

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



AIR FORCE INSTRUCTION 91-225

20 SEPTEMBER 2019

**AIR EDUCATION AND TRAINING
COMMAND
Supplement**

24 SEPTEMBER 2019

SAFETY

AVIATION SAFETY PROGRAMS

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available on the e-Publishing web site at www.e-Publishing.af.mil for downloading or ordering.

RELEASABILITY: There are no releaseability restrictions on this publication

OPR: AFSEC/SEF

Certified by: AF/SE
(Maj Gen John T. Rauch)

Supersedes: AFI 91-225, 26 Jan 2015

Pages: 32

(AETC)

OPR: HQ AETC/SEF

Certified by: HQ AETC/SEF
(SMSgt Toby Stroud)

Supersedes: AFI 91-225_AETCSUP,
28 March 2016

Pages: 6

This publication implements Air Force Policy Directive (AFPD) 91-2, *Safety Programs*, and AFPD 90-8, *Environment, Safety and Occupational Health Management and Risk Management*. It prescribes guidance and responsibilities for United States Air Force (USAF) employment of data-driven, proactive aviation safety programs. This instruction applies to all civilian employees and uniformed members of the Regular Air Force, Air Force Reserve, and Air National Guard; and contractors, if included in the applicable contract. Ensure 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 the Records Disposition Schedule located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Air Force (AF) Form 847, *Recommendation for Change of Publication*; route AF Forms 847 through the appropriate functional chain of command. This publication may be supplemented at any level, but all supplements must be routed to the OPR of this publication for

coordination prior to certification and approval. 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 requestor’s commander for non-tiered compliance items.

(AETC) This supplement implements and extends the guidance of Air Force Instruction 91-225, *Aviation Safety Programs*. This publication may be supplemented at any level, but all direct Supplements must be routed to the OPR of this publication for coordination prior to certification and approval. The authorities to waive wing/unit level requirements in this publication are identified with a Tier (T-1, T-2, T-3) number following the compliance statement. With the exception of the Air Force Reserve Command (AFRC) Associate Instructor Pilot (IP) Program, this instruction does not apply to Air National Guard (ANG), and AFRC units. See AFI 33-360, Publication 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 Office of Primary Responsibility (OPR) for non-tiered compliance items. Submit suggested improvements to this supplement via AF Form 847, *Recommendation for Change of Publication*, through Stan/Eval channels to 19AF/A3V Workflow. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW the Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS).

SUMMARY OF CHANGES

Revisions to this document include the removal of references to the military FOQA waiver requirements, and AFD 90-13, *Military Flight Operations Quality Assurance (MFOQA)*, which is rescinded. It changes the Aviation Safety Action Program to the Airman Safety Action Program. It also extracts “Responsibilities” wording from the separate chapters and incorporates all responsibilities in a table in a new **Chapter 2**. This document must be completely reviewed.

(AETC) This document has been substantially revised and needs to be completely reviewed. Major changes include the ASAP submission processes and the processing of these submissions.

Chapter 1—PROACTIVE AVIATION SAFETY OVERVIEW AND EMPLOYMENT	4
1.1. Overview.....	4
1.2. Proactive Aviation Safety Employment.....	4
Chapter 2—ROLES AND RESPONSIBILITIES	8
2.1. The Air Force Chief of Safety (AF/SE) shall:	8
2.2. The Air Force Deputy Chief of Staff, Operations (AF/A3), will:	8
2.3. Air Force Materiel Command will:	8

AFI91-225_AETCSUP 24 SEPTEMBER 2019	3
2.4. System program managers.	8
2.5. Air Force Safety Center (AFSEC).	8
2.6. All MAJCOMs will:	9
2.7. Lead MAJCOMs will:	10
2.8. Using MAJCOMs will:	11
Chapter 3—AIRMAN SAFETY ACTION PROGRAM (ASAP)	12
3.1. Purpose.	12
3.2. ASAP Implementation.	12
3.3. ASAP Structure.	14
Chapter 4—MILITARY FLIGHT OPERATIONS QUALITY ASSURANCE (MILITARY FOQA)	16
4.1. Purpose.	16
4.2. Military FOQA Implementation.	16
4.3. MFOQA Program Director (PD) Responsibilities.....	17
Chapter 5—LINE OPERATIONS SAFETY AUDIT (LOSA)	20
5.1. Purpose.	20
5.2. Scope.	20
5.3. LOSA Implementation.....	20
Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION	22
Attachment 2—MILITARY FLIGHT OPERATIONS QUALITY ASSURANCE	26
Attachment 3—MILITARY FLIGHT OPERATIONS QUALITY ASSURANCE	31

Chapter 1

PROACTIVE AVIATION SAFETY OVERVIEW AND EMPLOYMENT

1.1. Overview.

1.1.1. This instruction provides guidance and assigns responsibilities for the AF employment of the following data-driven, proactive aviation safety programs: Airman Safety Action Program (ASAP), military Flight Operations Quality Assurance (FOQA), and Line Operations Safety Audit (LOSA). These proactive programs deliver identity-protected, aggregate analysis to identify hazards, trends, human factors issues, and mishap precursors, with a resulting increase in safety and reduction in mishaps. This instruction does not apply to mishaps or mishap investigations.

1.1.1.1. Proactive aviation safety programs enhance operations, training, and maintenance through the integration of self-reported hazard and error data, recorded aircraft system data, flight performance data, and observation data. Analysis of these data sources and the derived information is used to develop and implement actions to control or mitigate risk.

1.1.1.2. Analyzed data is used to identify and quantify both normal and hazardous flight environments, and enables monitoring of control measure effectiveness. Analysis of self-reported data and observed inflight behaviors identifies threats, errors, and hazards that could initiate mishap sequences, and assists in the identification of mitigation measures.

1.1.1.3. Commanders employ proactive aviation safety programs to structure risk management activities, and to accept risk as necessary for mission accomplishment.

1.1.2. Aviation safety data analysis facilitates the risk management process as described in AFPD 90-8, *Environment, Safety and Occupational Health Management and Risk Management*. ASAP, military FOQA, and LOSA fall under the 'Risk Management' and 'Assurance' pillars of the Safety Management System, as directed in AFPD 91-2.

1.1.3. Proactive aviation safety programs are fundamental to a safety culture where commanders do not punish Airmen for honest mistakes, but also do not tolerate intentional violations. This underscores the importance of a just culture approach to hazard resolution and affects positive change in the Air Force by building a safety focused reporting culture.

1.2. Proactive Aviation Safety Employment.

1.2.1. MAJCOMs shall pursue increased aviation mission readiness, improved combat capability, and a reduction in aviation mishap rates through the implementation of data-driven proactive aviation safety programs. MAJCOMs shall employ military FOQA and ASAP programs and are encouraged to employ LOSAs to identify, trend, and mitigate threats, errors, and hazards. **(T-0)**.

1.2.2. Lead MAJCOMs shall include a data collection and distribution process that supports the military FOQA program as a standard requirement in all current aircraft sustainment and future aircraft acquisition efforts. **(T-0)**. Ensure aircraft data sources meet the requirements of Air Force Instruction (AFI) 63-101/20-101, *Integrated Life Cycle Management*. Lead MAJCOMs shall program funding for data collection and distribution processes that support military FOQA unless a cost-benefit analysis demonstrates a need for an exclusion (see [Attachment 2](#)). **(T-0)**. Group 1 and 2 remotely piloted aircraft, as defined in Joint Publication

3-30, *Command and Control of Joint Air Operations*, are exempt from this requirement. (T-0).

1.2.3. MAJCOMs shall establish procedures for handling the data collected for and releasing the analysis results generated by aviation safety programs, based on the following:

1.2.3.1. The identities of Airmen participating in or identified by these safety programs will be protected from release outside of safety channels except in the circumstances described in paragraphs 1.2.9 and 1.2.10 (T-0).

1.2.3.2. MAJCOMs shall develop processes to employ gatekeepers. (T-0). Occasionally, a hazard report or analysis is insufficient to thoroughly understand an event or hazard. If the contact information is known, gatekeepers may be utilized to identify and contact the pilot, crew, or report submitter to gather additional details related to the event that are necessary to initiate hazard resolution.

1.2.3.3. Data collected for or analyses generated from aviation safety programs shall not be used to initiate crew qualification downgrade, take adverse personnel action, or monitor personnel performance. (T-0). Prohibited actions include qualification actions (e.g., decertification, or Q2 or Q3 evaluation ratings as defined by AFI 11-202V2, *Aircrew Standardization and Evaluation Program*), administrative discipline (e.g., Letter of Counseling, Reports of Survey, Line of Duty Determination, or Flight Evaluation Board), non-judicial punishment (e.g., Uniform Code of Military Justice (UCMJ) Article 15 action) or judicial action, except as described in paragraph 1.2.3.4. Additional training programs or requirements are not considered punitive or adverse. (T-0).

1.2.3.4. If data collected for, or analyses generated from, aviation safety programs indicate the activity or event appears to involve an intentional disregard for safety, or that an intentionally false statement was made, the analysis or report no longer falls in the proactive aviation safety arena. (T-0). In these cases the protections of paragraph 1.2.3.3 are not applicable, and commanders may utilize the specific military FOQA analyses or ASAP reports containing the questioned activity as necessary to investigate the event and take qualification, administrative, non-judicial or judicial action. See paragraphs 1.2.9 and 1.2.10

1.2.4. The flight data files used for the military FOQA analyses are factual information and are not privileged safety information as defined in AFI 91-204, *Safety Investigations and Reports*.

1.2.4.1. Title 10 United States Code Section 2254a allows the exemption of information contained in flight data files and the subsequent military FOQA analyses from release through Freedom of Information Act (FOIA) requests (see DODM 5400.07_AFMAN33-302, *Freedom of Information Act Program*). Submit FOIA requests for the military FOQA information to the Air Force Safety Center (AFSEC) Office of the Staff Judge Advocate (AFSEC/JA). Submit USAF official-use military FOQA requests to the AFSEC Aviation Safety Division, Proactive Aviation Safety Branch (AFSEC/SEFP).

1.2.4.2. The military FOQA analysis reports produced on a regular basis and used by an AF Safety Investigation Board are not privileged documents. The military FOQA analyses requested by an AF Safety Investigation Board for specific data (e.g., over-Gs by tail

number or unstable approaches at a particular location) reveals the board's deliberative process and is privileged safety information in accordance with (IAW) AFI 91-204.

1.2.5. ASAP reports are not privileged safety information IAW AFI 91-204.

1.2.6. A proactive safety study of a hazardous event(s) may be initiated by commanders, safety, operations, or logistics staff, IAW AFI 91-204. The ASAP reports and Military FOQA analyses accomplished specifically for the safety study and used in the deliberative process may be privileged safety information IAW AFI 91-204. The AFSEC/JA makes these determinations on a case by case basis.

1.2.7. The LOSA program consists of anonymous observations and a consolidated report of trends and conclusions regarding day-to-day operations. This report may identify hazards or trends warranting further investigation. LOSA observation forms and annotated data are not safety privileged information. A safety study may be completed to address potential hazards or trends identified through LOSA reports. The resultant findings and recommendations are not privileged safety information unless privileged safety information was included in the analysis or in the final report.

1.2.8. MAJCOMs shall develop strategies to employ aviation safety programs in their unique operational and training environments and codify them in a supplement, concept of operations, or separate guidance document. The strategies shall include MAJCOM-specific processes that: support the aviation safety concept for safety, operations, training, and maintenance customers; identify platform or MAJCOM-wide trends; develop corrective measures; and evaluate control measure effectiveness.

1.2.9. Flight data analysis or event details provided during gatekeeper contact may indicate an intentional disregard for safety or an intentionally false statement. Under these circumstances, the MAJCOM and associated Wing safety staff will collaborate with the AFSEC to obtain additional information concerning the event(s). **(T-1)**. These fact-finding interviews are not eligible for the extension of a promise of confidentiality.

1.2.9.1. If interviews and additional analysis validates or continues to indicate an intentional disregard for safety, the associated Wing Chief of Safety will consult with Wing leadership and determine the appropriate course of action (such as further safety investigation, Commander Directed Investigation, or administrative actions). **(T-1)**. Further military FOQA analysis on the event will not be conducted: however, raw flight data files may be provided on a case-by-case basis.

1.2.9.2. The Wing Chief of Safety should also evaluate the event(s) in question for damage, injury, or safety hazards that warrant continuing a mishap or other investigation. Intentional disregard for safety is not the same concept as "criminal action" in a mishap investigation. Conduct a hazard or mishap investigation in accordance with AFI 91-204, as appropriate, to support mishap prevention. If criminal action is suspected or confirmed, suspend the mishap investigation in accordance with AFI 91-204.

1.2.10. Do not apply identity protection to events submitted through the Airman Safety App or website that involve damage or injury, or that appear to describe an intentional disregard for safety or intentionally false statement. In these cases, do not apply the non-punitive protections of paragraph [1.2.3.3](#)

1.2.10.1. An aviation event submitted through the Airman Safety App or website indicating damage or injury is a mishap. The submission is treated as a non-confidential, non-privileged statement in a mishap investigation. Forward the report to the owning Wing (or Group if no Wing) safety staff. A gatekeeper may contact the submitter for further information.

1.2.10.2. Reports submitted through the Airman Safety App or website that identify criminal activity, substance abuse, use of controlled substances or alcohol, force protection, security violations, or information security issues, are not considered proactive aviation safety reports. These reports are handled by unit commanders, and identities will not be protected.

Chapter 2

ROLES AND RESPONSIBILITIES

2.1. The Air Force Chief of Safety (AF/SE) shall:

2.1.1. Issue safety program policy and oversee aviation safety program process development throughout the AF.

2.1.2. Support aviation safety program collaboration with other DoD components on Joint Programs and in Joint operating environments.

2.2. The Air Force Deputy Chief of Staff, Operations (AF/A3), will: Ensure MAJCOM OPRs for their individual AFI 11-2 Mission Design Series Vol 1, *Training*, and Vol 3, *Operations Procedures*, address overall Safety issues for the specific platform. MAJCOM OPRs, in conjunction with their respective MAJCOM Safety office, are responsible for incorporating aviation safety program hazard analysis results in risk management processes, and in aircrew Vol 1 training and Vol 3 operational procedures.

2.3. Air Force Materiel Command will: Act as a focal point and liaison for aircraft data acquisition compliance with AFI 63-101/20-101, in support of the military FOQA programs.

2.4. System program managers. The system program managers responsible for aircraft development will support the deployment of the military FOQA programs by:

2.4.1. Performing the roles and responsibilities identified in AFI 63-101/20-101, to collect flight data generated by the aircraft.

2.4.2. Respond to Lead MAJCOM data collection capability and process requirements.

2.4.2.1. For aircraft in development, ensure data collection requirements, as specified in and funded through capabilities documents authorized by the Lead MAJCOM, are met through compliance with AFI 63-101/20-101. Aircraft should enter full-rate production meeting the military FOQA data collection requirements.

2.4.2.2. When aircraft undergo modification, evaluate the potential to incorporate missing data collection and distribution requirements that support the military FOQA data analysis process.

2.4.2.3. Support Lead MAJCOM development of the military FOQA Cost-Benefit Analysis (**Attachment 2**) by providing updated engineering service life estimates, fly-away cost data, and estimated cost (if any) to provide flight data files to the military FOQA analysis process.

2.4.3. Use integrated product teams to incorporate the military FOQA data collection with similar processes for other system monitoring equipment. This combined effort may maximize capability while minimizing cost.

2.5. Air Force Safety Center (AFSEC). The AFSEC provides management and oversight of proactive aviation safety program objectives, reporting, and analysis capabilities. AFSEC will:

2.5.1. Develop policy for proactive aviation safety program implementation.

2.5.2. Fund the military FOQA and ASAP reporting and analysis software management and sustainment, and digital flight data analysis manpower requirements. Software capabilities

include the receiving, storing, processing, analyzing, and protecting of the data collected for and analysis generated by the military FOQA and ASAP processes and reports, and the storage of LOSA-generated safety studies.

2.5.2.1. Integrate ASAP components into the Air Force Safety Automated System (AFSAS), including the Airman Safety App or website for reporting, an Aviation ASAP Scoreboard for messaging, and a tutorial for processing hazard reports.

2.5.2.2. Provide proactive aviation safety program managers at the Lead MAJCOMs to facilitate ASAP report processing and oversee the assigned military FOQA analysts.

2.5.2.3. Procure, deploy, and sustain a standardized military FOQA analysis system. Provide aircraft analysts to Lead MAJCOMs, based on the types and number of aircraft in the fleet and the capabilities of the analysis system.

2.5.3. Support the Lead MAJCOM military FOQA Cost-Benefit Analysis and program exclusion memo staffing processes. Review exclusion memos for accuracy, compliance, and sufficient documentation.

2.5.4. Provide guidance to system program managers and Lead MAJCOM requirements personnel on the military FOQA data requirements including: required and desired parameters; data collection, download, and distribution capabilities; data analysis; and analysis distribution.

2.5.5. Conduct centralized, AF-wide proactive aviation safety program hazard analyses across multiple platforms and aviation functional areas. Facilitate compatibility and cross-communication between MAJCOMs, other DoD Components, federal agencies, foreign militaries, and civil aviation communities.

2.5.6. Document and disseminate proactive aviation safety program benefits, such as improved training efficiency, maintenance savings, and risk reduction, within the AF, and with other DoD Components, federal agencies, foreign militaries, and civil aviation communities.

2.5.7. Educate and train MAJCOM, Numbered Air Force, and Wing safety personnel on proactive aviation safety program processes, benefits, and promotion of outcomes.

2.6. All MAJCOMs will:

2.6.1. Develop strategies to employ proactive aviation safety programs in their unique operational and training environments.

2.6.2. Document in a supplement, Concept of Operations, or separate instruction, MAJCOM-specific structures and processes that support the proactive aviation safety concept.

2.6.2.1. Integrate proactive aviation safety information into risk management processes for operations, training, maintenance, and safety customers.

2.6.2.2. Evaluate fleet or MAJCOM-wide trends, develop corrective measures to control adverse trends, and evaluate control measure effectiveness over time, utilizing the expertise of safety, operations, training, and maintenance personnel.

2.6.3. Establish and document protocols within the Lead MAJCOM and between the Lead and Using MAJCOMs for gatekeeper or analyst contact with ASAP report submitters, aircrew, and

maintenance personnel to gain additional insight into contributing factors to an event or hazard, or to report the military FOQA-related maintenance write-ups.

2.6.3.1. Gatekeepers contact personnel solely to gain additional insight into an event or hazard, in order to understand the facts of the event in question and to facilitate the hazard resolution process.

2.6.3.2. Identify the staff organization that will facilitate the reporting and resolution of military FOQA-identified issues, such as to investigate ‘one-off’ type events, to validate and resolve data anomalies, or to report aircraft exceedances to ensure timely aircraft inspections are accomplished.

2.6.4. Educate the MAJCOM on proactive aviation safety program benefits, and promote outcomes such as risk reduction, improved training efficiency, and maintenance savings.

2.7. Lead MAJCOMs will:

2.7.1. Incorporate proactive aviation safety program input and analysis results in MAJCOM safety, operations, training, and maintenance risk management processes for each Mission Design Series under their responsibility.

2.7.2. Identify risk common to the Lead MAJCOM, Using MAJCOMs, and the AF.

2.7.2.1. Evaluate proactive aviation safety data to uncover fleet or MAJCOM-wide trends, develop corrective measures to control adverse trends, and evaluate control measure effectiveness over time, utilizing the expertise of safety, operations, training, and maintenance personnel.

2.7.2.2. Incorporate proactive aviation safety products in aircrew tactics, training, and procedures such as those found in AFI 11-2Mission Design Series Vol 1, *Training*, and Vol 3, *Operations Procedures*.

2.7.3. Establish protocols within the Lead MAJCOM and between the Lead and Using MAJCOMs to disseminate proactive aviation safety analysis results.

2.7.4. Educate units, MAJCOM staff, and Using MAJCOMs on ASAP program execution and reporting capabilities. Establish protocols with Using MAJCOMs outlining the assignment of submission investigation and hazard resolution responsibilities.

2.7.4.1. Develop a procedure to de-identify aviation-related hazard and error reports during the submission triage process.

2.7.4.2. Develop a procedure to ensure initial and updated messages responding to ASAP hazard reports are posted on the Aviation ASAP Scoreboard.

2.7.5. Ensure integration of AFI 63-101/20-101 data collection and military FOQA process requirements into platforms under their responsibility (as assigned by AFPD 10-9). Include the military FOQA data collection and employment requirements in initial acquisition documents for aircraft in development, and advocate for resources to improve data collection capabilities when the opportunity arises during aircraft modifications.

2.7.5.1. Perform a Cost-Benefit Analysis to determine potential cost-effectiveness, in accordance with the methodology outlined in [Attachment 2](#), for platforms that do not employ the military FOQA analysis capabilities.

2.7.5.2. Establish data download, distribution, and storage procedures that enable the military FOQA data analysis processes for fleets where a benefit is expected. Establish a process for routine download of recorded data on a schedule that provides timely data analysis and results in minimal loss of flight operations data due to recorder capacity limitations. Coordinate data download frequency with Using MAJCOMs.

2.7.5.3. Document in a memo (**Attachment 3**) the justification for military FOQA exclusion if the cost-benefit analysis does not indicate a potential cost-effectiveness. Staff the exclusion memos through AF/SE and AF/A3 to the Air Force Vice Chief of Staff (AF/CV) for review, utilizing the template in **Attachment 3**. Lead MAJCOM exclusion memos extend to all MAJCOMs utilizing the affected Mission Design Series.

2.7.5.4. Collaborate with the AFSEC to determine flight data analysis manpower requirements, based on MAJCOM-level, centralized analysis for each fleet. Provide local sponsorship, workspace, and logistical support for the AFSEC-provided military FOQA analyst(s) and proactive aviation safety program managers.

2.7.5.5. Identify and submit to the AFSEC proposed military FOQA process improvements, such as analysis algorithm enhancements or events for trending. Solicit input from Using MAJCOMs.

2.8. Using MAJCOMs will:

2.8.1. Collaborate with Lead MAJCOMs to disseminate proactive aviation safety analysis results, and to address hazards and trends specific to the Using MAJCOM area of responsibility.

2.8.2. Collaborate with Lead MAJCOMs to identify operations, training, and logistics units that will benefit from the military FOQA analysis results, considering user needs and desires. Develop a feedback process and tailor analytical products to meet user needs as the program is implemented and matures.

Chapter 3

AIRMAN SAFETY ACTION PROGRAM (ASAP)

3.1. Purpose.

3.1.1. ASAP is an identity protected, self-reporting program designed to encourage and simplify the reporting of hazards and errors that increase the risk experienced in flight operations. Submissions augment existing safety reporting programs by capturing self-reported issues and events not normally disclosed through traditional mishap prevention programs.

3.1.2. ASAP hazard and error reporting involve airmen and leaders in the aviation mishap reduction process. This occurs through report submissions, analyzing the resulting information for trends, educating personnel, and developing and implementing risk reduction or mitigation strategies. By enhancing situational awareness, improving risk management, and reducing risk, ASAP reporting can effectively protect people, preserve aircraft, maximize efficiency, and improve readiness.

3.2. ASAP Implementation.

3.2.1. ASAP Report Submission:

3.2.1.1. Any person who experienced or observed a hazardous situation error is encouraged to submit a report via the Airman Safety App or website. This process meets AFI 91-202, *The US Air Force Mishap Prevention Program*, hazard reporting requirements.

3.2.1.2. Aviation-related ASAP report examples include any unsafe action, event or condition encountered during operations, such as:

3.2.1.2.1. Mission planning, crew rest, ground operations, or mission management and execution;

3.2.1.2.2. Observed hazards and errors that may not have directly affected the particular operation but may affect other operations or activities;

3.2.1.2.3. Hazards caused by defective materials;

3.2.1.2.4. Problems with standard operating procedures;

3.2.1.2.5. Aircraft systems or design concerns;

3.2.1.2.6. Personal errors or errors by others that could have led to a mishap or incident;

3.2.1.2.7. Errors committed by other individuals or organizations that adversely affected or could have affected operations, including procedural errors; or

3.2.1.2.8. Any other event that could affect the safety of personnel or resources.

3.2.1.3. Do not use the Airman Safety App or website to report violations of punitive written directives, including the UCMJ.

3.2.2. ASAP reports are submitted via the Airmen Safety App (downloadable from the major application store for most personal electronic devices), or via the Airman Safety App website

at <https://asap.safety.af.mil>. Either option provides an electronic capability for submitting hazard reports and safety events. Required fields include the event date, aircraft type (if applicable), wing, and a narrative of the event. Additional data fields, such as recommended corrective action, are at the discretion of the submitter.

3.2.3. Assigned MAJCOM and Wing personnel triage aviation-related ASAP reports following MAJCOM-developed guidelines. The basic triage process is to review, de-identify, and enter the submission into AFSAS for resolution of the hazard. An ASAP Triage Tutorial is located in AFSAS (Pub & Refs / Homepage / MFOQA-ASAP-LOSA).

3.2.3. (AETC) ASAP Submissions. ASAP submissions should normally be made within 24 hours of an event when possible. Individuals can be requested to submit an ASAP at a later time if an event becomes known but those involved did not know and would have had no expectation an event occurred. Data generated from the ASAP process shall not be used for monitoring aircrew performance, to initiate or support punitive action or to assign the reporter an “unqualified” rating. ASAP, however, is not blanket amnesty on all unsafe acts. ASAP reports are not covered by the privileged safety information procedures of DoD Instruction 6055.7, *Accident Investigation, Reporting, and Record Keeping*.

3.2.4. The Aviation ASAP Scoreboard shares aviation hazards across multiple communities, displaying the report narrative and submitter-recommended actions, along with the MAJCOM or Wing’s resolution. This provides personnel, operations and logistics staff, and leadership with a reference of hazards and errors experienced and the response to the associated risks.

3.2.4.1. As the triage process includes de-identification, the names of personnel and other information that may enable identification of the event or personnel involved will not be visible on the Aviation ASAP Scoreboard.

3.2.4.2. The Aviation ASAP Scoreboard is searchable by various posted data fields, such as event month and year, location, and aircraft type.

3.2.4.3. Access to the Aviation ASAP Scoreboard requires a basic, non-privileged AFSAS account. On initial AFSAS login (<https://afsas.safety.af.mil/>) select ‘Create Basic Account’ and accept the agreement statements. The Aviation ASAP Scoreboard link is accessible on the homepage.

3.2.5. Operations and safety staff will use hazard and error reports submitted through the Airman Safety App or website for investigation and trending of hazards and mishaps.

3.2.5.1. ASAP submissions initiate an assessment based on the nature and type of hazard and the extent of investigation required. The types of investigations required are described in AFI 91-204 or AFMAN 91-223, *Aviation Safety Investigations and Reports*. Utilize established hazard review and risk management processes to research operational, logistics, maintenance, training, or safety issues associated with the event, incorporating additional sources of information such as military FOQA analyses, training or evaluation trends, and policy and guidance review.

3.2.5.2. Reports that include damage or injury are mishap reports, and are investigated IAW AFI 91-204. Protections from punitive or adverse action described in paragraph **1.2.3.3** do not apply.

3.2.5.2. (AETC) ASAP is not an alternate to safety reporting through normal safety channels.

3.2.6. Though the submission narrative is de-identified prior to posting on the Aviation ASAP Scoreboard, additional information may benefit the hazard resolution process. In this case, names in the narrative or submitted with the report may be made available to the ASAP gatekeeper.

3.2.6.1. Paragraphs 1.2.3.3 and 1.2.3.4 apply to all personnel described in the report.

3.2.6.2. When an individual other than the reporting individual is named in an ASAP report, gatekeepers may, on a case-by-case basis, contact the named individual and invite them to submit an ASAP report. The purpose of such contact will be strictly limited to enhancing understanding of the reported event and supporting fact-finding and investigation of hazards.

3.2.7. Commanders should encourage and promote the use of the Airman Safety App or website to identify hazardous situations and safety-related issues, as a method of preventing future mishaps and ensuring safe, effective mission accomplishment.

3.3. (Added-AETC) ASAP Structure. AETC ASAP will consist of a Program Director, a Program Manager, Subject Matter Experts (SMEs), and Gatekeepers. Aircrew ASAP submissions are made electronically via the Airman Safety App (<https://asap.safety.af.mil>). This link can be found/used in various TIMS sections. When an ASAP submission is completed, AETC ASAP Program Manager (PM) is notified via e-mail to initiate triage and determine pertinent action/closure processes or initiate AFSAS investigation protocols. The role of the PM is to focus attention to address issues most pertinent for operations to solve, validate corrective actions taken to determine if the change garnered the desired result, and look for unintended or negative second order effects to mitigate risk. The PM will work with the applicable AETC and 19 AF directorates to assign SMEs to investigate the issue raised by the ASAP report and provide information back to the PM. If required, local bases may use Gatekeepers as required to provide information to the PM/SMEs.

3.3.1. (Added-AETC) Gatekeepers may be employed at the wing level as a means of seeking additional information or clarification on issues identified through an ASAP report. Because ASAP operates with de-identified (sanitized) reports, Gatekeepers are selectively chosen mature and credible individuals who are trusted agents and authorized access to unit and aircrew identifying information (if included in the ASAP report), provided by the AETC ASAP PM, in order to gather the detail necessary to make an input actionable. Most ASAP reports will not require crew or unit contact and often it will not be possible to identify the submitting airman. **Figure 3.1**, illustrates the proposed internal processes of the AETC ASAP process (T-2).

3.3.2. (Added-AETC) ASAP PROGRAM MANAGER RESPONSIBILITIES.

3.3.2.1. (Added-AETC) The ASAP PM will process the ASAP submission. This includes redacting any identifying information included by the reporter (T-2).

3.3.2.2. (Added-AETC) The ASAP PM will provide trend analysis, process track and manage ASAP reports. The ASAP PM will provide support to SMEs, as required (T-2).

3.3.2.3. **(Added-AETC)** The ASAP PM provides ASAP specific trend analysis to the PD **(T-2)**.

3.3.2.4. **(Added-AETC)** The ASAP PM will document the status of the ASAP report and track it until closure **(T-2)**.

3.3.2.5. **(Added-AETC)** The ASAP PM will coordinate with the appropriate AETC and 19 AF directorates **(T-2)**.

3.3.3. **(Added-AETC) ASAP GATEKEEPERS.**

3.3.3.1. **(Added-AETC)** Gatekeepers employed at the wing level are recommended, but not required, to be Safety personnel **(T-2)**.

3.3.3.2. **(Added-AETC)** The gatekeeper is the only person who will contact a submitter. Gatekeepers are responsible for searching for root cause while protecting the identity of the ASAP report submitter. When the two goals come into conflict, the gatekeeper should favor protecting the identity of the submitter in order to promote trust in ASAP and thus ensure continued reporting through the program **(T-2)**.

3.3.3.3. **(Added-AETC)** The gatekeeper will research available sources. For example, Training Information Management System (TIMS), interviews of aircrew, maintenance personnel, air traffic controllers, as well as the ASAP reports, MFOQA information, air traffic control tapes, and safety reports **(T-2)**.

3.3.3.4. **(Added-AETC)** The gatekeeper will request and coordinate with the ASAP PM if more expertise is required to fully understand the ASAP report incident **(T-2)**.

3.3.3.5. **(Added-AETC)** The Gatekeeper will assist in completion of mandatory reports as directed by the PM **(T-2)**.

3.3.4. **(Added-AETC) Risk Assessments.** The PM may assign a risk assessment using criterion found in AFPAM 90-803, *Risk Management Guidelines & Tools*.

3.3.5. **(Added-AETC) Aircrew & Unit Protections.**

3.3.5.1. **(Added-AETC)** Just Culture for the purposes of ASAP is paramount. Successfully establishing and maintaining a Just Culture is based on trust by the aircrews that they will not be punished for honest mistakes and understanding by unit leadership that HHQ is not usurping their authority or micro-managing their operations.

3.3.5.2. **(Added-AETC) Punitive or Adverse Action.** For the purpose of this supplement is defined as any administrative (e.g., Letter of Counseling, Article 15, etc.) or judicial action, crew qualification downgrade, or decertification. Directed additional training is not punitive or an adverse action. In cases of intentional disregard for instructions or procedures, any data source may be used for punitive or adverse action.

3.3.5.3. **(Added-AETC) Aviation/Airman Safety Action Program (ASAP) Submission Protections.** Data generated from the ASAP process shall not be used for monitoring aircrew performance, to initiate or support punitive action or to assign the reporter an “unqualified” rating. ASAP, however, is not blanket amnesty on any unsafe acts (intentional disregard for instructions or procedures). ASAP reports are not covered by the privileged safety information procedures of DoD Instruction 6055.7, *Accident Investigation, Reporting, and Record Keeping*.

Chapter 4

MILITARY FLIGHT OPERATIONS QUALITY ASSURANCE (MILITARY FOQA)

4.1. Purpose.

4.1.1. Military FOQA is the analysis and trending of aircraft system and flight performance data to enhance combat readiness. Analysis results identify deviations from standard operations, mishap precursors, and positive and negative trends.

4.1.2. MAJCOM, Wing, and safety staffs employ military FOQA in operations, training, and maintenance risk management activities. It provides analyses that increase awareness of operational flight risk, enable training feedback, and improve aircraft lifecycle activity.

4.1.2.1. Commanders use military FOQA to establish a baseline for actual flight operations, detect aviation mishap precursors, and mitigate or monitor risk exposure.

4.1.2.2. MAJCOM, Wing, and squadron operations and training personnel use the military FOQA analysis and trends to assess the impact of procedures, policy, and training on mission performance.

4.1.2.3. Military FOQA aids maintenance and lifecycle activities through regular and supplemental analysis of aircraft performance and limitations.

4.1.3. **(Added-AETC) Structure.** AETC MFOQA consists of a Program Director, a Program Manager, Flight Data Analysts, and Gatekeepers.

4.2. Military FOQA Implementation.

4.2.1. The military FOQA analysis process depends upon comprehensive aircraft data recording and regular data retrieval and distribution.

4.2.2. The data collection and analysis mechanics vary between MAJCOMs, organizations, and individual fleets due to technological and mission differences. The flight data files are either uploaded directly to the military FOQA web server, or automatically retrieved from existing AF data repositories.

4.2.3. The following are overarching characteristics of the military FOQA employment concept:

4.2.3.1. Record aircraft data. Aircraft system program managers and Lead MAJCOM requirements personnel collaborate on the implementation of a flight data collection process, following the direction of AFI 63-101/20-101. Other data-centric programs, such as the Aircraft Structural Integrity Program, Engine Structural Integrity Program, and mishap investigations, may also use the collected data.

4.2.3.2. Download the aircraft flight data. The data should be downloaded on a schedule that ensures timely data analysis and results in minimal loss of flight operations data due to recorder capacity limitations. Make the flight data files available to the military FOQA analysis process.

4.2.3.3. Process and analyze data.

4.2.3.3.1. Analysis results depend on the quality of the flight data available and the desired depth of analysis.

- 4.2.3.3.2. The AFSEC provides a trained military FOQA analyst to manage the analysis process for one or more fleets. The analyst will conduct initial data validation, provide regular reports for Lead and Using MAJCOM hazard identification and mitigations purposes, and provide the military FOQA trend analysis.
- 4.2.3.4. Distribute analysis results. Provide routine analysis results to MAJCOM representatives from safety, operations, training, maintenance, and engineering functions for review of fleet trends. MAJCOMs establish processes for further distribution of analyses.
- 4.2.3.5. Assess risk, identify mitigation measures, and monitor effectiveness.
 - 4.2.3.5.1. Identify hazards using military FOQA in conjunction with other data sources. Assess the risk associated with the hazards, identify mitigation measures, and monitor effectiveness.
 - 4.2.3.5.2. Mitigation measures vary depending on the hazard and available options to mitigate, ranging from modification of procedures, aircraft limitations, tactics, or training syllabi, to simple aircrew, maintainer, or commander awareness efforts.
 - 4.2.3.5.3. Utilize further military FOQA analysis to monitor effectiveness and determine if further modifications or additional measures are necessary.
- 4.2.4. MAJCOMs without assigned aircraft are not required to implement the military FOQA analysis processes, but when applicable shall support a resolution of the identified hazards.

4.3. (Added-AETC) MFOQA Program Director (PD) Responsibilities.

4.3.1. **(Added-AETC)** The PD is responsible for the overall management, administration, security, and maintenance of the MFOQA program. These duties include interfacing with AETC leadership, pertinent AETC directorates, the MFOQA Steering Committee, the MFOQA Data Manager, and AFSEC MFOQA Program Managers.

4.3.2. (Added-AETC) MFOQA Program Manager (PM) Responsibilities.

4.3.2.1. **(Added-AETC)** The PM is responsible for the management, administration, security, and maintenance of the flight data collection processes for MFOQA equipped aircraft. The PM develops and creates trending products based on inputs from 19 AF/A3, 19 AF/A4 and AETC/A5. The PM supervises and approves all analysis results products created by the Flight Data Analysts and subsequently distributed to respective personnel and agencies. The PM also makes recommendations for change to pertinent AETC and 19 AF directorates based on analysis trends. If requested, and approved by AFSEC MFOQA PMs, the PM may provide analysis results products to Safety Investigation Boards (SIBs). Additionally, if requested and approved by AFSEC MFOQA PMs, the PM may serve as a SIB member.

4.3.3. (Added-AETC) Flight Data Analyst (FDA) Responsibilities.

4.3.3.1. **(Added-AETC)** The FDA's primary duty is to execute the flight data collection process for MFOQA equipped aircraft and analyze raw aircraft data, looking for mishap precursors and fleet wide trends. The FDA will develop and create trending products based on the event sets approved by the MFOQA Program Manager. The FDA will present the data and solicit program feedback from 19 AF/A3, 19AF/A4, AETC/A5 and AETC/SEF

prior to quarterly meetings. The FDA will assist the PM in the day-to-day operation of the MFOQA program and will perform trend analysis of MFOQA data to identify potential problem areas, evaluate corrective actions, and measure performance over time (T-2).

4.3.4. (Added-AETC) Gatekeepers.

4.3.4.1. (Added-AETC) Gatekeepers are normally flying squadron **Flight Safety Officers (FSO)** but bases may decide that additional duty is better served from the Wing FSO position. If so, the wing gatekeeper must be current and qualified for the respective MFOQA aircraft. Gatekeepers serve as the FDA's conduit for authenticating data needing explanation or requiring follow-up action on an aircraft. Gatekeepers are empowered to research "why" the data happened with the affected aircrew. The gatekeepers will keep the research results (aircrew, event) anonymous and de-identified. They are not required to discuss the identity of the aircrew with squadron leadership unless compelling evidence exists, in the interest of flight safety, that this info be discussed with the DO or CC (e.g., pilot is having significant personal problems affecting performance; repeat performances [flap over-speeds, over-G's, etc.] could be avoided with additional training) (T-3).

4.3.5. (Added-AETC) Data Collection, Analysis, and Reporting Procedures.

4.3.5.1. (Added-AETC) **Data Collection: (T-6)** T-6 data analysis stems from the MFOQA file recorded on the PCMCIA card. Cards are removed approximately every 10 work (fly) days and replaced with a re-formatted (empty) card. The pulled card is taken to the Contractor Operated Main Base Supply (COMBS) facility where the MFOQA file is packaged into a format suitable for internet/web transfer. After file packaging, the card is re-formatted for subsequent usage. Each AETC T-6 has two dedicated cards for use only in that aircraft. Additionally, the T-6 has a cockpit over-G warning light which illuminates after landing indicating a potential over-G condition occurred during the sortie. This light will extinguish when a re-formatted card is installed. COMBS computer software will indicate whether a potential over-G condition exists in the data when the card is inserted into a card reader.

4.3.5.2. (Added-AETC) **Analysis:** The MFOQA file is internet-sent to the USAF's MFOQA data processing and storage website (Integrated Risk Information System [IRIS]). The results of MFOQA file data processing are generally categorized into triggered events (TEs) and routine operational measurements (ROMs). TEs highlight exceedances (close to or actual) of aircraft operational limits (e.g., over-speeds, over-G's, over-temps, etc.) while ROMs capture aircraft operational performance at analyst-designated points of interest (e.g., takeoffs, landings, spins, practice emergency landing patterns, stability demonstrations, etc.). After data has been processed, the FDA can review, validate, and compile reports on what the MFOQA analysis has produced. The MFOQA software allows multiple options for data analysis and comparison based on dates, locations, TE severity, ROM instances, etc.

4.3.5.3. (Added-AETC) **Reporting Procedures:** The FDA provides unit-specific analysis results products approximately monthly or more often as needed. These products are sent to pertinent operations and maintenance leadership along with the gatekeepers. Additionally, quick turn/same day analysis (data clips, video animations, etc.) is available provided the file has been IRIS-uploaded. Coincident as part of the quarterly update briefing, aggregate (fleet) ROM/TE analysis and unit comparison (other bases, AETC

average) briefing slides are produced and provided to pertinent T-6 unit leadership and AETC/19 AF POCs. An MFOQA Update Newsletter acts as an executive summary for these slides. T-6 units typically disseminate their analysis results via morning briefings, ops notes, CT/IP Meetings, or Group SIIs. The MFOQUA PM will review these slides and coordinate changes if any operational or maintenance procedures need modifications. Additionally, the PM schedules, organizes, and facilitates a quarterly MFOQA and ASAP Steering Committee Meeting. Pertinent 19 AF/A3, A4, A5 and AETC SEF POCs attend along with dial-in telecom opportunities for AFSEC and T-6 base ops/safety/maintenance MFOQA leadership. Meeting agendas typically highlight any ongoing MFOQA issues, “deep-dive” analysis project results or case studies (e.g., solo student performance), ASAP report submission content and actions required, and any other noteworthy MFOQA or ASAP-related issues. The PM develops meeting minutes and distributes them along with meeting slides to pertinent T-6 unit leadership and AETC/19 AF POCs.

4.3.6. (Added-AETC) Aircrew and Unit Protections: Just Culture is when an organization fosters an atmosphere of mutual trust and is paramount for the purposes of MFOQA. Successfully establishing and maintaining a Just Culture is based on trust by the aircrews that they will not be punished for honest mistakes and understanding by unit leadership that AETC is not usurping their authority or micro-managing their operations. Specific protective provisions which protect AETC crewmembers from adverse actions as a result of the information and data collected and analyzed by the MFOQA program are keys to the success of the AETC MFOQA program. The identity of individual crewmembers cannot be associated with MFOQA data except for the purposes of gatekeeper-crew contact. MFOQA data (sole source) can't be used to change a student's overall sortie grade, an IP's check ride, or un-qualify (Q2/Q3) an IP. Similarly, data will not be used to exonerate a student/IP from a downgrade if the data showed no violations/errors occurred. Stated succinctly, MFOQA data stays out of student grading and IP qualification processes. Additionally, data generated from the MFOQA process will not be used to monitor aircrew performance to initiate punitive or adverse action. However, and to be perfectly clear, in cases of intentional disregard for safety, MFOQA analyses may be used for punitive or adverse action after appropriate Flight Safety review and with commander's concurrence (**T-2**).

Chapter 5

LINE OPERATIONS SAFETY AUDIT (LOSA)

5.1. Purpose.

5.1.1. LOSA is an observation program developed to gather safety-related data on environmental conditions, operational complexity, and human factors issues during everyday flying operations. MAJCOMs may choose to conduct LOSAs within their MAJCOM to collect data confidentially on situational factors and personnel behavior encountered in day-to-day operations.

5.1.2. LOSA is based on threat and error management as described in AFI 11-290, *Cockpit/Crew Resource Management Program*. This document conceptualizes operational activity as a series of ongoing threats and errors that personnel must manage to maintain adequate safety margins.

5.1.3. LOSA contributes to proactive safety by identifying the threats personnel face, the common errors personnel experience, and the best practices employed to trap, mitigate, and manage those threats and errors. The LOSA process provides a thorough and methodical assessment of strengths and weaknesses across the aviation community. With this information, MAJCOMs make improvements to training, Technical Orders, Air Force guidance, and processes to make the environment safer and more efficient.

5.1.4. LOSAs are not checkrides or evaluations; instead, silent observers document operational threats and errors and how they are mitigated or managed. The LOSA provides a snapshot of operational performance across the community, which is then used to make proactive safety changes to prevent future accidents or incidents and improve efficiency.

5.1.5. LOSAs work in concert with military FOQA and ASAP programs to fully develop a proactive safety culture without fear of retribution. Participation and trust in the process are essential for success.

5.2. Scope.

5.2.1. Because a LOSA is an operations audit, it encompasses all operations areas that impact personnel. Many threats and errors before takeoff and after landing affect a mission and can be as detrimental to safety as those in the cockpit during flight. Observations can be conducted on the flight crew, other crew positions, maintenance, airfield operations, and various key personnel.

5.3. LOSA Implementation.

5.3.1. LOSAs may be conducted by a commercial vendor or may be developed and conducted in-house utilizing Federal Aviation Administration Advisory Circular 120-90, *Line Operations Safety Audits*, as a guide.

5.3.2. Major steps in developing and implementing a LOSA:

5.3.2.1. Create an observation form that captures multiple aspects of normal operations, including the operating environment and expected performance.

- 5.3.2.2. Select and train the LOSA observer force for standardization and confidence in the integrity of the data collection process. LOSA observers should be current and qualified in the position they are observing.
- 5.3.2.3. Observers gather threat and error data on a pre-determined number of sorties or activities.
- 5.3.2.4. Subject matter experts review and verify each observation to validate threat and error annotations prior to analysis.
- 5.3.2.5. Develop the analysis report, detailing the prevalence and management of different threats and errors. Errors that occur more frequently than others, standard operating procedures that are routinely ignored or modified, and actions that pose greater difficulty for adherence can help identify targets for improvement.
- 5.3.2.6. The MAJCOM may initiate a Safety Study in AFSAS to transform the LOSA analysis into actionable findings and recommendations.
- 5.3.2.7. Brief the LOSA analysis, findings, and recommendations to leadership for acceptance and implementation.
- 5.3.2.8. Communicate significant LOSA results, findings, and planned system changes to the operators.

JOHN T. RAUCH, Major General, USAF
Chief of Safety

(AETC)

BRIAN L. LAMIRANDE, Colonel, USAF
Director of Safety

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

DODI 6055.07, *Mishap Investigation, Reporting, and Recordkeeping*, 6 June 2011

DoDI 6055.19, *Aviation Hazard Identification and Risk Assessment Programs*, 11 April 2017

DoDM 5400.07_AFMAN 33-302, *Freedom of Information Act Program*, 27 April 2018

Joint Publication 3-30, *Command and Control of Joint Air Operations*, 10 February 2014

AFPD 10-9, *Lead Command Designation and Responsibilities For Weapon Systems*, 8 March 2007

AFPD 90-8, *Environment, Safety and Occupational Health Management and Risk Management*, 14 March 2017

AFPD 91-2, *Safety Programs*, 1 May 2017

AFI 11-202V2, *Aircrew Standardization and Evaluation Program*, 6 December 2018

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

AFI 63-101/20-101, *Integrated Life Cycle Management*, 9 May 2017

AFI 65-503, *US Air Force Cost and Planning Factors*, 13 July 2018

AFI 91-202, *The US Air Force Mishap Prevention Program*, 24 June 2015

AFI 91-204, *Safety Investigations and Reports*, 27 April 2018

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

AFMAN 91-223, *Aviation Safety Investigations and Reports*, 14 September 2018

MIL STD 1530D (USAF), *Aircraft Structural Integrity Program*, 31 August 2016

Federal Aviation Administration Advisory Circular 120-90, *Line Operations Safety Audits*, 27 April 2006

10 U.S.C. § 801-946, *Uniform Code of Military Justice*

10 U.S.C. § 2254a, *Data Files of Military Flight Operations Quality Assurance Systems*

Prescribed Forms

None

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

Acronyms and Abbreviations

AF—Air Force

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AFSAS—Air Force Safety Automated System

AFSEC—Air Force Safety Center

ASAP—Airman Safety Action Program

DoD—Department of Defense

DoDI—Department of Defense Instruction

FOIA—Freedom of Information Act

HQ—Headquarters

IAW—in accordance with

LOSA—Line Operations Safety Audit

MAJCOM—Major Command

Military FOQA—Military Flight Operations Quality Assurance

OPR—Office of Primary Responsibility

PEO—Program Executive Office

UCMJ—Uniform Code of Military Justice

USAF—United States Air Force

Terms

Airman Safety Action Program (ASAP)—An identity protected, self-reporting program designed to encourage the reporting of hazards and errors that increase risk to operations. ASAP is designed to operate in a non-punitive environment for the open reporting of hazards and errors. Reported data is used to reduce mishaps through operational, logistic, maintenance, training, and procedural enhancements. By providing early identification of needed safety improvements, ASAP offers significant potential for mishap avoidance.

ASAP Information—Any analysis obtained through written reports of hazards and errors, consisting primarily of qualitative assessments and anecdotal explanations, as perceived and submitted by personnel associated with flight operations.

De-identification—The action to mask information that could lead to the identity of a hazard report submitter or the identity of others associated with the report. This may include equipment type, owning unit, location, and date.

Gatekeeper—Individuals authorized access to unit, aircrew, or other identifying information (if available) in order to contact aircrew or ASAP report submitters to gather the detail necessary for adequate assessment and mitigation of the hazard or error. Occasionally aviation safety program information, whether the data used for military FOQA analysis or the details provided in an ASAP report, will be insufficient to thoroughly understand the contributing factors to an event or hazard. In these instances, gatekeeper contact with the crew or report submitter may provide additional insight and be beneficial to the hazard resolution process.

Hazard—Any real or potential condition, procedure, or practice that can cause mission degradation; damage to or loss of equipment or property; or illness or injury to personnel.

Identity Protection—Measures taken to prevent the correlation of a particular military FOQA-identified event or ASAP report with a particular individual. Flight information used in the military FOQA analysis does not contain personal information and cannot identify an individual or crew. However, MAJCOMs may correlate the information contained in a digital flight data file with aircrew flight records if it wishes to use a gatekeeper to gather additional information, or to initiate a safety investigation of an event identified through the military FOQA analyses. Additionally, no personal information is required for ASAP report submission, and information that could identify a particular sortie or personal information voluntarily provided by a submitter is masked before the ASAP report is made available for hazard analysis.

Intentional Disregard for Safety—When an individual makes a conscious decision to take actions or handle equipment in a manner not in accordance with flight manuals, job guides, technical orders, or other governing directives for purposes other than preservation of equipment or personnel.

Line Operations Safety Audit (LOSA)—Use of highly trained observers to collect data about personnel behavior and situational factors during normal operations. The observer documents personnel behavior and strategies for managing threats, errors, and undesirable states. Analysis of the aggregated data identifies threats to safety and the development of mitigation measures.

Military Flight Operations Quality Assurance (Military FOQA)—The proactive analysis and trending of aircraft system and flight performance data to both establish a baseline for normal operations and to detect precursors to aviation mishaps, thereby allowing the identification and monitoring of mitigation strategies. Military FOQA allows commanders to quantify risk inherent in flight operations and to manage the risk at a level appropriate for mission accomplishment.

Military FOQA Information—Any analysis, regardless of format or form, created from recorded flight data for the specific purpose of supporting the military FOQA program.

Mishap—An unplanned event or series of events that results in damage to DoD property; occupational illness to DoD personnel; injury to on- or off-duty DoD military personnel; injury to on-duty DoD civilian personnel; or damage to public or private property, or injury or illness to non-DoD personnel caused by DoD activities.

Privileged Safety Information—Information that reflects the deliberative process of a safety investigation or given to a safety investigator pursuant to a promise of confidentiality, which the safety privilege protects from being released outside safety channels or from being used for any purpose except mishap prevention. It includes products such as draft and final findings, evaluations, opinions, preliminary discussions, conclusions, mishap causes, recommendations, analyses, and other material that would reveal the deliberations of safety investigators, including reviews and endorsements. It also includes information given to a safety investigator pursuant to a promise of confidentiality and any information derived from that information or direct or indirect references to that information.

Risk Management—DoD's principle structured risk reduction process to assist leaders in identifying and controlling safety and health hazards and making informed decisions. Risk management includes hazard identification and assessment, the development of controls, and

leadership at the appropriate level of authority making an informed decision to either control the hazard or accept the risk, as described in DoDI 6055.01.

Safety—The programs, risk management activities, and organizational and cultural values dedicated to preventing injuries and accidental loss of human and material resources, and to protecting the environment from the damaging effects of DoD mishaps.

Attachment 2

MILITARY FLIGHT OPERATIONS QUALITY ASSURANCE

COST-BENEFIT ANALYSIS

Note: The following Cost-Benefit Analysis template is provided for stand-alone use by the Lead MAJCOM and program offices, and thus does not follow the numbering formats used in the remainder of AFI 91-225.

+++++

Military Flight Operations Quality Assurance (Military FOQA)
COST-BENEFIT ANALYSIS

I have reviewed the Cost-Benefit Analysis for the military FOQA process implementation on the <aircraft>.

NAME

DATE

NAME

DATE

NAME

DATE

NAME

DATE

<Recommended signatories: Lead MAJCOM A3, A5 and/or A8, Lead MAJCOM SE, and the Air Force Safety Center (AFSEC)>

GENERAL INFORMATION

Overview.

Military Flight Operations Quality Assurance (military FOQA) is the analysis and trending of aircraft performance and system data to identify adverse operational trends and system anomalies that may lead to an aviation mishap. Military FOQA is not a defined technology, but rather a concept that exploits aircraft data and intelligent analysis systems to find and quantify risks. Some aircraft are capable of providing the needed data, whereas others may require modification. The complexity of the modification depends on the current capability and the desired level of analysis sophistication.

Purpose.

DoDI 6055.19, Aviation Hazard Identification and Risk Assessment Programs, directs the establishment of the military FOQA process in all Department of Defense (DoD) aircraft, and the U.S. Air Force defines the requirement in AFI 91-225, Aviation Safety Programs. DoDI 6055.19 also allows an exclusion from the military FOQA implementation requirement for those aircraft where a cost-benefit analysis determines the program is not cost effective.

The simple Cost-Benefit Analysis outlined in this document provides Lead MAJCOMs a format for an initial assessment. This Cost-Benefit Analysis was not designed to generate specific total cost savings; instead, it assigns a value to aircraft cost, remaining service life, mishap rate, fatality rate, and the cost to integrate the military FOQA process on a fleet. The total points assessed are used to determine if a benefit from military FOQA implementation is likely to exist. This format may be used both when military FOQA implementation is not considered cost-effective and to validate a decision to implement the military FOQA process. The aircraft Lead MAJCOM shall document the military FOQA program exclusion decisions in a memo, and submit to AF/SE and AF/A3 for review.

Exceptions.

Generation of a Cost-Benefit Analysis is not required for those platforms whose recorded data is currently used to generate military FOQA analyses or those in the process of fielding an analysis process endorsed by the Air Force Safety Center (AFSEC). No Cost-Benefit Analysis is required when guidance waives the requirement for equipment age or retirement (e.g., Public Law 105-56, Title VIII, Sec 8053).

References.

The following references and statistical reports may be used in the preparation of the military FOQA Cost-Benefit Analysis:

Air Force Safety Center Aircraft Mishap Statistics Charts

AFI 65-503, US Air Force Cost and Planning Factors, 13 Jul 2018

AFI 91-204, Safety Investigations and Reports, 27 Apr 2018

DODI 6055.07, Mishap Investigation, Reporting, and Recordkeeping, 6 Jun 2011

Aircraft Flyaway Cost Table, US Air Force Cost Analysis Agency

METHODOLOGY

This Cost-Benefit Analysis format defines five evaluation criteria and establishes value ranges for each; points are then assigned to each value range. The total point value determines if the aircraft is a viable military FOQA process candidate.

Aircraft Cost.

Consult with the Air Force Cost Analysis Agency, Aircraft and Weapons Division (SAF/FMC-AFCAA/FMA) to determine the average unit Flyaway Cost. The unit flyaway cost provided by AFCAA represents the original purchase price of the aircraft. It does not include costs associated with any modifications that were performed subsequent to the initial purchase and does not account for the depreciation of the aircraft cost over time.

Average Unit Flyaway Cost. The average unit flyaway cost (equivalent to rollaway and sail away) relates to the production of a usable end-item of military hardware.

The following items are included in unit flyaway cost under Appropriation 3010 (Aircraft Procurement):

Airframe

Propulsion

Electronics

Avionics

Engineering Change Orders

Government Furnished Equipment

First destination transportation (unless a separate line item)

System Engineering and Program Management if funded by 3010

Warranties

Recurring costs

Nonrecurring costs

Advance buy costs

Unit flyaway cost does not include:

Research, Development, Test and Evaluation expenditures (Appropriation 3600)

Weapons and armaments (unless part of the airframe, e.g., the 30MM GAU- 81A gun on the A-10)

Peculiar ground support equipment

Peculiar test equipment

Technical data

Initial and replenishment spares

Modifications and upgrades

Example:

A-10A Flyaway Cost - \$13.0M

Service Life In Years.

Service Life in years is determined by the Lead MAJCOM and the platform program office, consulting MIL STD 1530D (USAF), Aircraft Structural Integrity Program, service life guidelines, and the AF Technical Airworthiness Authority in AFLCMC/EN-EZ.

Mishap Rate.

Class A mishaps are those that resulted in loss of life, permanent total disability, or over \$2,000,000 in damage. Utilize the statistical data available in the Flight Statistics section of the AF Safety Center webpage to determine the Class A Mishap Rate per 100,000 hours for the most recent ten fiscal years available. (<https://www.safety.af.mil/Divisions/Aviation-Safety-Division/Aviation-Statistics/>)

Example:

A-10 Mishap Rate FY98-07

14 Class A Mishaps

Flight Rate = Flight Hours/100K Hours = 1,161,725/100,000 = 11.6

Mishap Rate = Mishaps/Flight Rate = 14/11.6 = 1.21

Fatality Rate.

Utilize the statistical data available in the Flight Statistics sections of the Air Force Safety Center webpage to determine the total Fatality Rate per 100,000 hours for the most recent ten fiscal years available.

(<https://www.safety.af.mil/Divisions/Aviation-Safety-Division/Aviation-Statistics/>)

Example:

A-10 Fatality Rate FY98-07

5 Fatalities

Flight Rate = Flight Hours/100K Hours = 1,161,725/100,000 = 11.6

Fatality Rate = Fatalities/Flight Rate = 5/11.6 = 0.43

Integration Cost.

Integration cost is determined by the Lead MAJCOM requirements office in collaboration with system program offices to determine possible aircraft modifications and associated costs which would provide the military FOQA parameters at the desired quality and quantity. The Aircraft Information Management Plan, generated to support the Recorded Aircraft Information data collection requirements outlined in AFI 63-101/20-101, Integrated Life Cycle Management, is a useful reference for determining integration costs.

Criterion Valuation.

Use the Criterion Value Table below to assign a point value (left column) for each criterion. If the point total for all criteria is 12 or below, the cost likely outweighs the benefit, and the military FOQA implementation is not required. If the point total is 20 or above, implement the

military FOQA process as the benefit likely outweighs the cost. If the point total falls within the 13-19 range, the Lead MAJCOM must consider additional factors before making the final implementation decision. Factors such as a recent change to the aircraft mission, Class B, C, and E mishap rates, command or USAF corporate interest or the ease of process implementation may indicate a benefit from military FOQA can be derived.

Criterion Value	Aircraft Cost (M\$)	Service Life (years)	Fatality Rate	Mishap Rate	Integration Cost (M\$)
1	0 - 25	1 - 5	0 - 0.25	0-.50	36 - Above
2	>25 - 50	>5-10	0.26 - 0.50	.51 - 1.00	>32 - 36
3	>50 - 75	>10-15	0.51 - 0.75	1.01 - 1.50	>28 - 32
4	>75 - 100	>15-20	0.76 - 1.00	1.51 - 2.00	>24 - 28
5	>100 - 125	>20-25	1.01 - 1.25	2.01 - 2.50	>20 - 24
6	>125 - 150	>25-30	1.26 - 1.50	2.51 - 3.00	>16 - 20
7	>150 - 175	>30-35	1.51 - 1.75	3.01 - 3.50	>12 - 16
8	>175 - 200	>35-40	1.76 - 2.00	3.51 - 4.00	>8 - 12
9	>225 - 250	>40-45	2.01 - 2.25	4.01 - 4.50	>4 - 8
10	>250 -	>45 - above	2.26 - Above	4.51 - Above	0 - 4

Attachment 3

MILITARY FLIGHT OPERATIONS QUALITY ASSURANCE

EXCLUSION MEMO

TEMPLATE

Note: The following memo template is provided for stand-alone use by the Lead MAJCOM, and thus does not follow the numbering formats used in the remainder of AFI 91-225.

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MEMORANDUM FOR AF/SE
AF/A3
AF/CV
IN TURN

FROM: <Lead MAJCOM>

SUBJECT: Document Exclusion of <subject aircraft> From Military Flight Operations Quality Assurance Program Participation

DoDI 6055.19, Aviation Hazard Identification and Risk Assessment Programs, and AFI 91-225, Aviation Safety Programs, require the incorporation of the military FOQA process requirements and analysis capability on all legacy and new weapon system procurements unless a cost benefit analysis indicates implementation is not cost effective. Military FOQA is the analysis and trending of aircraft system and flight performance data to enhance combat readiness through improvements in operations, maintenance, training, and safety functions.

<Lead MAJCOM> utilized the following military FOQA Cost-Benefit Analysis and determined military FOQA process implementation is not fiscally feasible on the <subject aircraft>.

COST-BENEFIT ANALYSIS

Methodology - The military FOQA Cost-Benefit Analysis defines five evaluation criteria. Value ranges for each criterion are outlined in the Criterion Value Table below (left column), with points assigned to each value range. If the point total for all criteria is 12 or below, the cost likely outweighs the benefit. If the point total is between 13 and 19, the benefit may outweigh the cost and further research is needed. If the total is over 19, a benefit can be derived from the implementation of the military FOQA process.

Criteria:

Aircraft Cost - Utilizing the established Air Force cost inflation methodology, the <aircraft> value in <previous calendar year> is approximately <dollar amount>.

Service Life - As determined by the <aircraft> program office, the <aircraft> has approximately

<years> of its service life remaining.

Mishap Rate – Utilizing the statistics available in the Flight Statistics section of the AF Safety Center webpage, the fatality rate per 100,000 flight hours for the <aircraft> over the last ten years is <rate>.

Fatality Rate – Utilizing the statistics available in the Flight Statistics section of the AF Safety Center webpage, the Class A Mishap rate per 100,000 flight hours for the <aircraft> over the last ten years is <rate>.

Integration Cost/Effort – Working with MAJCOM requirements personnel, the <aircraft > program office, and referencing the Aircraft Information Management Plan, <outline potential modifications and costs which would enable the military FOQA process.>

Criterion Value	Aircraft Cost (M\$)	Service Life (years)	Fatality Rate	Mishap Rate	Integration Cost (M\$)
1	0 - 25	1 - 5	0 - 0.25	0-.50	36 - Above
2	25 - 50	6-10	0.26 - 0.50	.51 - 1.00	32 - 36
3	50 - 75	11-15	0.51 - 0.75	1.01 - 1.50	28 - 32
4	75 - 100	16-20	0.76 - 1.00	1.51 - 2.00	24 - 28
5	100 - 125	21-25	1.01 - 1.25	2.01 - 2.50	20 - 24
6	125 - 150	26-30	1.26 - 1.50	2.51 - 3.00	16 - 20
7	150 - 175	31-35	1.51 - 1.75	3.01 - 3.50	12 - 16
8	175 - 200	36-40	1.76 - 2.00	3.51 - 4.00	8 - 12
9	225 - 250	41-45	2.01 - 2.25	4.01 - 4.50	4 - 8
10	250 - Above	45 - above	2.26 - Above	4.51 - Above	0 - 4

Valuation – Utilizing the valuation criteria, the <aircraft> scored <points>, and the implementation of the military FOQA process will likely not provide a cost benefit. <State additional factors for consideration if the criteria total fell between 13 and 20.>

CONCLUSION:

Exclude <aircraft fleet> from the military FOQA implementation requirements of DoDI 6055.19 and AFI 91-225.

NAME

Lead MAJCOM/CV

CC: AF/PEO Acft