



Aviation Safety and Quality Program Manual

December 13, 2021

Acknowledgements

The Bowling Green State University Aviation Studies program leadership, faculty and staff would like to recognize and thank Mr. Alex Dershem (AVS FTO major) for his significant contributions in working with Dr. Michael Ferguson (Aviation Program Director) on the creation of this manual. His sacrifice, inputs, and devotion to this project and to the furtherment of safety in the AVS program cannot be overstated and we express our heartfelt thanks to him for his dedication and excellence. Thanks Alex, fantastic job!

We would also like to acknowledge the sixty AVS students who were enrolled in AERT 4600 – Safety Management Systems in Spring 2021. These students worked in teams on specific SMS elements as an assigned class project. The goal of the project was to have the student teams create SMS-focused projects to be incorporated into this manual. Specific sections of this manual were created by some of these students and their work was modified and adopted. We would like to recognize and thank these students for their contributions to this manual. To the students: Your work is being utilized to improve safety for present and future generations of BGSU AVS students and stakeholders and for that we are grateful. Thanks everyone!

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Aviation Safety & Quality Program – Preface

Purpose

This manual is the guiding document for the creation and revision of the Bowling Green State University Aviation Safety and Quality Program (ASQP). The manual contains specific safety elements, including the four pillars of SMS: Safety policy, safety risk management, safety assurance, and safety promotion. The manual also provides procedures for hazard and event reporting, safety communications, safety and risk assessment, safety event investigation, and other pertinent safety-related topics.

Intended User

The intended user for this manual includes all BGSU Aviation Studies (AVS) participants; including students, faculty, staff, Bowling Green Flight Center (BGFC), and other stakeholders.

Expectations

Procedures and policies contained within this manual are expected to be followed by all AVS participants.

Content Management

To ensure it is preserved and updated in a timely manner, the Aviation Program Director (APD) may assign responsibility to an authorized designee to update the manual.

Distribution

This manual shall be made electronically available by the AVS. References and subject matter contained within shall be integrated within other applicable BGSU materials, as necessary. Distribution, accessibility, revision, control, and content consistency are to be fulfilled in accordance with procedures established by the ASQP.

Controls

Any time a change is made to the content or controls enclosed in the ASQP, the APD or authorized designee will make the required change(s) to the manual.

Process Management

To ensure conformity, the APD and the ASQP committee will verify annually that all areas of this manual are current and accurate.

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Safety Terms Glossary

The terms and acronyms listed below are adapted from ICAO SMS Manual, FAA SMS Framework, and 14 CFR Part 1.

Acceptable Level of Safety Performance (ALOSP). The minimum level of safety performance of civil aviation in a State, as defined in its State safety program, expressed in terms of safety performance targets and safety performance indicators.

Acceptable Risk. The likelihood of a potentially hazardous event has been reduced to the point where stakeholders are willing to be subjected to this risk.

Accident. An occurrence associated with the operation of an aircraft that takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage (49 CFR 830.2, Definitions).

Analysis. The conversion of data into information, to identify measures that predict safety related problems to allow risk-management decision making, by the identification of trends, deficiencies, and root causes. This involves the processes of identifying a question or issue to be addressed, modeling the issue, investigating model results, interpreting the results, and making a recommendation. Analysis typically involves using scientific or mathematical methods for evaluation.

Audit. The independent examination of the quality of the safety management systems as well as the effectiveness of those participating.

Competency. An observable, measurable set of skills, abilities, expertise, or other characteristics that individual needs to possess in order to perform specialized tasks successfully. Usually required at different levels of proficiency depending on the roles or function.

Controls. Controls are elements of the system, including hardware, software, special procedures, or procedural steps, and supervisory practices designed to keep processes on track to achieve their intended results. Organizational process controls are typically defined in terms of special procedures, supervisory and management practices, and processes. Many controls are inherent features of the SMS Framework. Practices such as continuous monitoring, internal audits, internal evaluations, and management reviews (all parts of the Safety Assurance (SA) component) are identified as controls within the design expectations. Additionally, other practices such as documentation, process reviews, and data tracking are identified as controls within specific elements and processes.

Continuous Monitoring. Formalized day-to-day monitoring of the systems activities and input from employees through employee reporting systems.

Corrective Action. Action to eliminate (remove) or mitigate (lessen) the cause or reduce the effects of a detected nonconformity or other undesirable (unwanted) situation.

Documentation. Information or meaningful data and its supporting medium (e.g., paper, electronic, etc.). In this context, documentation is different from records because documentation is the written description of policies, processes, procedures, objectives, requirements, authorities, responsibilities, or work instructions; whereas records are the evidence of results achieved or activities performed.

Evaluation. An independent review of organization policies, procedures, and systems (refer to AC 120-59, current edition). If accomplished by the organization itself, the evaluation should be done by a person or organization in the organization other than the one performing the function being evaluated. The evaluation process builds on the concepts of auditing and inspection. An evaluation is an anticipatory process designed to identify and correct potential problems before they happen. An evaluation is synonymous with the term systems audit.

Function. A function consists of specific or discrete actions required by a system to achieve an objective (e.g., an operation that a system must perform to accomplish its mission, such as a maintenance action required to restore a system to operation). Such actions may be accomplished using equipment, personnel, facilities, firmware, software, or a combination thereof. In a broader sense, the term function refers to what is expected to be incorporated into each system rather than how the system accomplishes its objective. This makes for a more performance-based system and allows for a broad range of techniques to be used to accomplish the performance objectives. This, in turn, maximizes scalability while preserving standardization of results across the aviation organization communities.

Hazard. A condition that has the potential to cause damage, injury, or death to people or property.

Incident. An occurrence other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operations (49 CFR 830.2, Definitions).

Internal Audit. A function of quality control used by managers of operational departments to ensure that deficiencies within their area of responsibility are reported and all risks are mitigated to an acceptable level.

Just Culture. The organization should engage in identification of systemic errors, implement preventative corrective action, and exhibit intolerance of undesirable behaviors such as recklessness or willful disregard for established procedures.

Likelihood. The estimated probability or frequency of an event occurring, usually related to hazards.

Management Review. Top management reviews the SMS and include assessing the performance and effectiveness of an organization's operational processes and the need for improvement.

Objective. The desired state or performance target of a process. Usually, it is the final state of a process and contains the results and outputs used to obtain the desired state or performance target.

Open Reporting. Allows disclosure of error without fear of reprisal, yet it should also demand accountability on the part of employees and management alike.

Organization. Any organized group providing or supporting aviation services. Can include pilot schools, maintenance operations, fuel delivery, etc.

Outputs. The product or result of an SMS process that is easily measured in quantifiable terms when possible. Measures should provide evidence of improved safety. Outputs are the minimum standard for safety and the inputs for the next stage of the SMS process.

Oversight. A function performed by a regulator or independent third party that ensures that safety standards and regulations are being upheld and complied with.

Procedure. Specified and standardized methods of carrying out activities.

Risk The combined likelihood and severity of an event or hazard.

Risk Control. A means to reduce or eliminate the effects of hazards.

Risk Mitigation. Taking steps to identify and reduce risk down to an acceptable level.

Root Cause. The initial cause of a chain of events that leads to an aircraft accident or incident.

Safety. The state in which risks associated with, related to, or in support of the operation of aircraft has been reduced to an acceptable level.

Safety Assessment. A term used in other ICAO documents to refer to a hazard identification and safety risk mitigation process.

Safety Culture. Individuals' as well as the organization's utmost importance being placed on safety and risk mitigation. Positive safety cultures aim to reduce negligence and increase safety.

Safety Data. A defined set of facts or set of safety values collected from various aviation-related sources, which is used to maintain or improve safety.

Safety Oversight. A function performed by a State to ensure that individuals and organizations performing an aviation activity comply with safety-related national laws and regulations.

SMS. The formal, top-down business-like approach to managing safety risk using procedures, practices, policies, and promotion.

Safety Risk. The predicted probability and severity of the consequences or outcomes of a hazard.

Safety Risk Management (SRM). A process within the SMS composed of describing the system, identifying the hazards, and analyzing, assessing, and controlling risk.

Acronyms/Abbreviations

AC Advisory Circular

ALARP As low as reasonably practicable

APC Aviation Program Coordinator

APD Aviation Program Director

ASQP Aviation Safety and Quality Program

AVS Aviation Studies program

BGFC Bowling Green Flight Center

BGSU Bowling Green State University

CEAP Comprehensive Emergency Action Plan

CTAAE College of Technology, Architecture, and Applied Engineering

ERP Emergency response plan

FAA Federal Aviation Administration

GM General Manager

ICAO International Civil Aviation Organization

SA Safety Assurance

SHEL Software, hardware, environment, liveware

SOP Standard Operating Procedures

SM Safety management

SMS Safety Management System

SRM Safety risk management

Aviation Safety and Quality Program

According to the contract established between Bowling Green State University (BGSU) and Bowling Green Flight Center (BGFC), dated September 26, 2019, the Aviation Safety and Quality Program (ASQP) is a joint effort and shared responsibility between the two organizations.

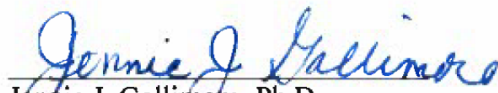
The ASQP is the single, integrated safety program of the Aviation Studies program and this manual serves as the guiding document of the ASQP.

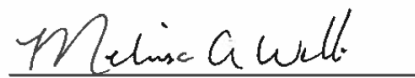
BGSU-BGFC Contract Agreement

2.3.1 Aviation Safety and Quality Program (ASQP)

- BGSU and BGFC are jointly responsible for contributing to the Aviation Safety and Quality Program (ASQP)
- The ASQP Committee is responsible to actively develop, review, revise, and facilitate the safety and quality program
- The ASQP Committee shall establish and assess safety goals and ensure continuous improvement of the safety culture and program consistent with the mission and educational goals of the aviation program and institution

As signed on this day, December 13, 2021:


Jennie J. Gallimore, Ph.D.
Professor and Dean
College of Technology, Architecture,
and Applied Engineering


Melissa Webb
General Manager
Bowling Green Flight Center



BOWLING GREEN STATE UNIVERSITY

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Aviation Studies Safety Policy Letter

My #1 priority for the Bowling Green State University (BGSU) Aviation Studies program is to create and maintain a safety culture and safety excellence where all affiliated students, faculty, and staff operate in a safe, healthy, and secure working environment. As Dean, I am ultimately responsible for the safety and wellbeing of all personnel within the BGSU Aviation Studies program and I pledge the following:

- (1) A PRODUCTIVE AND EFFECTIVE "SAFETY CULTURE":
 - o Encouragement, promotion and active engagement in a "safety-first" mindset;
 - o Implementation of safety processes and procedures that are adaptable to any and all operational or environmental changes to the aviation program;
 - o Mechanisms which allow anonymous communications and non-retribution reporting.
 - o The Aviation Safety and Quality Program (ASQP) will ensure continuous improvement of the safety culture and safety program consistent with the mission and educational goals of the aviation program.
- (2) MAINTAIN A SAFETY MANAGEMENT SYSTEM (SMS) WITHIN FLIGHT OPERATIONS:
 - o BGSU and The Bowling Green Flight Center, LCC (BGFC) are obligated and jointly responsible for contributing to the ASQP Committee;
 - o BGSU and BGFC will work together in partnership to maintain the SMS program that fully incorporates the four pillars of Safety Policy, Safety Risk Management, Safety Assurance and Safety Promotion.
- (3) ENCOURAGEMENT AND PROMOTION OF SAFETY:
 - o You are empowered; your participation is encouraged and valuable. If you see something unsafe or may even appear unsafe, you can make appropriate decisions necessary to ensure safety is not compromised or overlooked.
 - o You have my full support. Your actions will be non-punitive and all students, faculty, and staff have the ability to make an anonymous safety report, when necessary.
 - o Safety is everyone's responsibility. The aviation program maximizes safety performance by identifying and reporting hazardous activity and when appropriate, mitigates or eliminates those risks to safety.

As signed on this day, March 20, 2020:

Jennie J. Gallimore, Ph.D.
Dean
College of Technology, Architecture &
Applied Engineering

Chapter 1 – Introduction and Overview

1.0 Introduction to the Manual

This safety program manual was created utilizing information from various sources including FAA 120-92B: Safety Management Systems for Aviation Service Providers; the FAA Safety Management System Framework Guide and SMS Assurance Guide; and ICAO 9859: Safety Management Manual. Other aviation industry SMS resources were also utilized for deriving ideas, content, and manual structure, including the Bowling Green Flight Center Safety Management System Manual. As described in the Acknowledgements section, several sections contained herein were created by students in the Spring 2021 AERT 4600 - SMS class at BGSU.

This manual outlines the Aviation Safety and Quality Program (ASQP). All AVS participants are expected to actively participate in this program to achieve the highest level of safety, and ensure adherence to applicable federal, state, and local regulations. As part of the ASQP, each participant shall be accountable for the safe performance of all AVS-related actions and operations. The components of this manual are used as an operational guide for daily tasks of all AVS safety program activities and operations. The ASQP is a systematic process for the management of all safety concerns of the AVS.

The ASQP is a vigorous safety program involving student leaders, faculty, and BGFC leadership. The program adheres to the established regulations and requirements as directed by the FAA, shares a voluntary confidential safety incident reporting system with BGFC, and an all-inclusive accident/emergency response plan in coordination with BGFC to ensure safety and foster a just safety culture in AVS.

Bowling Green Flight Center (BGFC) works collaboratively with the ASQP committee to develop and maintain a Safety Management System (SMS). The SMS shall be structured according to FAA directives. Additionally, BGFC is an active participant in the FAA Voluntary SMS program (SMSVP) as a Part 141 certificate holder.

BGSU FTO students are each provided access to an electronic copy of the Flight Student Handbook which outlines procedures, operations, and safety practices at BG Flight Center and during training flight. Every student and flight instructor are required to read and understand this handbook.

1.1 The Pillars of SMS

SMS is comprised of four specific components or “pillars”: Safety Policy, Safety Risk Management, Safety Assurance, and Safety Promotion. This manual and program are based on these four pillars; a brief definition of each is provided below:

- 1.1.1 Safety Policy** is concerned with the oversight and management of safety, enterprise-wide through the creation of policies, procedures, controls, documentation and corrective actions to ensure safety initiatives are specific and intentional throughout the entire organization.
- 1.1.2 Safety Risk Management** is the systematic process of proactive hazard identification, the assessment of the associated risk(s), and the mitigation of risk to an acceptable level. This is accomplished through the creation and implementation of specific controls designed to reduce risk to a level that is as low as reasonably practicable (ALARP).
- 1.1.3 Safety Assurance** ensures risk mitigation controls are effective and the organization consistently monitors the controls to keep risk at acceptable levels. Associated processes include auditing, internal evaluation, data acquisition, and change management. The goal is continuous safety improvement throughout the organization.
- 1.1.4 Safety Promotion** is the on-going process of communicating and proactively promoting safety at throughout the organization. Senior leadership must continuously just safety culture within the entire organization. Key elements are include providing safety training for all personnel, the active promotion of safety information consistently, and the clear communication of safety outcomes and lessons learned.

1.2 AVS ASQP Program

The ASQP is a joint effort between AVS leadership, faculty, staff, and students, and the leadership of BGFC. This joint safety effort is primarily exemplified through the Aviation Safety and Quality Program (ASQP). The ASQP committee serves as the governing body over the ASQP. The ASQP committee shall be comprised of the APD, Faculty Liaison, Flight Training Standards Pilot Evaluator, student representatives, as well as BGFC representation by the Safety Manager, Chief Instructor, a Flight Instructor representative, and a maintenance representative.

A BGSU FTO specialization personnel will chair the committee, in collaboration with BGFC’s Safety Manager, to organize and plan agendas for the committee meetings and ensure input may be provided by all stakeholders.

The purpose of the ASQP is to promote the safety of all AVS participants and other stakeholders. The ASQP committee works to ensure all AVS activities and operations are compliant with FAA regulations and to abide by the rules and guidelines established by BGSU and BGFC. Safety is our highest priority, and all operations will be monitored by leadership, faculty, students, and other approved personnel.

1.2.1 ASQP Goals

- Develop a strong just safety culture
- Ensure the emphasis and teaching of safety practices to all AVS students
- Maintain and encourage participation in a robust voluntary confidential safety incident reporting system
- Encourage maximum participation/attendance at safety workshops for students and staff

1.2.2 ASQP Responsibilities

ASQP responsibilities are as follows:

- BGSU and BGFC are jointly responsible for contributing to the Aviation Safety and Quality Program (ASQP).
- Develop, review, revise, and facilitate the ASQP.
- Establish and assess safety goals and ensure continuous improvement of the safety culture and program consistent with the mission and educational goals of the aviation program and institution.

1.2.3 Safety Program Oversight

In accordance with the BGSU/BGFC contract, the APD will oversee the ASQP and may establish and modify the instructions, information, policies, and procedures contained within the manual in conjunction with the ASQP committee. The APD will work in partnership with the BGFC Safety Manager in oversight of the ASQP committee.

1.3 Safety Management Process

The processes of safety management (SM) and SMS are designed to transform the safety of an organization from being strictly reactive, to becoming increasingly proactive, and finally, into the state of becoming predictive. Reactive processes are those actions taken in response to undesired safety issues. Proactive processes are those taken by the organization that seek to actively identify issues before they become a problem. An organization that is predictive uses SMS processes to anticipate future occurrences based on historical data, continuous system monitoring, and a clear understanding of the dynamics of their operations. All three components are necessary parts of SM and SMS. Figure 1 provides an illustration of the safety transformation process. Continuous safety improvement is the goal of this process.

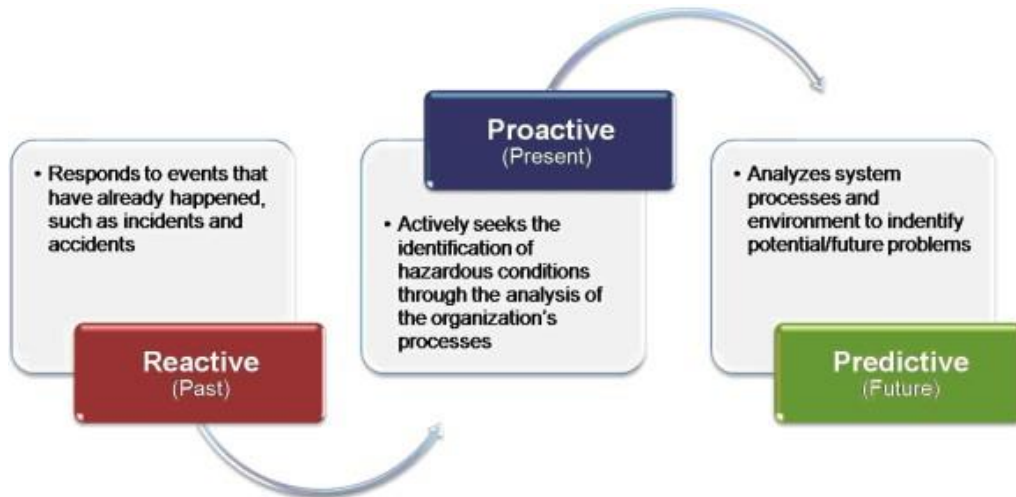


Figure 1 – Safety Management Transformation Process
(Source: faa.gov)

Chapter 2 - Safety Policy

2.0 AVS Safety Policy

The primary function of AVS is to provide an environment that promotes a safe, compliant, and positive educational/training environment for all participants. Strict adherence to safety procedures determines to a large extent the success of the AVS. Safety shall not be sacrificed in favor of efficiency.

AVS and BGFC work jointly to prevent accidents, incidents, injuries, and other safety events through the active participation of every stakeholder in the elements of the ASQP. AVS and BGFC will conduct operations in a manner that promotes the safety of all AVS participants and other stakeholders. Safety is vital to all operations and must be included in every area of AVS.

To promote the highest level of safety, AVS and BGFC commit to the following practices:

- Provide systems and processes to promote, monitor, and follow-up on safety issues with a view towards innovation and improvement in safety policies and practices
- Work to ensure a just, non-punitive safety culture dedicated to continuous improvement
- Abide by FAA regulations, safety guidance and attributes
- AVS students, faculty, staff, and BGFC personnel are encouraged to speak up with safety concerns, events, and ideas
- Safety goal setting and performance measurements
- Encourage systematic identification of hazards, mitigation of risk, and safety reporting
- Ensure accidents, incidents, and injuries are investigated to determine root causes and implement corrective actions/controls to help prevent recurrence
- All AVS participants are responsible to comply with established safety policies and procedures, giving primary consideration to their own safety and the safety of others

2.1 Just Safety Culture

AVS and BGFC promote the enhancement of our safety culture by encouraging all stakeholders to proactively identify and report safety concerns, events, and ideas, without the fear of reprisal or penalty. This is to reinforce the importance of a just safety culture in AVS. We define a just safety culture as one where mistakes/errors occur, and the individuals involved are not disciplined for “honest errors” and mistakes which are reported in good faith. This policy of no reprisal does not apply to events that occur due to illegal acts, intentional violations of regulations, or events that occur due to the use of illicit drugs and alcohol.

AVS and BGFC have jointly incorporated a non-punitive reporting process to enhance the safety of everyone in AVS. By fostering and promoting a just safety culture, we ensure that AVS faculty, staff, students, and BGFC personnel will be open to reporting safety hazards, events and ideas. This non-punitive process will help to ensure a just, unified, and proactive culture in AVS.

2.2 Organizational Structure and Responsibilities - Key Safety Personnel

By defining the role of key safety personnel, these individuals become responsible for promoting, enforcing, and communicating with others in the safety program. The key personnel are responsible for maintaining an effective ASQP. Key AVS/ASQP safety personnel are as follows:

2.3.1 Dean of College of Technology, Architecture, and Applied Engineering

The Dean of the College of Technology, Architecture, and Applied Engineering is a member of the ASQP and has the responsibility of serving as the Accountable Executive for the ASQP.

2.3.2 Chair of Department of Engineering Technologies

The Chair of the Department of Engineering Technologies is a member of the ASQP and provides support, oversight and guidance to the ASQP.

2.3.3 Aviation Program Director

The APD is responsible for the oversight and management of the ASQP. The APD interfaces regularly with BGFC to ensure a joint safety effort.

2.3.4 Aviation Program Coordinator

The Aviation Program Coordinator is a member of the ASQP and represents the AVS. The Aviation Program Coordinator works directly with other ASQP members to provide oversight of the ASQP.

2.3.5 AVS Student Representative

These select students are members of the ASQP and serve in the role of liaisons for the AVS students. They are the primary student body connection and representatives of the student body within the ASQP structure.

2.3.6 BGSU Director of Risk Management

The BGSU Director of Risk Management is an ASQP member who leads risk mitigation in various aspects of BGSU campus operations. The Director oversees operations and activities including risk assessment, planning, clubs, vehicle/facility use, and travel.

2.3.7 BGSU Manager of Emergency Response

The BGSU Manager of Emergency Response is a member of the ASQP. The manager is charged with providing BGSU emergency response information to the ASQP.

2.3.8 BGFC Chief Flight Instructor

The Chief Flight Instructor will be an active member of the ASQP. This individual will be a key individual in addressing any safety issue as they develop and maintaining FAA compliance. This person is responsible for the on-going flight training safety practices and risk management for BGSU flight training. In addition, this person will ensure each newly hired flight instructor is properly trained to teach and practice the established flight training safety practices.

2.3.9 BGFC General Manager

The General Manager (GM) of the BGFC is a member of the ASQP and is responsible for communicating concerns and safety practices within the BGFC to other members of the ASQP. The GM meets weekly with the APD to address safety, administrative, student and operational issues.

2.3.10 BGFC Safety Manager

The BGFC Safety Manager will co-chair ASQP committee meetings. This individual will discuss safety issues relating to BGSU students that develop with the BGSU FTO Specialization personnel, the APD, and BGFC Leadership. This individual is also responsible for the upkeep and maintenance of the BGFC SMS program.

2.3.11 BGFC Director of Maintenance

The BGFC Director of Maintenance is a member of ASQP. The Director provides updates and information to the ASQP on aircraft maintenance issues and status.

2.3.12 Manager of Wood County Airport

As a member of the ASQP, the manager of Wood County Regional Airport is responsible for communicating with the ASQP regarding details and changes concerning the airport.

2.3.13 BGSU FTO Specialization Personnel

The BGSU FTO Specialization personnel will be a BGSU Aviation faculty member and will co-chair the ASQP committee with the BGFC Safety Manager. The BGSU FTO Specialization personnel will be appointed by the APD.

2.4.14 Ad-Hoc Members

The ASQP committee may add ad-hoc members to the committee to meet the current and

future needs of the AVS safety program. Ad-hoc members serve a maximum one-year term and must be approved unanimously by the ASQP committee.

2.3 Emergency Response and Preparedness

An Emergency Response Plan (ERP) establishes the course of action taken in the event of a variety of emergencies, from a medical emergency involving one person, to a multi-victim event or accident that may or may not involve an aircraft or aviation-related operations. ERP lays out the formal notification process that should occur in the event of an accident or incident. The ERP notification process applies to all accidents and incidents, regardless of aircraft involvement.

In the event of emergencies involving tornadoes, severe weather, floods, fires, medical emergencies, hazardous materials, suspicious objects or packages, bomb threats, hostile intruders, or other non-aviation related situations, the AVS follows the applicable established BGSU CEAP. For aviation-related events involving BGSU students, faculty, or staff, AVS will follow the BGFC ERP and will also follow the applicable BGSU CEAP emergency response procedures. Joint emergency response exercise drills involving AVS, BGSU Emergency Response, and BGFC will be conducted semi-annually to ensure employees and students are familiar with emergency procedures

Investigations will be conducted for all accidents, incidents, and safety related events. The investigation will aim to isolate the root cause(s) to prevent similar occurrences in the future. Upon establishing a cause-and-effect relationship, a risk assessment shall be performed to assess the severity and likelihood of a similar future event. The investigation shall also determine potential regulatory compliance issues and report all findings to the ASQP committee.

2.4 AVS Safety Reporting

AVS and BGFC encourage the open reporting of safety events and information and encourages the use of our safety reporting systems. Examples of safety items that can be submitted to these systems include, but are not limited to; aviation accidents, incidents/events, injuries, near-miss events, hazards, risks, safety ideas, or even concerns that something may be unsafe. There are virtually no restrictions as to what can be submitted into these database systems, provided what is reported is related to AVS activities and operations.

Safety reports are used to identify potential hazards and associated risks, and to implement controls/corrective actions designed to mitigate risk to acceptable levels. AVS and BGFC offer two safety reporting systems that all AVS participants may utilize to report safety events and information. The first is the VOCUS SMS (VSMS) reporting system. VSMS is easily accessible to all users by going on the BGSU AVS website. VSMS may also be accessed by scanning a QR code that is located throughout BGFC. Any incident occurring at BGFC, Wood

County Airport, or during flight training operations that involve BGFC facilities, grounds, and/or equipment MUST be reported through VSMS.

An alternative option exists for AVS participants to submit a safety report or concern. This database is called the CTAAE Incident Reporting System. The purpose of this alternative reporting system is to provide any user with another means of submitting a safety report. Reports submitted to this system will go directly to AVS and CTAAE leadership. Please note, any incident that involves BGFC facilities, grounds, and/or equipment must be reported through VSMS as well. This system is also easily accessible to all users on CTAAE website. Safety trends collected through these systems shall be shared with the ASQP committee.

Additionally, anyone desiring to submit other safety concerns or ideas may place information in the physical “safety box”, which is located outside the Safety Manager’s office at BGFC. The safety box is to provide users with a manual means of reporting safety information if they are uncomfortable with or unable to access the electronic reporting systems. Any report submitted through the safety box will be entered into the VSMS system, so it can be tracked with all other reports.

2.5 Safety Awards - Good Catch Program

As part of the effort to encourage and promote a just safety culture in which safety reporting is not only allowed, but actively encouraged, the AVS will incorporate a “Good Catch” safety awards program. Any individual whose safety report brings awareness to an unsafe condition will be recognized in a positive manner for their contribution to the continuous improvement of safety within AVS. The “Good Catch” program will promote a positive reporting culture and demonstrate the gratitude and appreciation AVS expresses to all students and employees for reporting safety concerns.

2.6 Documentation and Records Management

The AVS will store, document, and record information in a secure manner. Information storage may be accomplished in paper or electronic form and will be readily accessible. All documentation and records will be maintained in an orderly fashion and be easily identifiable for review.

Chapter 3 – Safety Risk Management

3.0 Safety Risk Management

To establish and maintain a safe operational environment, AVS will incorporate Safety Risk Management (SRM) into the ASQP. SRM is a process that continuously detects, assesses, and mitigates risk in order to enhance operational safety and effectiveness. The goal of SRM is to identify and assess risk in order to mitigate it to an acceptable level. Without SRM, a foundational component of SMS, hazards may go unaddressed and operational safety may be compromised. A quality SMS effectively uses SRM to lower risk to ALARP levels. Despite the presence of an active SMS, all AVS participants involved should continue to exercise good judgement and always maintain situational awareness.

3.1 System and Task Analysis

The SRM system is composed of various stakeholders. Stakeholders may be individuals or group members within the system and can be directly or indirectly connected. The primary AVS stakeholders are AVS faculty, staff and students, BGFC employees, the general public, and other individuals or groups related to the AVS program. The list of AVS stakeholders may fluctuate throughout the on-going ASQP process.

To identify hazards and perform risk analysis, the systems and processes within the AVS will undergo routine analysis, to include both operational and physical areas. The analysis of these systems should sufficiently describe the SHEL interactions among hardware, software, liveware (people), and the environment containing these components. System analysis allows the AVS to gather sufficient data and perform hazard identification and risk analysis.

3.2 Hazard Identification

To begin the risk management process, we will implement appropriate strategies to identify hazards associated with operations. A hazard can be defined as any real or potential condition that may result in damage, injury, or loss of life. Hazard data and information from system analysis will be documented and addressed in a timely manner to reduce the response time in the identification process. We strive to be proactive in identifying hazards, assessing the risks associated with hazards, developing action plans, monitoring controls, and evaluating results.

A risk assessment matrix will be used to assess risk based on severity (potential consequences) and probability (frequency of risk occurring). Until risk is reduced to an acceptable level, the ASQP will continue to take additional risk mitigation steps.

The ASQP shall utilize data from multiple sources, including but not limited to:

- Open safety reporting systems
- AVS audits and evaluations
- Formal investigations
- Safety reports from AVS faculty, staff, students, and other stakeholders
- Front-line employees
- Outside subject matter experts
- Current regulatory guidance
- Equipment inspection and maintenance records

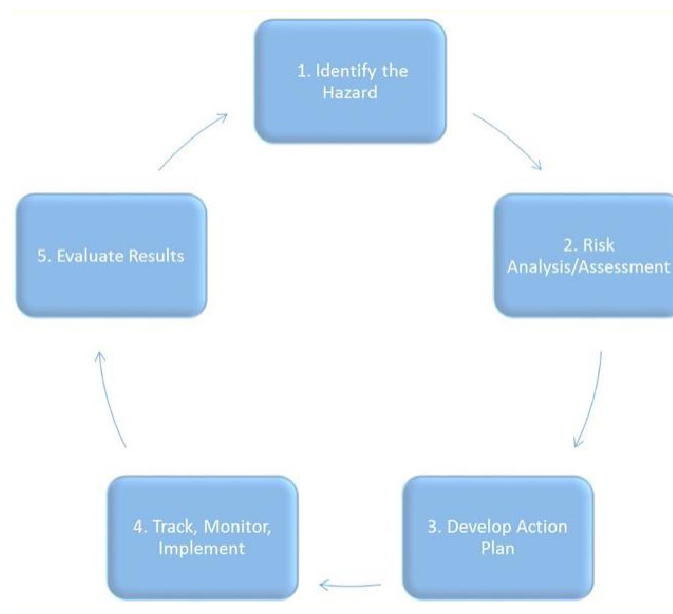


Figure 2: SRM Process

3.3 Risk Analysis

We will perform risk analysis to characterize hazards based on probability and severity. It is important to determine the likelihood of a hazard occurring and the extent of harm it has the potential to inflict. Each risk analysis will be unique and only possible with a thorough understanding of the system in which the hazard exists. In every risk analysis, the ASQP committee may review existing safety risk controls as a baseline for the potential addition or modification of controls.

3.4 Risk Assessment

Once the AVS has completed the risk analysis process, the level of risk will be assessed. The process of conducting risk assessment will allow for the determination of an acceptable safety risk level. The location a risk meets on the severity and probability axis of the risk assessment matrix determines how the risk will be addressed. Some risks may require immediate action and prioritization, while others may be less critical and pose a level of risk that is already acceptable. After completing the risk assessment, results will be shared with the ASQP committee. Specific controls and corrective actions may be created and implemented to mitigate risk.

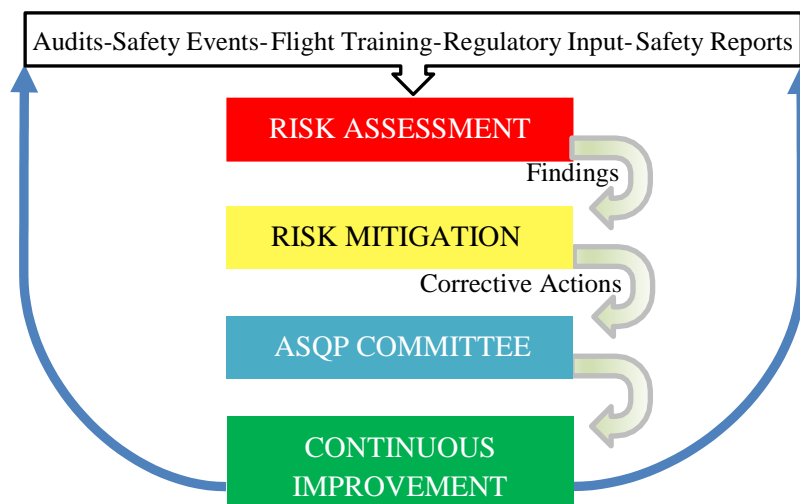


Figure 3: ASQP Risk Assessment Process

3.5 Risk Mitigation and Safety Decision-Making

The development of risk mitigation action plans for existing hazards shall be prioritized based on the level of risk posed by each hazard. The ASQP committee will first address hazards with the highest level of prioritized risk. Risk controls will then be developed, and corrective actions be implemented to transfer, eliminate, accept, or mitigate risk. Any risk that is deemed unacceptable will be prioritized and will involve immediate mitigating actions. Once the action plan is determined, the controls and corrective actions will be implemented and monitored to ensure the desired results are achieved. A key part in the decision-making process for action plans will be the involvement and consultation of any stakeholders who may be impacted by the decisions that are made, including the ASQP committee. Mitigating actions will be modified as needed to ensure effective risk control.

3.6 Safety Risk Management Process

The ASQP aims to achieve a systematic approach to continuous safety improvement within its operations. The cyclical and proactive nature of the SRM process allows the ASQP to ensure all opportunities are taken in improving safety. The identification of causal factors after an undesired event takes place is a reactive approach to risk reduction that can be avoided by embracing the SRM process. Effective use of SRM will allow the AVS to become not only proactive, but predictive in its risk management efforts.

Chapter 4 – Safety Assurance

4.0 Safety Assurance

Safety Assurance (SA) is an ongoing process of safety program evaluation. SA provides confirmation and reassurance that all programs and processes of the ASQP are functional, up-to-date, and effective. SA substantiates that the risk controls for AVS policy and the controls in this manual are implemented as prescribed.

The APD will be responsible for ensuring that internal safety audits and inspections are conducted. These inspections and audits are the foundation of the SA process. Findings and controls/corrective actions associated with findings shall be recorded and maintained. Findings and recommended controls/corrective actions shall be communicated to the ASQP and other stakeholder parties in a timely manner. Issues identified in audits and inspections shall be included in the agenda of subsequent ASQP meetings.

4.1 Information Acquisition

Ideas, concerns, and safety event data will be collected and analyzed to ensure safety and to demonstrate compliance. Data collection methods involved in this process may include audits and inspections, hazard reports, safety reporting system submissions, information learned from incidents/accidents, and flight training records. Data and information will be stored and retained in a secure manner.

4.2 Auditing

Standardization and compliance will be ensured with administered internal and external audits. Auditing provides a comprehensive view of the current system and provides a baseline evaluation of AVS operations. The APD and/or other designated personnel may perform internal audits of the operational processes, systems, and records of the AVS. External audits will be coordinated by the APD and ASQP and will utilize a qualified auditing organization. Audit findings will be recorded and maintained by AVS leadership. Audit and inspection findings shall be communicated to the ASQP and affected parties. Through audit findings, the ASQP will determine areas in need of improvement, including operational processes or system design.

4.2.1 Preventative/Corrective Action

In order to mitigate safety issues uncovered through safety reports or from external and internal audits, preventative/corrective action is necessary. All corrective and preventive action will be non-punitive in nature unless it is determined that gross negligence was at play. Safety lessons learned from safety issues will be considered in the development of preventative/corrective actions. When used correctly, safety lessons learned lead to the

development of best practices. Best practices and safety lessons will be communicated to all participants of the AVS.

4.3 Continuous Improvement

AVS seeks to continuously improve the effectiveness of its safety processes. The ongoing function of the ASQP, safety risk controls, audit and evaluation results, corrective and preventative actions, data analysis, and hazard reporting are the foundation for continuous improvement. The ASQP committee will communicate and demonstrate the goal of continuous improvement to all affected stakeholders of the AVS.

4.4 Safety Event Investigation

The purpose of this section is to provide basic safety event investigation guidelines to those who will conduct investigations. These guidelines are to assist in planning, initiating, concluding, and analysis of a safety event investigation. An investigation may be performed for a variety of reasons including, but not limited to the following:

- Flight operation incidents/accidents
- Pilot deviations
- Runway incursions/excursions
- Aircraft, facility, or vehicle damage
- Injury
- Deviation from Standard Operating Procedures
- Deviation from Federal Aviation Regulations or
- Other AVS incidents
- Bias incidents
- Behavioral misconduct
- Slips/falls

4.4.1 Investigation Purpose

A safety investigation should be viewed as an opportunity to learn from the causal factors in an event to prevent similar occurrences in the future. Learning from an event involves addressing the investigation results and changing company operating procedures or standards accordingly. The objective of investigation is to gather factual information used in the determination of the root cause(s) of the event. The investigation should be conducted in a way that aims to discover what went wrong, rather than who did wrong. To prevent any information from being lost or missed, investigations should take place as soon as possible after notification, and should conclude within a practical and adequate amount of time.

4.4.2 Initial Actions

After a safety event has occurred, several initial action items should be taken. Depending on the severity of the event, these action items may require immediate accomplishment, including, but not limited to:

- Gather all available factual information about the event
- Determine if an investigation team is needed
- If necessary, ensure the security and safety of the event site
- Gather all related information (manuals, records, investigation equipment, etc.)
- Establish a factual understanding of what led to the accident/incident

4.4.3 Investigation Equipment

Prior to arriving at the investigation scene, investigation equipment should be gathered. Equipment may include a digital camera, video camcorder, demarcation materials, maps, measuring devices, and other applicable equipment.

4.4.4 Involved Party/Witness Interviews

One of the most important parts of safety investigations is the interviewing of all the parties directly involved in the event, and any persons who were witnesses. The importance of interviews is found in the fact that they play a crucial part in determining the factual evidence of what led to an event.

All involved parties and witnesses to an event shall be interviewed by BGFC and/or AVS leaders. Involved parties should be made to feel comfortable (as much as possible) before and during the interview to ensure that they are relaxed and willing to openly communicate their knowledge of the event. Interviewers should utilize open-ended questions (who, what, where, when, how, why) during the interview. Yes or no questions may be asked to clarify information. The interviewer should engage in active listening.

4.5 Controls and Safety Recommendations

Following the identification of the root cause(s) of an event and conclusion of the investigation, top priority will be given to implementing specific controls/corrective actions to ensure the prevention of reoccurrences. Oversight of controls and safety recommendations may be provided by the ASQP committee. Benchmarking with other collegiate aviation programs is a good practice that can be used to determine and analyze the effectiveness of applicable risk controls for similar events.

Controls/corrective actions shall be monitored for effectiveness by the ASQP committee, and modifications to controls shall be made as needed. Anyone who has ideas for risk mitigation actions are encouraged to share them with AVS and BGFC. These recommendations may remain anonymous and will be carefully considered.

Chapter 5 – Safety Promotion

5.0 Safety Promotion

Safety promotion involves a combination of training, communication of safety knowledge/information to stakeholders, and other actions that foster a just safety culture and actively support the ASQP. The communication and participation of all AVS stakeholders is key while establishing and maintaining a strong safety culture within the program. We promote safety as an integral core value and will conduct operations commensurate with a just safety culture.

5.1 Just Safety Culture

Through top-down commitment and leadership, AVS is committed to a just safety culture that extends beyond simple compliance with rules and regulations. Our safety program is focused on reducing risk through a just safety culture that is non-punitive and establishes and supports safety reporting, risk mitigation, and safety discussion. AVS commitment to safety is to be stated and deliberate, as well as visible through the regular communication of safety policies, goals, data, and objectives to all affected stakeholders.

AVS will maintain a just safety culture in which students, faculty, staff and other stakeholders are encouraged to report safety events and ideas, and voice safety concerns without fear of punishment or retribution. The information contained in safety reports has the potential to be uniquely valuable in proactively identifying safety problems, consequently, the AVS and BGFC will carefully review all reported concerns. No disciplinary action will be taken against anyone for making safety reports unless it is established that reckless misconduct, gross negligence, or willful intent occurred. Instances of this type are not acceptable, and the blatant disregard of established safety policies and procedures falls outside of the non-punitive protections afforded through a just safety culture.

5.2 ASQP Just Culture Support

Elements contained in the ASQP that support a just safety culture:

- Members have a shared sense of responsibility toward achieving safety objectives
- ASQP fosters the active involvement of students and employees in the SRM process
- Through the process of “de-siloing”, AVS stakeholders are encouraged to look for opportunities to increase their degree of trust and open communication
- Everyone involved is encouraged to provide safety insight and discussion

5.3 Safety Communication

The ASQP committee will communicate new information to affected stakeholders concerning safety events and as needed. AVS participants will be provided electronic access to this manual. As changes are made to the manual, they will be reflected in the List of Effective Changes and Record of Revisions pages. Additionally, safety data and information concerning any safety accidents/incidents will be made available to AVS stakeholders.

5.4 Training

BGFC and AVS will provide safety training for AVS participants. Training may vary depending on an individual's level of responsibility and impact on safety within AVS. After completing training, individuals should be able to recognize safety-related concepts, implement basic risk management practices, be familiar with their responsibility to speak up about observed safety issues, adhere to Standard Operating Procedures (SOP), and promote a just safety culture.

5.4.1 Flight Instructor Training

Flight instructor training and standardization is a significant part of the safety program. The Chief Flight Instructor ensures the required annual training as specified in 14 CFR 141.79 (c) has been accomplished. This training record is maintained in the individual's employee file at BGFC. In addition, 14 CFR 141.79 (d) requires each certified flight instructor who is assigned to instruct a flight training course to satisfactorily complete required training administered by the Chief Flight Instructor prior to being authorized to provide any flight instructions to students.

All instructors must accomplish:

- A briefing and review of the objectives and standards for that course of training.
- A proficiency check in each make and model of aircraft which will be used for that training
- A comprehensive instructional course regarding the correct Part 141 administrative procedures used in the BGSU flight training program.
- An annual recurrent proficiency check in an aircraft in which that instructor trains students.
- These training records will be maintained in the individual instructor's employee file at BGFC.

5.5 Safety Lessons Learned

The AVS will develop safety lessons learned from the safety reporting system in place. Information received will be reviewed by the ASQP and used as opportunities to communicate and promote the continuous improvement of safety in the entire program.

5.6 Safety Newsletter

The Safety Newsletter is the responsibility of the BGFC Safety Manager and should normally be published once each semester. This newsletter should include an instructor article, a hot topics section, an accident report or “I learned from this” article, and a maintenance section. Not every one of the sections mentioned needs to be included in each edition of the newsletter.

5.7 Safety Workshops

A safety workshop should be scheduled in each semester and may be conducted in partnership with the FAA’s Safety Team (FAAST). Student attendance will be highly encouraged at these workshops. The safety workshops will be instructional in nature and should cover a current safety topic and seasonal issues that need to be addressed and understood by all students.

5.8 Safety Large Screen Display (Bulletin Board)

The Safety TV screen located at BGFC will be modified and updated regularly making it the most current source of information. The information it supplies will include safety topics.