

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

**AIR FORCE INSTRUCTION 11-290**

**11 APRIL 2001**



**AIR FORCE SPACE COMMAND  
Supplement 1**

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**Flying Operations**

**COCKPIT/CREW RESOURCE  
MANAGEMENT TRAINING PROGRAM**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This instruction implements AFD 11-2, *Aircraft Rules and Procedures*. It establishes the USAF aircrew training program that supports Air Force objectives 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. Lead commands will publish guidance in the specific mission design series (MDS), 11-2 MDS specific vol. 1 and vol. 2, regarding CRM requirements, currency, tracking, and evaluation. If MAJCOMs publish supplements to AFI 11-290, the supplements will define implementation of CRM program, but may not be less restrictive. MAJCOMs will coordinate their supplements with HQ USAF/XOOT. This instruction establishes requirements for developing and managing tailored, mission-specific Cockpit/Crew Resource Management (CRM) training programs and requires CRM training for all Air Force aircrew members. 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 and historically have been geared toward the operational flying environment, the potential exists to adapt fundamental program principles to any task or functional area requiring cooperative or interactive time critical efforts. **Attachment 1** provides a glossary of references, acronyms, and terms used in this instruction. AF Form 4031, **CRM Skill Criteria Training/Evaluation Form** lists specific CRM skills which measure the effectiveness of CRM training.

Submit suggested improvements to this instruction on AF Form 847, **Recommendation for Change of Publication**, through training channels, to HQ/USAF/XOOT, 1480 Air Force Pentagon, Washington, DC 20330-1480. This is a new instruction replacing AFI 36-2243, Cockpit/Crew Resource Management Program. Requests for waivers to this instruction should be directed to **Chief Operations Training Division, HQ AF/XOOT, 1480 Air Force Pentagon Washington, DC 20332-1480, DSN 227-7706, Commercial (202) 697-7706, FAX DSN 225-1489, FAX Commercial (202) 695-1489**. MAJCOMs should accept

another MAJCOM or Department of Defense (DoD) training only if: it meets the intent of this instruction, a source document is provided, and MAJCOM determines training is equivalent. This publication applies to the Air National Guard (ANG) when published in the ANGIND 2.

**(AFSPC) The OPR for this supplement is AFSPC DOMH Maj Kenneth J. Witte. 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.**

### ***SUMMARY OF REVISIONS***

This revision incorporates IC 2001-1 and replaces the term *discipline* with *flight discipline* in paragraph 6.1.4. This revision also provides a definition for *flight discipline* in the Terms section in **Attachment 1**. The entire text of IC 2001-1 is at **Attachment 2**. Changed or revised material is indicated by a bar (|).

### ***Section A—CRM Program Description***

1. The Air Force 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 the conditions that lead to error. 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.

#### **1.1. The CRM program goals are:**

- 1.1.1. Maximize operational effectiveness and combat capability.
- 1.1.2. Preserve Air Force personnel and material resources.

#### **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 that lead to aircrew error.
- 1.2.2. Develop aircrew proficiency in CRM skills.

## 2. Program Requirements.

### 2.1. Lead Command guidance will:

2.1.1. Establish training frequency, required attendees, and method for tracking crewmember curricula.

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

2.1.2. Use CRM skills criteria, AF Form 4031, to establish the skills training/evaluation criteria.

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

### 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 6.** and AF Form 4031.

2.2.2. Be updated annually to incorporate: "real-world" operational experiences, 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.

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

### 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.

## *Section B—Program Management*

**3. Top-Level Direction.** Operational control of the content and delivery 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 MAJCOM, FOA and DRU operations directorates for providing input to course content and delivery. The USAF CRM Steering Committee standardizes CRM program requirements, terminology, and core syllabus. Each functional area using the CRM training concept must be represented on the USAF CRM Steering Committee. The committee will meet annually.

### 3.1. Steering Committee Membership:

3.1.1. HQ USAF director of operations training (XOOT Chair).

**3.1.1. (AFSPC) HQ AFSPC/DOM**

3.1.2. HQ AETC/DOF.

3.1.3. HQ ACC/DOT.

- 3.1.4. HQ AMC/DOT.
- 3.1.5. HQ AFSOC/DOT.
- 3.1.6. HQ PACAF/DOT.
- 3.1.7. HQ USAFE/DOT.
- 3.1.8. ANG/XOO.
- 3.1.9. HQ AFRC/DOT.
- 3.1.10. HQ AFMC/DOV.
- 3.1.11. HQ AFSPC/DOO.

**3.1.11. (AFSPC) HQ AFSPC/DOM.**

- 3.1.12. Air Force Academy Operations Support Squadron (34 OSS).
- 3.1.13. War Fighter Training Research Division Armstrong Labs (AFRL/HEA) (advisor).
- 3.1.14. HQ AFSC/SEF (advisor).
- 3.1.15. Air Force Aerospace Physiology (AFMOA/SGOO) (advisor).
- 3.1.16. Other technical advisors as required.

**4. USAF CRM Working Group.**

4.1. Action officers representing each of the members of the Steering Committee constitute the USAF CRM Working Group. The working group reviews program execution and policy issues and will meet as required. Mandatory topics will include Training Continuum, Standardization, and Research and Development needs. Working group members are:

- 4.1.1. HQ USAF/XOOT CRM Program Manager (Chair).
- 4.1.2. MAJCOM, FOA and DRU CRM program managers.
- 4.1.3. MAJCOM CRM advisors (SE, SG, etc.--maximum two per MAJCOM).
- 4.1.4. HQ AFSC/SEFF and SEPA representatives (technical advisors).
- 4.1.5. HQ AFFSA/XOFD representative (technical advisor).
- 4.1.6. AFMOA/SGOO (technical advisor).
- 4.1.7. AFRL/HE (technical advisor)
- 4.1.8. Other technical advisors as required.

**5. MAJCOM CRM Programs.** Individual MAJCOMs, FOAs and DRUs manage their programs as follows:

**5.1. CRM Program Manager.** Each MAJCOM, FOA and DRU will appoint a CRM program manager within their operations or equivalent directorate. This individual should be a rated officer whose primary duty should be the management of their MAJCOM's respective CRM training program. CRM program managers should attend CRM industry conferences to keep abreast of current CRM technology and practices. The program manager is responsible for:

**5.1. (AFSPC) 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. Ensuring Lead Command's AFI 11-2 MDS specific vol. 1 and vol. 2s provide CRM policy guidance.

**5.1.1. (AFSPC) HQ AFSPC is the lead command for H-1 aircraft. HQ AFSPC/DOMH publishes AFI11-2H-1 Volumes 1 and 2, and will incorporate CRM guidance.**

5.1.2. Implementing Lead Command CRM policy guidance.

5.1.3. Ensuring each applicable CRM training phase (paragraph 8.) is implemented and evaluated.

5.1.4. The forwarding of AF Form 4031, trend data to CRM Instructors/Facilitators.

5.1.5. Ensuring a system is in place to collect performance data (i.e. Stan/Eval trends (Skills criteria), mishap reports and HATRs, and Inspector General reports) and send to CRM instructors and facilitators.

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

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

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

5.1.9. 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.

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

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

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

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

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

**5.2. Command Steering Committees . MAJCOMs, FOAs and DRUs may establish command steering committees to identify the most effective methods for delivering and administering CRM programs. Command steering committees identify the means and resources for effectively managing the**

CRM program. The MAJCOM, FOA or DRU commander for operations determines the appropriate Chair for their Steering Committee. These Steering Committees develop consolidated command positions on issues presented before the USAF CRM Steering Committee. Each MAJCOM, FOA and DRU CRM Steering Committee should include:

5.2.1. Safety and aerospace medicine functional managers.

5.2.2. Representatives of other functions as required (i.e., IN, LG, Operations, etc.).

**5.3. (Added - AFSPC) 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) 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 (Attachment 3 (Added) and Attachment 4 (Added) of this supplement), disseminate CRM material, and provide feedback as required.**

### *Section C—Program Development*

**6. Core CRM Curriculum .** CRM knowledge and skill objectives will be tailored to fit the unique characteristics of each primary mission. Navy Aircrew Coordination Training (ACT) equivalent terms are in parenthesis.

6.1. Managing Core Curriculum. CRM will be integrated into existing training programs to the maximum extent possible.

**6.1.1. Situational Awareness. (Situational Awareness)** Includes knowledge and skill objectives for preventing the loss of situational awareness, skills for recognizing the loss of situational awareness, and techniques for recovering from the loss of situational awareness.

**6.1.2. Crew Coordination/Flight Integrity. (Leadership and Assertiveness)** Knowledge and skill objectives covering the impact on aircrew performance of command authority, leadership, responsibility, assertiveness, conflict resolution, hazardous attitudes, behavioral styles, legitimate avenues of dissent, and team-building.

**6.1.3. Communication. (Communication)** Includes knowledge of common errors, cultural influences, and barriers (rank, age, experience and position). Skills will encompass listening, feedback, precision and efficiency of communication with all members and agencies (i.e., Crewmembers, Wingmen, Weather, ATC, Intelligence, etc.).

**6.1.4. Risk Management/Decision Making. (Decision Making)** Includes risk assessment, the risk management process, tools, breakdowns in judgment and *flight* discipline, problem-solving, evaluation of hazards, and control measures.

**6.1.5. Task Management (Adaptability/Flexibility).** Includes establishing priorities, overload, underload, complacency, management of automation, available resources, checklist discipline, and standard operating procedures.

**6.1.6. Mission Planning/Debrief (Mission Analysis).** Includes pre-mission analysis and planning, briefing, ongoing mission evaluation, and post mission debrief. Also, specific tools and techniques to be used in operational and training missions.

**7. Supporting Information .** HQ AFSC, 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. The safety mishap report information must be sanitized according to AFI 91-204, *Safety Investigations and Reports*. Current safety mishap “For Official Use Only” and 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. The safety mishap report information provided may be retained as part of the CRM training program active files until the training value is exhausted. The safety information will then be destroyed or returned to the safety staff that provided it.

**7. (AFSPC) 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. CRM Training Phases.** Five phases follow crewmembers through their professional development. MAJCOM, FOA, and DRU participation in course development is essential to training effectiveness and smooth transition from one phase to the next. 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. This training should utilize the most effective training methods and avoid simply lecturing to students. Video feedback should be used for debriefing. If video recordings or other feedback tools are used, they will be immediately destroyed or erased upon completion of the feedback session to encourage honest student inputs in a non-threatening learning environment. Integrate skills identified in AF Form 4031.

**8.1. Introductory or Awareness Training.** This may be a crewmember's first exposure to CRM. It is 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.

**8.1. (AFSPC) 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.**

**8.2. 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 paragraph 6.1. 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.

**8.3. 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 that lead to error.

**8.3. (AFSPC) 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 in structural 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. Emphasize CRM skills in the mission qualification and continuation training programs so they become inseparable parts of operational practices.

**8.3.1.1. (Added - AFSPC) 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 - AFSPC) 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 - AFSPC) 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 Criteria Training/Evaluation, for initial and recurring AF Form 8, Certificate of Aircrew Qualification, evaluations.**

**8.3.1.4. (Added - AFSPC) The unit CRM representative will conduct at least one training session every six months that includes CRM topics based on guidance contained in Attachment 1 and Attachment 2 of this supplement. The HF CRM representative (Reference para 5.4. (Added - AFSPC)) 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.**

8.3.2. Frequency for recurring CRM continuation training is defined in AFI 11-2 MDS specific vol. 1s. Lead commands are responsible for providing guidance to standardize CRM MDS specific training policy and requirements. All aircrew require Mission-Specific Continuation Train-

ing. Separating training by crew position should be avoided. However, it is not mandatory to conduct this training with a complete aircrew.

**8.4. 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.

**8.4. (AFSPC) 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.**

8.4.1. 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.

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

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

**8.5. 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.

**9. Data Disposition Schedule.** Data collected using AF Form 4031 must be retained for 6 months. After 6 months data may be destroyed. Disposition approval will be published in AFMAN 37-139 **Records Disposition Schedule**.

**10. Forms Prescribed:** AF Form 4031, **CRM Skills Criteria Training/Evaluation Form** will be used for CRM skills training and CRM evaluation as prescribed in the MAJCOM supplement. The goal is to identify weak areas as trends to improve CRM training before incidents or accidents occur.

**NOTE:**

MAJCOMs, FOAs, and DRUs will determine the primary weapon system for all dual-qualified personnel and will ensure CRM training is oriented toward the primary weapon system.

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

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

AFI 91-204, *Safety Investigations and Reports*

AFMAN 11-210, *Instrument Refresher Course(IRC) Program*

OPNAV Instruction 1542.7B

***Abbreviations and Acronyms***

**ATD**—Aircrew Training Device

**CRM**—Cockpit/Crew Resource Management

**DRU**—Direct Reporting Unit

**FOA**—Field Operating Agency

**HATR**—Hazardous Air Traffic Report

**MAJCOM**—Major Command

**MOST**—Mission Oriented Simulator Training

**SA**—Situational Awareness

***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.

**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.

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

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

**Flight Discipline**—The judgement 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**—Logic-based, common sense approach to making calculated decisions on human, material, and environmental factors before, during, and after Air Force mission activities and operations, i.e., on- and off-the-job.

**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.

**Attachment 2****IC 2001-1 TO AFI 11-290, COCKPIT/ CREW RESOURCE MANAGEMENT  
TRAINING PROGRAM****11 APRIL 2001*****SUMMARY OF REVISIONS***

This interim change (IC) 2001-1 replaces the term *discipline* with *flight discipline* in paragraph **6.1.4**. This change also provides a definition for *flight discipline* in the Terms section in **Attachment 1**.

**6.1.4. Risk Management/Decision Making. (Decision Making)** Includes risk assessment, the risk management process, tools, breakdowns in judgment and *flight discipline*, problem-solving, evaluation of hazards, and control measures.

**Attachment 1**

**Terms** shall have the following definition added:

**Flight Discipline** -- The judgement 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.

**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:**

A6.3.1. Identify key points in the mission where CRM affected mission performance

A6.3.2. Effectively use the mission debrief to reinforce

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.