lectures, blames, ignores

Attachment 6 (Added)**FLIGHT INSTRUCTOR TRAINING STANDARDS (ADDED)****A6.1. Briefing Phase:**

A6.1.1. Ensure CRM objectives and expectations for the mission are clearly stated and understood by the student.

A6.1.2. Ensure the student understands where CRM skills will enhance mission performance.

A6.1.3. Solicit student comments about where CRM will enhance mission effectiveness and safety.

A6.1.4. Discuss particular areas for student CRM development and improvement.

A6.2. Flying Phase:

A6.2.1. Use in-flight activities to reinforce CRM skill objectives.

A6.2.2. Where appropriate, cue student to upcoming activities and events to maximize CRM skill development.

A6.2.3. Where appropriate, highlight traps in the flying environment that can be avoided by using CRM skills.

A6.2.4. Given student's proficiency, adjust CRM instruction to maximize performance.

A6.3. Debriefing Phase:

A6.3.2. Identify key points in the mission where CRM affected mission performance.

A6.3.1. Effectively use the mission debrief to reinforce student CRM skills.

A6.3.3. Adjust debrief techniques to match student experience and capabilities.

A6.3.4. Where appropriate, allow the student to error analyze CRM skill applications.

A6.3.5. Review and discuss expectations set in the briefing phase.

A6.3.6. Reinforce effective CRM performed during the mission.

A6.3.7. Identify areas for student CRM improvement.

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