

**BY ORDER OF THE  
SECRETARY OF THE AIR FORCE**



**AIR FORCE INSTRUCTION 11-290**

**15 OCTOBER 2012**

**AIR EDUCATION AND TRAINING  
COMMAND  
Supplement**

**2 JUNE 2014**

**Incorporating Change 1, 7 JULY 2016**

**Flying Operations**

**COCKPIT/CREW RESOURCE  
MANAGEMENT PROGRAM**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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**ACCESSIBILITY:** Publications and forms are available for downloading or ordering on the e-Publishing website at [www.e-Publishing.af.mil](http://www.e-Publishing.af.mil).

**RELEASABILITY:** There are no releasability restrictions on this publication.

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OPR: AF/A3O-AI

Certified by: AF/A3O  
(Maj Gen James J. Jones)

Supersedes: AFI11-290, 11 April 2001

Pages: 20

(AETC)

OPR: AETC/A3VO

Certified by: AETC/A3V (Kurt S. Anders)

Pages: 9

Supersedes: AFI 11-290/AETC Sup 1, 22  
March 2005

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This Instruction implements AFD 11-4, *Aviation Service*, and AFI 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure*. It establishes the USAF cockpit/crew resource management program and is applicable to all units assigned to or gained by major commands (MAJCOMs) and applies to commanders, operations supervisors, and aircrews assigned or attached to all flying activities of these commands. This publication applies to the Air Force Reserve (AFR) and the Air National Guard (ANG). This Instruction may be supplemented. Coordinate supplements with AF/A3O-AI prior to publication. Submit suggested improvements to this Instruction on AF Form 847, *Recommendation for Change of Publication*, through training channels, to AF/A3O-AI, [afa3oai.workflow@pentagon.af.mil](mailto:afa3oai.workflow@pentagon.af.mil). Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records

Disposition Schedule (RDS) located at <https://www.my.af.mil/afrims/afrims/afrims/rims.cfm>.

(AETC) This supplement implements and extends the guidance of AFI 11-290, *Cockpit/Crew Resource Management Program*, 15 October 2012. It applies to all AETC units and Air Force Reserve Command (AFRC) and Air National Guard (ANG) associate crewmembers but does not apply to AFRC and ANG gained units. AETC units may further supplement instruction as necessary. AETC units will coordinate proposed local supplements with AETC/A3VO before publication and forward one copy to AETC/A3VO after publication. Refer recommended changes about this publication to the Office of Primary Responsibility (OPR) using Air Force Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through standardization and evaluation channels, to AETC/A3V. Ensure all records created as a result of processes prescribed in this publication are maintained IAW Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of according to the Air Force Information Management System (AFRIMS) Records Disposition Schedule (RDS). The authorities to waive wing/unit level requirements in this publication are identified with a Tier (“T-0, T-1, T-2, T-3”) number following the compliance statement. See AFI 33-360, *Publications and Forms Management*, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items, in accordance with paragraph 9. Attachment 1 provides a glossary of references and supporting information used in this publication.

**SUMMARY OF CHANGES**

This document has been substantially revised and must be completely reviewed. Format is revised and procedural guidance is reduced throughout the AFI to place emphasis on MAJCOM/FOA/DRU program oversight. Program goals are updated (paragraph 1.1), program requirements are modified (paragraph 2), Steering Committee and Working Group information is updated (paragraph 6 and paragraph 7), oversight responsibility is specified (paragraph 8) and waiver guidance is added (paragraph 9). Updates reflect administrative changes and prescribed format requirements.

(AETC) This interim change revises the AFI 11-290 AETC supplement by changing the applicability statement for Air Force reserve Command and Air National Guard units, updating the approval authority for AETC CRM Facilitator training (paragraph 4.5), clarifies CRM training as an annual requirement (paragraphs 2.1.1 and 4.3.3), eliminates the CRM facilitator requirement for instruction during continuation training (paragraphs 4.3.3 and 4.5.2), introduces the AETC/A3V CRM SharePoint site (paragraph 2.2.4.1), adds CRM facilitator requirements for posting case studies (paragraph 4.3.4.1). A margin bar (|) indicates newly revised material.

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## *Section A—CRM Program Description*

**1. General.** The Air Force Cockpit/Crew Resource Management (CRM) program provides crewmembers with performance-enhancing knowledge and skills directly applicable to their roles in the aerospace mission of the Air Force. CRM training is a key component of a combined effort to identify and manage threats to safe and effective mission operations. The CRM program begins with crewmembers' initial Air Force flying training and is continuously built upon throughout their operational careers. Training objectives will be tailored to the knowledge and skill level of the aircrew member. As the aircrew member becomes more proficient, CRM training should emphasize performance skills more than academic objectives. Lead commands define "crewmember" in terms of their own operational mission requirements.

**1. (AETC)General.** Crewmember is identified as all AETC and AETC attached individuals, military or civilian, enrolled or instructing formal flying training courses. With the exception of personnel participating in an AETC Associate Instructor Pilot (IP) program, this publication does not apply to National Guard Bureau (NGB) or Air Force Reserve Command (AFRC) units and members unless specified by a major command (MAJCOM) Memorandum of Understanding. This instruction does not apply to SERE or Physiology personnel unless on active aeronautical orders.

1.1. The CRM program goals are:

1.1.1. Maximize operational effectiveness and combat capability.

1.1.2. Preserve personnel and material resources.

1.1.3. Ensure the safety of non-combatant civilians.

1.1.4. Facilitate mishap reduction by providing skills, processes, tools and techniques to aircrew members to effectively identify threats and mitigate errors in aviation operations.

1.2. CRM training will be designed and managed to accomplish the following objectives:

1.2.1. Develop aircrew skills in recognizing and responding to the conditions and/or threats that lead to aircrew error.

1.2.2. Develop aircrew proficiency in CRM skills to anticipate conditions and/or threats and minimize their impact in order to safely and effectively meet mission requirements.

**2. Program Requirements.** MAJCOMs, field operating agencies (FOAs) and HQ USAF direct reporting units (DRUs) are responsible for establishing and managing their respective programs in accordance with this Instruction. CRM programs are mandatory for aircrew members.

**2. (AETC)AETC Program Requirements.** CRM training is mandatory for all AETC crewmembers as defined in paragraph 1 (AETC).

2.1. Lead Commands will publish guidance in AFI 11-2 mission design series (MDS) specific vol. 1 and vol. 2 AFIs (*Note*: guidance may also be published in a Ready Aircrew Program (RAP) tasking memo or similar product), regarding CRM requirements, currency, tracking, and evaluation, to include:

2.1.1. Establishing training frequency, required attendees, and method for tracking crewmember currencies.

2.1.1. (AETC) Unless specified in the AFI 11-2MDS or RAP tasking message, AETC crewmembers are required to accomplish CRM ground training annually.

2.1.1.1. (AETC) DELETED

2.1.2. (Added-AETC) Unit instructors and evaluators must document CRM performance during all formal training or evaluation missions, both in aircraft and simulated. Grade sheets, Forms 8 or AF Form 4031 may be used for documenting CRM accomplishment during formal training or evaluation missions. Unit instructors may document CRM performance during continuation training (CT) events. When documenting CRM performance during continuation training (CT) events, use the AF Form 4031 to capture CRM performance, behaviors or trends observed (T-3).

2.1.2. Use of AF Form 4031, *CRM Skills Criteria Training/Evaluation Form*, or MAJCOM/FOA/DRU- approved substitute, to establish the skills training/evaluation criteria.

2.1.3. If using a contract vehicle, provide a uniform CRM program via a contract vehicle that covers all applicable units to include units gained from AFRC or ANG.

2.2. Each MAJCOM, FOA and DRU CRM training program must:

2.2.1. Provide training to develop and improve CRM knowledge and skills based on [paragraph 3](#) and AF Form 4031. MAJCOM/FOA/DRU- approved substitute may be used in lieu of AF Form 4031.

2.2.2. Be updated annually to incorporate: "real-world" operational experiences, sanitized mishap data, research data, critiques, and flight evaluation trends.

2.2.3. Identify the process for gathering, analyzing and incorporating trend data from MAJCOMs into existing training and evaluation programs.

2.2.3. (AETC) CRM Skill Evaluation Criteria. Follow CRM skills evaluation criteria guidance located in training syllabi, AFI 11-2MDS-Specific Volume 2, and 13-Series AFI. In the absence of guidance, the AF Form 4031 will be utilized.

2.2.3.1. (AETC) In AETC a CRM trend is defined as two or more deviations in the CRM Skill Evaluation Criteria or AF Form 4031 within the same CRM core competency over a one year period. Once reported to AETC/A3V it is the Operations Group (OG) CRM POC's discretion to retain (T-3).

2.2.3.1.1. (AETC) DELETED

2.2.3.1.2. (AETC) DELETED

2.2.3.1.3. (AETC) DELETED

2.2.3.2. (Added-AETC) The Operations Group CRM POCs will analyze and compile the trend data. When CRM trend data is identified report all trends (at a minimum annually) by posting to SharePoint, Memorandum For Record or digitally signed email to AETC/A3VO Workflow. (Note: In email, include "CRM Trends," period of time covered, and "Unit" in the Subject line)

2.2.4. MAJCOM, FOA and DRU CRM managers will ensure continuity of course content with AETC's introductory courses.

- 2.2.4.1. (AETC) AETC's CRM program will leverage the AETC/A3V SharePoint site and case studies to foster currency and relevancy in CRM topics and to assist in and promote fresh CRM discussions within the entire AETC instructor community for CRM classroom facilitators, CT requirements and day-to-day CRM instructional topics at: <https://eis.aetc.af.mil/hq/A23/A3V/CRM/>.
- 2.2.5. Ensure that data collected and/or generated through CRM and trend gathering processes is not used for monitoring aircrew performance to initiate punitive or adverse action.
- 2.2.6. Provide proportional funding as necessary to support the lead MAJCOM CRM program.
- 2.3. CRM skills will:
- 2.3.1. Be integrated into flight briefings and debriefings.
  - 2.3.2. Be integrated into training syllabi.
  - 2.3.3. Be evaluated during initial qualification and recurring evaluations.
- 3. CRM core curricula.** Core curricula will include the following knowledge and skill sets:
- 3.1. Communication. Includes knowledge of common errors, cultural influences, and barriers (i.e., rank, age, experience, position, etc.). Skills will encompass listening, feedback, precision and efficiency of communication with all members and agencies (i.e., Crewmembers, Wingmen, Weather, ATC, Intelligence, etc.).
  - 3.2. Crew/Flight Coordination. Knowledge and skills required within (internal) and outside the crew/flight members (external) for mission coordination, flight/mission integrity contracts, team-building, leadership, command authority, responsibility, behavioral styles, assertiveness, persistence, conflict resolution, hazardous attitudes, legitimate avenues/methods of dissent, and solution driven statements.
  - 3.3. Mission Analysis. Includes pre-mission analysis and planning, briefing, ongoing mission evaluation, and post mission debrief. Analysis instruction will include specific Threat and Error Management tools and techniques. Debrief instruction will include aircrew responses and outcomes to threats and errors.
  - 3.4. Risk Management (RM)/Decision Making. Includes risk assessment, the risk management processes (Deliberate, Real Time RM)/tools, breakdowns in judgment and flight discipline, problem-solving, evaluation of hazards, and control measures.
  - 3.5. Situational Awareness. Includes knowledge and skill objectives for identifying errors, preventing the loss of situational awareness, recognizing the loss of situational awareness, and techniques for recovering from the loss of situational awareness.
  - 3.6. Task Management. Includes establishing priorities, overload, under-load, complacency, management of automation, available resources, checklist discipline, and standard operating procedures.
- 4. CRM Training Phases.** Each phase of training should prepare individuals to apply the knowledge and skills acquired in their specialty and motivate participants for the next phase of training.

**4. (AETC)AETC Building Block Approach to Training.** Throughout AETC the intent of CRM training is to observe, assess and document CRM skills used by crewmembers in a mission environment and provide specific, meaningful, and standardized feedback to crews regarding their CRM skills and overall mission effectiveness using CRM concepts. Although the six core curricula should be discussed regularly, the level of discussion is based on each member's place in a formal course, recurring/refresher training, as an MDS-instructor/evaluator or as a CRM facilitator. The six CRM core concepts in **paragraph 3** will be used to differing degrees in all phases of AETC training based on each member's level of experience in their respective MDS.

4.1. Introductory or Awareness Training. Normally conducted in a formal training environment by AETC. Trainees learn standard CRM terminology and core concepts. Lesson plans will include a description of the building block approach to CRM training the individual will participate in throughout their operational career.

4.1. (AETC) Introductory or Awareness Training. Basic definitions and principles are the primary focus during Specialized Undergraduate Pilot Training (SUPT), Undergraduate Combat System Officer Training (UCT), Undergraduate Remote Piloted Aircraft Training (URT), Battle Management Training (BMT), Aircrew Fundamentals Course (AFC) and the Career Enlisted Aviator Rotary-Wing Fundamentals (CEARF) Course. These concepts will be taught in academics using guided discussions, case studies, videos, and role-playing exercises. Classroom instruction will be reinforced at SUPT, UCT, URT, BMT, AFC and CEARF during mission briefings, aircraft and simulator briefings, flights, and debriefings.

4.1.1. (Added-AETC) Student Simulator, Weapons System Trainer (WST), and Aircraft Sorties. Instructors will discuss CRM skills as part of all training event briefings and debriefings. They will use positive and negative CRM skill application observations to generate post flight discussion. Instructors will grade CRM core skills after each training aircraft or simulator sortie.

4.2. Formal Training Unit (FTU)/Combat Crew Training School (CCTS) CRM Training. Students learn to apply knowledge and skills related to their assigned aircraft. Academic training is complemented during aircraft/simulator training. Emphasis should be placed on preflight planning, briefing, in-flight utilization, and debrief techniques for CRM. This should include a brief review of CRM core concepts identified in **paragraph 3**. Mission-Oriented Simulator Training (MOST) sessions or other simulated or actual operational scenarios may be used as an integral part of CRM training. Evaluate students for technical expertise, as well as the skills based on the six core concepts. If aircrew training devices are not available, students should participate in group problem-solving exercises.

4.3. Mission-Specific Continuation Training. MAJCOMs, FOAs and DRUs are responsible for CRM continuation training. This training will reinforce the aircrew's CRM academic knowledge and refocus on skills to accomplish the mission. It also helps aircrews identify and respond to the conditions and/or threats that lead to error.

4.3.1. Emphasize CRM skills in the mission qualification and continuation training programs so they become inseparable parts of operational practices.

4.3.2. Frequency for recurring CRM continuation training is defined in the AFI 11-2 MDS specific volumes 1, a RAP tasking memorandum, or a similar product. Lead commands are responsible for providing guidance to standardize CRM MDS specific

training policy and requirements. All aircrew require Mission-Specific Continuation Training. Separating training by crew position should be avoided. However, it is not mandatory to conduct this training with a complete aircrew.

4.3.3. (AETC) Unless specified in the AFI 11-2MDS or RAP tasking message, AETC crewmembers are required to accomplish CRM ground training annually. This training does not require a CRM facilitator. (Note: Annual is defined as training due by the last day of month in the following year from which training was originally accomplished. Example - if an aircrew member accomplishes CRM on 11 Oct 2015, he/she is current until 31 Oct of 2016.)

4.3.4. (AETC) Emergency Procedure (EP) and CRM simulator training for instructors will include at least one CRM-focused scenario. A pre-brief (approximately 20 minutes) will focus on at least one CRM skill and the effective use of all available resources to include simulated student participation, Air Traffic Control (ATC), Runway Supervisory Unit (RSU), Supervisor of Flying (SOF), Pilot Meteorological Service (PMSV), etc (T-3). Simulator managers will maintain a book of CRM mission-specific scenarios for use during EP and CRM simulators. The scenarios will be updated each fiscal year.

4.3.4.1. (Added-AETC) OG CRM POCs will oversee the collection of CRM mission-specific scenarios for use during EP and CRM simulators. The scenarios will be updated each fiscal year and a minimum of one scenario uploaded to AETC CRM SharePoint at: <https://eis.aetc.af.mil/hq/A23/A3V/CRM/> sanitized at the appropriate level, to be shared across the command.

4.3.5. (Added-AETC) Flight and Simulator Grade Sheets. Aircrew flight and simulator grade sheets will contain CRM grading items as specified in Table 4.1. below. Crewmembers may use the CRM skill behaviors listed in Table A2.1. as a brief/debrief guide.

**Table 4.1. (Added-AETC) Aircrew Grade Sheet Requirements**

ITEM	Grade Sheet	CRM Grading Items
1	Flight And Simulator	Communication, Crew/Flight Coordination, Mission Analysis, Risk Management/Decision Making, Situational Awareness and Task Management.
2	Formation or tactical employment	Crew/Flight Coordination, Mission Analysis
3	Crew Aircraft	Communication, Crew/Flight Coordination, Task Management

4.4. Flight Instructor Training. All flight and simulator instructors will complete instructor specific CRM training. This training will normally be accomplished as part of instructor upgrade program. Courseware must build upon the previous blocks of training, both to reacquaint candidates with CRM fundamentals and to maintain continuity of terminology and techniques. MAJCOMs, FOAs and DRUs develop courseware related to instructing and evaluating key skills that apply to command and aircraft-specific missions. Personnel may conduct this training at operational units, flying training units, or a combination, as required.

Training will include, but is not limited to, proper use of AF Form 4031 (or approved substitute).

4.4.1. CRM instructor or evaluator training will be included into instructor upgrade programs.

4.4.2. CRM instructors and evaluators must be highly proficient in all CRM skills and be experts in the recognition, observation, and reinforcement of these skills as they are applied by aircrew members in a mission environment.

4.5. Facilitator Training. Formal CRM academic curricula must be delivered by a trained CRM facilitator. Facilitator training will include training in running exercises, structured crew observation, and effective academic feedback.

4.5. (AETC) Facilitator Training. AETC CRM facilitators will obtain training through an AETC/A3V approved facilitator course. A trained CRM facilitator is required to teach AETC syllabus-directed platform academics (formal CRM academic curricula). AETC instructors who instruct CRM directed platform academics will also be a qualified academic instructor IAW AETCI 36-2604 requirements.

4.5.1. (AETC) DELETED

4.5.1.1. (AETC) DELETED

4.5.1.2. (AETC) DELETED

4.5.1.3. (AETC) DELETED

4.5.2. (AETC) Each Operations Group, without contract CRM instructors/training, will have at least one individual trained as a CRM facilitator. CRM facilitator certification is not required for day-to-day CRM training, but is required to instruct AETC syllabus directed platform academics.

**5. Supporting Information.** HQ Air Force Safety Center, MAJCOM, FOA, and DRU safety staffs will screen mishap reports for human performance errors. This safety information should be available for use at all phases of CRM training, either as part of simulator scenarios or for CRM case studies. Sanitized “Limited Use” information will be provided to CRM program managers in a timely manner by command/unit safety staff(s) according to AFI 91-204, *Safety and Investigation Reports*.

### ***Section B—Program Management***

**6. The USAF CRM Steering Committee.** The Steering Committee standardizes CRM program requirements and terminology.

6.1. Steering Committee Membership:

6.1.1. AF/A3O-AI, Chair.

6.1.2. AF/A3O-AC

6.1.3. AF/A3O-AM

6.1.4. AF/A3O-AS

**7. USAF CRM Working Group.** The CRM Working Group will consist of members of the Steering Committee, AFSEC/SE representative, plus MAJCOM/FOA/DRU A3 (or equivalent) representatives and additional personnel as designated by the Steering Committee. The working group reviews program execution and policy issues and will meet in conjunction with Aircrew Management Executive Council (AMEC) meetings.

**8. Oversight.** Oversight of Air Force CRM programs will rest within the MAJCOM, FOA and DRU operations directorates. MAJCOM, FOA and DRU safety and surgeon general directorates will act as advisors and respective subject matter experts to the operations directorates for providing input to course content and delivery.

8.1. Each MAJCOM, FOA and DRU will appoint a CRM program manager within the operations (or equivalent) function. The program manager is responsible for:

8.1.1. Ensuring Lead Command's AFI 11-2 MDS specific vol. 1 and vol. 2 publications (or RAP tasking memo/similar product) provide CRM policy guidance.

8.1.2. Implementing Lead Command CRM policy guidance.

8.1.3. Ensuring each applicable CRM training phase (paragraph 4) is implemented and evaluated.

8.1.4. The forwarding of AF Form 4031 (or approved substitute) trend data to CRM Instructors/Facilitators.

8.1.5. Ensuring a system is in place to collect performance data (i.e. Stan/Eval trends (Skills criteria), sanitized mishap data, Hazardous Air Traffic Reports (HATR), and Inspector General reports), and send to CRM instructors and facilitators.

8.1.6. Evaluating contractor implementation of CRM program objectives. Where discrepancies are identified, initiate corrective actions.

8.1.7. Ensuring Quality Assurance Representatives (QARs) and IGs have current evaluation guidance to evaluate CRM program objectives. Where discrepancies are identified, initiate corrective actions.

8.1.8. Providing feedback to CRM Working Group regarding program status covering: Training Continuum, Standardization, and Research and Development needs.

8.1.9. Interacting with MAJCOM, FOA or DRU CRM advisors (Safety, Aerospace Physiology, etc.) ensuring CRM training is effective and minimizes redundancies with other programs given by Safety, Aerospace Physiology, etc.

8.1.10. **(Added-AETC)** Specific responsibilities within AETC are:

8.1.10.1. **(AETC)** AETC/A3VO. AETC/A3VO is the CRM program manager for AETC and responsible for managing the AETC CRM program. Through the AETC/A3V CRM SharePoint site, AETC/A3VO will assist, with ground/facilitator training programs to meet the requirements of AFI 11-290, AFI 11-2MDS-Specific guidance, RAP tasking message and 13-Series AFIs when applicable.

8.1.10.2. **(Added-AETC)** Operations Groups. Operations group commanders (OG/CC) will appoint, at a minimum, a CRM POC within the group responsible for

their units' CRM program. These members must be experienced aircrew member(s) in a primary weapon system of their wing/unit.

8.1.10.2.1. (**Added-AETC**) OG POCs are responsible to the AETC CRM program manager assigned to AETC/A3VO, JBSA Randolph TX, concerning matters related to CRM training.

8.1.10.2.2. (**AETC**) DELETED

8.1.10.2.3. (**Added-AETC**) OG POCs will provide oversight to the unit's CRM program to include updating the OG/CC on CRM feedback and command policy and guidance.

8.1.10.2.4. (**AETC**) DELETED

8.1.10.2.5. (**Added-AETC**) OG CRM personnel will be included in the distribution of meeting minutes from SEBs. CRM contractors can be granted access to Standardization and Evaluations Boards (SEB) at unit discretion.

8.1.10.2.6. (**Added-AETC**) OG POCs will inform AETC/A3VO of OG CRM POC contact information and position changes.

8.1.10.2.7. (**Added-AETC**) OG CRM POCs will submit a minimum of one mission specific case study annually to be posted on the AETC/A3V CRM SharePoint page at: <https://eis.aetc.af.mil/hq/A23/A3V/CRM/> . See **Attachment 4** for Case Study Format.

8.1.10.2.8. (**Added-AETC**) OG POCs will encourage the use of AETC/A3V SharePoint case studies and trends to all base aircrew to improve CRM awareness and knowledge at all levels (**T-3**).

8.1.10.3. (**Added-AETC**) AETC Instructors. AETC Instructors will teach CRM training in all training media, in all phases of training and build on the awareness and introductory level of training students receive. Using **Attachment 2**, instructor trainees will be given instruction on the use of the in-flight guide (IFG) insert, or CRM Briefing and Debriefing Guides, or identical information contained in their brief/debrief rooms for training sorties as part of their refresher training. **Attachment 3**, Flight Instructor Training Standards, provides recommended standards for flight instructor training.

8.1.10.4. (**AETC**) Civilian/Contract flight or simulator instructors will be trained in CRM annually. Contracts will reflect this requirement.

8.1.10.5. (**AETC**) Wing Aerospace and Operational Physiologists (AOPs). At OG/CC discretion, and with approval by the MDG/CC, Wing AOPs assigned to undergraduate flying training locations may teach CRM academics as outlined in the appropriate syllabus. If performing syllabus-directed platform academics (formal CRM academic curricula), these AOPs must be CRM facilitator trained. Additionally, Wing AOPs may assist the assigned office with the local CRM program to include training requirements, data collection and case study construction.

8.2. Command Steering Committees. MAJCOMs, FOAs and DRUs may establish command steering committees to identify the most effective methods for delivering and administering CRM programs.

## 9. Waivers.

9.1. AF/A3O is the waiver authority for provisions of this Instruction. Request waivers through applicable channels to MAJCOM/A3 (or equivalent). As applicable, MAJCOM/A3s will forward requests to AF/A3O, with an info copy to AF/A3O-AI.

9.1. (AETC) Request waivers through appropriate command channels to AETC/A3V. AETC/A3V will forward to MAJCOM/A3 as appropriate.

9.2. Waiver authority for supplemental guidance will be as specified in the supplement and approved through higher level coordination authority.

9.3. Waiver authority for MAJCOM/DRU/FOA CRM guidance is the MAJCOM/FOA/DRU A3 or equivalent.

9.3. (AETC) DELETED

9.3.1. (AETC) DELETED

9.3.2. (AETC) DELETED

9.3.3. (AETC) DELETED

BURTON M. FIELD, Lt Gen, USAF  
DCS, Operations, Plans and Requirements

(AETC)

SAMUEL P. MILAM, Colonel, USAF  
Deputy Director of Intelligence, Operations, and  
Nuclear Integration

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

AFPD 11-4, *Aviation Service*, 1 Sep 2004

AFI 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure*, 19 Jan 2012

AFI 11-403, *Air Force Aerospace Physiological Training Program*, 20 Feb 2001

AFI 91-204, *Safety Investigations and Reports*, 24 Sep 2008

***Prescribed Form***

AF Form 4031, *CRM Skills Criteria Training/Evaluation Form* (MAJCOM/FOA/DRU-approved substitute may be used in lieu of AF Form 4031.)

***Adopted Form***

AF Form 847, *Recommendation for Change of Publication*.

***Abbreviations and Acronyms***

**AMEC**—Aircrew Management Executive Council

**CCTS**—Combat Crew Training School

**CRM**—Cockpit/Crew Resource Management

**DRU**—Direct Reporting Unit

**FOA**—Field Operating Agency

**HATR**—Hazardous Air Traffic Report

**MAJCOM**—Major Command

**MDS**—Mission Design Series

**MOST**—Mission-Oriented Simulator Training

**RAP**—Ready Aircrew Program

**QAR**—Quality Assurance Representative

**RM**—Risk Management

**SA**—Situational Awareness

**TEM**—Threat and Error Management

***Terms***

**Cockpit/Crew Resource Management (CRM)**—The effective use of all available resources-- people, weapon systems, facilities, and equipment, and environment -- by individuals or crews to safely and efficiently accomplish an assigned mission or task. The term "CRM" will be used to refer to the training program, objectives, and key skills directed to this end. MAJCOMs may

implement their programs as either "cockpit" or "crew" resource management based on their respective missions.

**Communication**—The act of sharing information with others to cause some kind of action: to direct, to inform, to question, or to persuade.

**Coordination**—As used in this Instruction the act of working with all the members of the crew/flight to accomplish the tasks of the mission.

**Crew**—As used in this Instruction, any collection of Air Force personnel who routinely work together to accomplish an Air Force mission. For example, an air task order-designated team of fighter pilots and airborne battle managers prosecuting an interdiction mission uses "crew" skills to maximize its effectiveness.

**Decision Making**—The ability to choose a course of action using logical and sound judgment based on available information.

**Errors**—Actions or inactions that lead to deviations from organizational or flight crew intentions or expectations. Unmanaged and/or mismanaged errors can lead to undesired aircraft states. Errors in the operational context tend to reduce the margins of safety and increase the probability of adverse events.

**Flight Discipline**—The judgment and actions exercised by AF personnel to adhere to the spirit, intent, and written word of governing guidelines in the presence of temptation to do otherwise, while executing the Air Force flying mission. It also includes the prioritization of tasks based on crew responsibilities to ensure safe mission accomplishment while demonstrating the highest degree of integrity in the performance of flight duties.

**Flight Integrity**—Utilizing all the members of a flying package to accomplish the mission at hand.

**Mission Debrief**—Reviewing and discussing mission accomplishment looking at what was achieved, what barriers were encountered and how the mission could be accomplished better next time.

**Mission-Oriented Simulator Training (MOST)**—Training presented as a part of a CRM program in a realistic, operationally-based simulator environment in real time.

**Mission Planning**—Taking all of the information for a mission and developing short term, long term, and contingency plans to coordinate, allocate, and monitor crew/flight and aircraft resources. Effective planning leads to flight conduct that removes uncertainty, increases mission effectiveness and enhances safety.

**Risk Management**—The systematic process of identifying hazards, assessing risk, making control decisions, implementing control decisions and supervising/reviewing the activity for effectiveness for both on- and off-duty missions/activities.

**Situational Awareness (SA)**—In flying, this refers to a aircrew member's continuous perception of self and aircraft in relation to the dynamic environment of flight, threats, and mission, and the ability to forecast, then execute, tasks based upon that perception.

**Skills Criteria**—Defined skills used as the basis for operational training and evaluation. The characteristics of the skill are that they are easily identifiable and offer consistency in grading evaluation.

**Task Management**—The ability to alter a course of action based on new information, maintain constructive behavior under pressure, and adapt to internal and external environment changes.

**Threat**—An event or error that occurs outside the influence of the aircrew (i.e., it was not caused by the crew), increases the operational complexity of a flight, and requires crew attention and management if safety margins are to be maintained.

**Threat and Error Management**—Crews and flight members proactively using a combination of CRM skills and automation to address internal and external threats to avoid, trap or mitigate their impacts on mission safety and effectiveness.

**Attachment 1 (AETC)****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 11-290, *Cockpit/Crew Resource Management Program*, 15 October 2012

AFI 11-2 MDS, (*Title*), (*Date*)

AFMAN 33-363, *Management of Records*, 1 March 2008

AFI 33-360, *Publications and Forms Management*, 7 February 2013

***Prescribed Forms***

*None.*

***Adopted Forms***

AF Form 8, *Certificate of Aircrew Qualification*

***Abbreviations and Acronyms***

**ABM**—Air Battle Management

**AFC**—Aircrew Fundamentals Course

**AFRC**—Air Force Reserve Command

**AFRIMS**—Air Force Information Management System

**AFSC**—Air Force Specialty Code

**ANG**—Air National Guard

**ATC**—Air Traffic Control

**BMT**—Battle Management Training

**BSOC**—Basic Sensor Operators Course

**C2BMO**—Command and Control Battle Management Operators

**CSO**—Combat Systems Officer

**EP**—Emergency Procedure

**FTU**—Flying Training Unit

**IFG**—In-Flight Guide

**IFF**—Introduction to Fight Fundamentals

**LRAFB**—Little Rock AFB

**OG/CC**—Operations Group Commander

**PMSV**—Pilot Meteorological Service

**RDS**—Records Disposition Schedule

**RFC**—RPA Fundamentals Course

**RFS**—RPA Flight Screening

**RIQ**—RPA Instrument Qualification

**RPA**—Remotely Piloted Aircraft

**RSU**—Runway Supervisory Unit

**SOF**—Supervisor of Flying

**Stan/Eval**—Standardization/Evaluation

**SUPT**—Specialized Undergraduate Pilot Training

**UCT**—Undergraduate CSO Training

**URT**—Undergraduate RPA Training

**WST**—Weapon System Trainer

## Attachment 2 (Added-AETC)

## CRM BRIEFING AND DEBRIEFING GUIDE

**A2.1.** Information for In-Flight Guide (IFG) and/or Briefing Room CRM Topics. The information in Table A2.1. Will be incorporated into IFGs, mission debriefing books, or displayed in brief/debrief rooms by all AETC units.

**Table A2.1. Information for IFG CRM Inserts.**

<b>ITEM</b>	<b>CRM Skill</b>	<b>Positive Factors</b>	<b>Negative Factors</b>
<b>1</b>	Communication	Listens, provides feedback, precision and efficiency of communication with all members and agencies (i.e., Crewmembers, Wingmen, Weather, ATC, Intelligence, etc.).	Interrupts, withholds, discounts, ambiguous, unclear, incomplete or inaccurate.
<b>2</b>	Crew/Flight Coordination	Flight/mission integrity, maintains contracts, team-building, leadership, responsibility, assertiveness, persistence, conflict resolution and solution driven recommendations/decisions.	Lacks flight discipline, judges, ridicules, overreacts, ignores, imposes, accepts error.
<b>3</b>	Mission Analysis.	Adequate pre-mission analysis and planning/briefing. Ongoing mission evaluation using Threat and Error Management tools and techniques. Effective post mission debrief. Includes crewmember responses and outcomes to threats and errors.	Brief: Neglects, rushed, incomplete, vague, ignores.  Ongoing Mission: Fails to conduct timely threat/error management  Debrief: Rushed, incomplete, vague, blames, ignores.
<b>4</b>	Risk Management/Decision	Uses risk management	Avoids decisions, delays, wavers, argues,

	Making.	processes, problem-solving, evaluation of hazards, deliberate, real time and correct decisions.	fails to evaluate consequences of decision.
<b>5</b>	Situational Awareness.	Anticipates, Identifies errors, prevents loss, recognizes own/others loss and uses techniques for recovering from loss.	Disorientated, confused, lost, fixated.
<b>6</b>	Task Management.	Establishes priorities, manages automation and available resources, checklist discipline, and standard operating procedures.	Rushed, overloaded, complacent, mis-prioritizes

**Attachment 3 (Added-AETC)****RECOMMENDED FLIGHT INSTRUCTOR TRAINING STANDARDS****A3.1. (AETC) Briefing Phase:**

A3.1.1. (AETC) Ensure CRM objectives and expectations for the mission are clearly stated and understood by the student.

A3.1.2. (AETC) Ensure the student understands where CRM skills will enhance mission performance.

A3.1.3. (AETC) Solicit student comments about where CRM will enhance mission effectiveness and safety.

A3.1.4. (AETC) Discuss particular areas for student CRM development and improvement.

**A3.2. (AETC) Flying Phase:**

A3.2.1. (AETC) Use in-flight activities to reinforce CRM skill objectives.

A3.2.2. (AETC) Where appropriate, cue student to upcoming activities and events to maximize CRM skill development.

A3.2.3. (AETC) Where appropriate, highlight traps in the flying environment that can be avoided by using CRM skills.

A3.2.4. (AETC) Given the student's proficiency, adjust CRM instruction to maximize his or her performance.

**A3.3. (AETC) Debriefing Phase:**

A3.3.1. (AETC) Effectively use mission debriefs to reinforce student's CRM skills.

A3.3.2. (AETC) Identify key points in the mission where CRM affected mission performance.

A3.3.3. (AETC) Adjust debriefing techniques to match student's experience and capabilities.

A3.3.4. (AETC) Where appropriate, allow the student to error-analyze CRM skill applications

A3.3.5. (AETC) Review and discuss expectations set in the briefing phase.

A3.3.6. (AETC) Reinforce effective CRM performed during the mission.

A3.3.7. (AETC) Identify areas for student's CRM improvement.

**Attachment 4 (Added-AETC)**  
**FORMAT FOR A CASE STUDY**

**Figure A4.1. Format for a Case Study**

(Aircraft) COMPLETED CASE STUDY

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 are as follows:*

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 specific CRM skills played in this scenario. How can instructors use this scenario for student training?)*