

**BY ORDER OF THE COMMANDER
AIR FORCE GLOBAL STRIKE COMMAND**

AIR FORCE INSTRUCTION 11-290



**AIR FORCE GLOBAL STRIKE COMMAND
SUPPLEMENT**

1 FEBRUARY 2010

Flying Operations

**COCKPIT/CREW RESOURCE
MANAGEMENT PROGRAM**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available on the e-Publishing website at <http://www.e-Publishing.af.mil/> for downloading or ordering.

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: HQ AFGSC/A3TO

Certified by: HQ AFGSC/A3T
(Col Daniel A. Kosin)

Pages: 10

This supplement implements and extends the guidance of Air Force Instruction AFI 11-290, *Cockpit/Crew Resource Management Training Program*, 11 April 2001. When imbedded, the AFI is published word-for-word without editorial review. This supplement describes AFGSC procedures for use in conjunction with the basic AFI. This publication does not apply to the Air Force Reserve or Air National Guard units. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at <https://www.my.af.mil/gcss-af61a/afrims/afrims/>.

OVERVIEW

This publication aligns the UH-1N, B-52, and B-2 CRM guidance by consolidating and revising guidance previously found in AFSPC and ACC supplements to AFI 11-290.

1. AFGSC crewmembers are identified as any pilot, navigator, combat systems officer, weapon systems officer, flight engineer, mission crew officer, flight surgeon, and enlisted specialist assigned to AFGSC and assigned flight duties on an AFGSC weapon system. This includes all staff MAJCOM, numbered AF, and wing Crewmembers who fly as part of their official duties.

2.1.1. Reference AFI 11-2 MDS V1, *Aircrew Training*, for training frequency and required attendees.

2.1.1.1. (Added) CRM training will be tracked via the Aviation Resource Management System (ARMS). Crewmembers who do not accomplish CRM training within AFI 11-2 MDS V1 specified time will be grounded from flying duties until training is accomplished.

2.1.1.2. (Added) Operations group standardization/evaluation (OGV) and/or training offices will determine if new crewmember's previous CRM training fulfills AFGSC CRM training requirements. Crewmembers must present documentation of completed CRM training (by ARMS for example) to OGV and/or training for approval. Crewmembers can substitute CRM training received from other MAJCOMs as meeting their biennial AFGSC CRM training requirement.

2.1.1.2.1. (Added) Crewmembers that receive CRM training from other MAJCOMs (UH-1 for example) during simulator refresher training meet their biennial CRM training requirement. In the event that simulator CRM training is not available, crewmembers may attend their respective unit's mission crew CRM class.

2.3.3.1. (Added) Reference AFI 11-2 MDS V2, *Aircrew Evaluation Criteria*, for evaluation criteria. Any CRM trends that have been identified by OGV (either positive or negative) will be documented and reported to HQ AFGSC/A3TO to be incorporated into future CRM training.

2.3.4. (Added) Be data driven, crew position specific skills based, and operationally integrated to improve the daily mission performance of AFGSC crewmembers. Data sources should include USAF Safety Center data, local standardization and evaluation reports, mission reports, training summaries, and grade sheet analysis.

3. Operational control of AFGSC's CRM program will rest in HQ AFGSC/A3. Command policy and guidance related to CRM content and delivery will rest within HQ AFGSC/A3T.

3.1.17. (Added) HQ AFGSC/A3T

5.1. The AFGSC CRM program manager is HQ AFGSC/A3TO. HQ AFGSC/A3T is the waiver authority for this supplement, unless otherwise specified. AFGSC units will forward waivers to this instruction through training channels to HQ AFGSC/A3TO.

5.1.10. (Added) Reviewing CRM program review and critiques.

5.1.11. (Added) Reviewing AFGSC and formal syllabi for CRM compliance.

5.1.12. (Added) Reviewing mishap reports for findings and recommendations impacting CRM training (OCR: HQ AFGSC/SEF).

5.1.13. (Added) Reviewing Stan/Eval CRM trends (OCR: HQ AFGSC/A3TV).

5.1.14. (Added) Recommending improvements for CRM program.

5.2. AFGSC Steering Committee, chaired by AFGSC CRM Program Manager (HQ AFGSC/A3TO), will meet as required.

5.2.3. (Added) AFGSC Steering Committee mandatory members are representatives from A3TO, A3TV, SEF, and SGP.

5.2.4. (Added) Specific responsibilities of the AFGSC CRM Steering Committee include:

5.2.4.1. (Added) Review CRM program reviews and critiques (OPR: HQ AFGSC/A3TO).

5.2.4.2. (Added) Review syllabi for CRM compliance (OPR: HQ AFGSC/A3TO).

5.2.4.3. (Added) Review mishap report information of significance for CRM case study development (OPR: HQ AFGSC/SEF).

5.2.4.4. (Added) Review Stan/Eval CRM trends (OPR: HQ AFGSC/A3TO, A3TV).

5.2.4.5. (Added) Recommend improvements for CRM program.

5.3. (Added) Specific responsibilities within HQ AFGSC are:

5.3.1. (Added) HQ AFGSC/A3TO. AFGSC/A3TO is responsible for assisting in CRM courseware review as required.

5.3.2. (Added) HQ AFGSC/SEF. AFGSC/SEF is the focal point for providing mishap information to CRM instructors (including contractor personnel) for case study and courseware development. AFGSC/SEF will work with ACC TRSS, the Air Force Safety Center (AFSC), and CRM contractor personnel in determining case studies to be developed for CRM courses and case studies. Upon request, AFGSC/SEF will provide sanitized aircraft mishap information to include USAF produced mishap animations as well as controlled access to AFSAS for CRM contractor personnel IAW AFI 91-204. AFGSC/SEF will also interface with 58 TRSS (AETC) in determining case studies for CRM courses.

5.3.3. (Added) Operations Groups. OG/CC will appoint an office within the group responsible for their units' CRM program. This office must have crewmember instructor(s) in the primary weapon system of their unit. The assigned office will provide oversight to the unit's CRM program to include updating the OG/CC on CRM feedback and command policy and guidance.

5.3.3.1. (Bomber) (Added) The assigned office is responsible to the chief Quality Assurance Personnel (QAP)/program manager assigned to ACC TRSS/ACQ, Langley AFB VA, concerning matters related to CRM training.

5.3.3.2. (Bomber) (Added) The assigned office will ensure contractor conducts training per the Quality Assurance Surveillance Plan (QASP) Annual Inspection Checklist. The assigned office will report all discrepancies to the chief QAP immediately.

5.3.3.3. (Bomber) (Added) The assigned office will assist contractor personnel in research of STAN/EVAL trends. CRM contractors can be granted access to Standardization and Evaluations Boards (SEB) at unit discretion. CRM contractor personnel will be included in the distribution of meeting minutes from all SEBs.

5.3.3.4. (Bomber) (Added) ACC TRSS/ACQ may visit AFGSC locations where CRM training is conducted as required. The purpose of the visits is to inspect contract performance and to meet with unit CRM representatives as required.

5.3.4. (Added) Flying Squadrons. Flying squadron commanders will appoint a crewmember instructor as the unit CRM representative to oversee the unit CRM program and advise the commander as required. The representative will monitor and encourage participation in CRM continuation training opportunities (paragraph **8.3.3. (Added)**). The representative will periodically examine mission Grade Sheets to determine positive/negative trends in unit

application of CRM skills. Each squadron CRM representative will also coordinate with the OG/CC CRM Program Office on all aspects of the unit CRM program.

6.2. (Added) AFGSC 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. Class composition should include crewmembers from each crew position. Use case studies to give crewmembers positive examples of CRM skill application. Include core CRM skill review during discussion of aircraft-specific skill application.

7. The mishaps screened should not be limited to bomber or helicopter mishaps only, as CRM principles can be learned across a broad spectrum of crewmembers and aircraft.

8.2. AFGSC flight training may use AETC-developed courseware to train CRM concepts, principles, and terminology. AETC-developed flight training syllabi contain CRM core concepts and associated CRM skills (reference AF Form 4031, *CRM Skills Criteria Training/Evaluation*) in the course training standards. AFGSC/A3TO will dialogue with AETC training channels to ensure these core and introductory training standards are upheld. Crewmembers transitioning to dissimilar aircraft will take the AFGSC FTU CRM course for that respective MDS aircraft. Aircrew cannot substitute CRM training received between dissimilar aircraft (i.e., single vs. crew; heavy vs. fighter). Aircraft Transition CRM courses should leverage CRM knowledge gained in other aircraft and focus on the unique CRM requirements for the new aircraft. CRM training is to be included in all FTU training syllabi.

8.2.1. (Added) FTU CRM Training (Basic). This training is intended for all AFGSC Crewmembers attending an AFGSC FTU or initial qualifications training course. The FTU course is designed for the recent graduate of Undergraduate Flying Training (UFT), and Enlisted Aircrew Undergraduate Course and is a one-time only training requirement. The six core CRM curriculum skills will be introduced through the use of mission relevant scenarios and interactive group exercises. The training will be designed to convey the learning objectives as flight essential skills that contribute to and enhance mission effectiveness and flight safety. Crewmembers will be taught specific skills to be used during pre-flight planning, briefing, in-flight utilization, and debrief techniques. Improved mission effectiveness remains the primary goal. The FTU CRM course will be a minimum of 4 training hours and outlined in each MDS syllabi.

8.2.2. (Added) FTU CRM Training (Advanced). This course is designed for the transition course (TX) crewmember with previous experience in the assigned MDS aircraft. The courseware acknowledges the aircrew member's experience while refreshing his/her skills in all core CRM curriculum skills.

8.3.1. AFGSC CRM Continuation Training. The course should begin with an overview of the six core CRM skills and the associated observable behaviors that apply to the MDS. Data will be collected to determine which of the observable behaviors within the six core CRM curriculum skills most apply to the unit MDS and its mission. Following the overview, two of the six core skills will be covered in depth. Each skill will be trained using the information, demonstration, practice, and feedback instructional strategies. Skill practice opportunities will include MDS and mission-specific exercises, case studies, group interaction and skill assessment techniques.

Realistic exercise and practice scenarios, designed to require specific actions by the student, should be based on the most current incidents and combat or operational case studies available for that MDS. These exercises are used by the student to practice the effective use of CRM skills, and by the instructors to validate and assess the crewmember's understanding of the skill.

8.3.3 (Added) Additional CRM Training Opportunities. Additional CRM practice opportunities will be provided through Web/LAN-based presentations developed for aircrew member use to avoid skill degradation. Crewmembers can use these presentations during unit training days, safety days, or any type of squadron meeting where CRM would be a useful topic of discussion. The Web/LAN training can be conducted in a group setting or individually. Presentations will include all materials required to present the topic of interest. Aerospace physiology units (if applicable) have CRM videos and reference materials suitable for case studies and discussions. When developing training scenarios, **Attachment 3** may be used as a reference. Additional CRM training is located at www.cti-crm.com/caf. Web-based interactive animated case studies are available to reinforce CRM skills. These 5 minute animations are based around the six skills, and are MDS specific.

8.3.3.1. (Added) Unit Quarterly Training. A different CRM skill should be emphasized each quarter. Quarterly training is not mandatory but is highly encouraged to augment the CRM continuation training. Unit level presentations will be designed for flight or squadron-wide training. This training is intended for use during flight meetings, safety meetings, IP/flight lead/mission commander meetings, or any other appropriate unit activity. Downloaded from the Internet or local base LAN, each module contains approximately 5 minutes of academics and 10 minutes of CRM skills practice using group exercise and/or case study evaluation. Each downloadable file will contain all of the training materials required to conduct the training, including an instructor guide. It will be designed to be compatible with unit audio/visual training devices.

8.3.3.2. (Added) Individual Quarterly Training. To provide opportunity for training in all six CRM skills and to provide flexibility to high operations tempo units, an individual 15-minute Web/LAN-based interactive computer aided instruction module will be provided. These modules will be based on the unit quarterly training and are designed for individuals who could not attend the unit level course. The module substitutes interactive courseware for group exercises to ensure maximum training and participation for the user.

8.3.3.3. (Added) Daily (CRM) Training Objectives. Daily (or as scheduled to fly) CRM practice will be provided through the use of a short training scenario entitled Daily Training Objectives (DTO) or unit provided CRM Topic of the Day (ToD). The DTO is a short (2-3 minutes) scenario which demonstrates the effective or ineffective use of a specific CRM behavior to a particular MDS. This will be followed by a "what if?" or "what would you do?" question. Each DTO will illustrate one of the specific observable behaviors for the core skill covered that quarter in the Web/LAN-based training. The ToD is a short explanation of a CRM concept/skill/behavior that is reviewed by the crew during the briefing prior to flight. Each DTO/ToD provides a specific CRM mission objective for that flight to be discussed in the briefing or debriefing, and provides a daily standard against which combat aircrew members can compare mission performance. Aircrew members may use the DTO/ToD in conjunction with a flying/simulator mission, or may review the topic on an individual basis. Use of DTO's/ToD's is not mandatory, but highly encouraged.

8.3.3.4. (Added) Weapon System Trainer (WST) and Aircraft Sorties. CRM skills should be discussed as part of all training event pre-briefs and debriefs. Positive and negative CRM skill application observations will be used to generate post flight discussion. CRM skills will be debriefed and critiqued on all training aircraft and simulator sorties. Instructors can reference CRM grading items as specified in **Table 10.1. (Added)**. Instructors may also use the CRM skill behaviors listed in AF Form 4031, *CRM Skills Criteria Training/Evaluation*, or the debriefing guide examples in **Table 10.2. (Added)**.

8.3.4. (Added) CRM Class Size. CRM class sizes should be 8 to 20 Crewmembers to allow for effective facilitation techniques and quality instruction. Unit schedulers must notify the contractor of any scheduling changes at least 48 hours in advance. Exceptions will be made for smaller FTU and instructor classes.

8.4.2. Instructor Training Requirements. All instructors will complete CRM instructor training prior to assuming duties as an instructor. Crewmembers can take CRM instructor training prior to entering upgrade training. CRM instructor training is a one-time requirement, exclusive of a particular weapons system, and must be included in all instructor upgrade syllabi as a minimum 2-hour block of instruction. If contractor training is not available during the period of instructor upgrade, waivers can be requested IAW **para 5.1** until the next available training date but, no later than one year after upgrade.

8.4.2.1 (Bomber) Crewmembers taking the instructor CRM course will receive credit for CT requirements.

9.1. (Added) All Crewmembers are evaluated on CRM during all periodic flight evaluations. Unit Stan/Evals will consolidate CRM results, note any trends, and forward to the unit CRM office. The unit CRM office will ensure consolidated trends are forwarded to the AFGSC CRM Program Manager located in AFGSC/A3TO as required, but at least annually.

9.2. (Bomber) (Added) Contract must identify all data the contractor must deliver to the government, to include background data. IAW AFI 37-138, *Records Disposition--Procedures and Responsibilities*; and public law, contractors will manage all data created for government use or legally controlled by the government in accordance with the Air Force records management procedures, AFI 37-138; AFMAN 37-123, *Management of Records*; and AFMAN 37-139, *Records Disposition Schedule*. This includes electronic records along with any technical documentation that allows the government to use the data. Protection of government data will be in accordance with AFI 31-401, Attachment 2, *Information Security Program Management*, and DOD 5200.1-R, Appendix 3, *Information Security Program*.

9.3. (Bomber) (Added) Contract statement of work or performance work statements must include the following statement: "IAW AFI 37-138 and public law, contractors will manage all data created or used for the government in accordance with the Air Force records management procedures, AFI 37-138, AFMAN 37-123, and AFMAN 37-139." This includes all electronic records and technical documentation that will allow the government to use the data. Upon completion or termination of the contract, all material will be turned over to the government. Protection of government data will be in accordance with AFI 31-401, Attachment 2, *Information Security Program Management*, and DOD 5200.1-R, Appendix 3, *Information Security Program*.

10.1. (Bomber) (Added) Flight and Simulator Grade Sheets. Aircrew flight and simulator grade sheets will contain CRM grading items as specified in **Table 10.1. (Added)**. Instructors may use the CRM skill behaviors listed on AF Form 4031, *CRM Skills Criteria Training/Evaluation*, or the debriefing guide examples in **Table 10.2. (Added)**.

Table 10.1. (Added) Aircrew Grade Sheet Requirements.

| Item | Grade Sheet | CRM Grading Items |
|------|----------------------------------|--|
| 1. | Flight and Simulator | Mission Planning, Situational Awareness, Communications, Risk Management/Decision Making, Task Management, Debrief |
| 2. | Formation or Tactical Employment | Flight Integrity |
| 3. | Crew Aircraft | Crew Coordination |

Table 10.2. (Added) Instructor Brief/Debrief Guide.

| Item | 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, ignores |
| 2. | Situational Awareness | Anticipates, monitors, prevents loss, recognizes own/other loss, regains | Disorientated, confused, lost, fixated |
| 3. | Crew Coordination/ 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 constructive feedback | Interrupts, withholds, discounts, ambiguous, mumbles |
| 5. | Task Management | Prioritizes, assigns tasks, creates time, plans, delegates, checklist discipline, system knowledge | Rushed, overloaded, complacent, mis-prioritizes |
| 6. | Risk Management/ Decision Making | Identifies and assesses problems, explores solutions, makes appropriate decisions, involves and informs flight members/crew | Avoids, delays, vacillates, argues, fails to consider consequences of decision |
| 7. | Debrief | Objective, thorough feedback, non-threatening, recaps key points, solicits inputs, provided corrective actions | Rushed, incomplete, vague, blames, ignores |

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFMAN 37-123 (<http://www.e-publishing.af.mil/pubfiles/af/37/afman37-123/afman37-123.pdf>), *Management of Records*

AFI 37-138 (<http://www.e-publishing.af.mil/pubfiles/af/37/afi37-138/afi37-138.pdf>), *Records Disposition--Procedures and Responsibilities*

AFMAN 37-139 (<http://www.e-publishing.af.mil/pubfiles/af/37/afman37-139/afman37-139.pdf>), *Records Disposition Schedule*

AFI 31-401, Attachment 2 (<http://www.e-publishing.af.mil/shared/media/epubs/AFI31-401.pdf>), *Information Security Program Management*

DOD 5200.1-R, Appendix 3 (<http://www.dtic.mil/whs/directives/corres/pdf/520001r.pdf>), *Information Security Program*

Abbreviations and Acronyms

AFGSC—Air Force Global Strike Command

ARMS—Aviation Resource Management System

AFSC—Air Force Safety Center

CT—Continuation Training

DTO—Daily Training Objective

FTU—Formal Training Unit

HS/CC—Helicopter Squadron Commander

HQ—Headquarters

LAN—Local Area Network

MDS—Mission Design Series

OG/CC—Operations Group Commander

OPR—Office of Primary Responsibility

QAP—Quality Assurance Personnel

QASP—Quality Assurance Surveillance Plan

RDS—Records Disposition Schedule

STAN/EVAL—Standardization and Evaluation

SEB—Standardization and Evaluation Board

ToD—Topic of the Day

TX—Transition Course

UFT—Undergraduate Flight Training

VTC—Video Teleconference

WST—Weapon System Trainer

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 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. Develop 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.

TIMOTHY M. RAY
Brigadier General, USAF
Director of Operations