

DELAWARE STATE UNIVERSITY

Aviation Program



Delaware State
University
Making our mark on the world

Safety
Management
System
May 2014

Our Flight Plan

DELAWARE STATE UNIVERSITY SAFETY MANAGEMENT SYSTEM **MANUAL**

INTRODUCTION

The Delaware State University Aviation Program provides students with a quality education and experience in preparation for careers in the aviation industry. The mission of the Program is to provide an industry standard and relevant educational experience that produces high quality aviation professionals who distinguish themselves and reflect the quality of their aviation program education.

We believe that the pillars of the Aviation Program are “*Dedication, Safety, Unity, Attitude and Professionalism*”. Participants in this program will demonstrate: *Dedication* to the program, to DSU, and to their own academic and aviation success; a focus on *Safety* in aircraft operations and other critical aspects of their lives; a *Unity* of purpose, assisting each other in successful completion of the program; and a positive *Attitude*, striving to exhibiting Professionalism in their studies, in their aviation training and performance, and in every endeavor they undertake.

Stephen R. Speed
Director, Aviation Program
Delaware State University

PREFACE

The DSU Safety Management System continually strives to expand upon the DSU pillars described in the introduction. All efforts are centered on transitioning students to professionals by using checklists, crew resource management, Delaware State University’s operational manual, school safety standards, and this industry standard Safety Management System (SMS).

The DSU Flight Operations Manual is the essential core of our program. The manual describes the procedures and policies to which all members of the Delaware State University Aviation Program shall adhere, and demonstrates to the FAA how the Flight School conducts business. As outlined in the Flight Operations Manual, checklist usage is mandatory in all DSU aircraft. All students must understand that checklists are important tools used by the proficient, professional pilot to assure consistent operational performance. The more you standardize your procedures via checklists, the greater the opportunity you have to complete required procedures, identify problem areas, minimize surprises, manage distractions, reduce frustration, contain emergencies, and improve our overall skills.

SAFETY POLICY

Introduction

DSU SMS Safety Policy is a redirect of the present safety policy that incorporates the tenets of SMS. Safety is the state in which the risk of harm to people or damage to property is reduced to, and maintained at or below, an acceptable level through a continuing process of hazard identification and risk management. This safety policy is a top down safety policy meaning that everyone is a part of its whole. This formal aviation safety program is being used across the entire spectrum of all aviation fields and is part of the FAA's Safety Initiative and in effect their program of safety. The primary purpose of this program is to develop a system for managing our flight training processes and ensure compliance with guidelines published by FAA, ICAO, OSHA, UAA, and AABI.

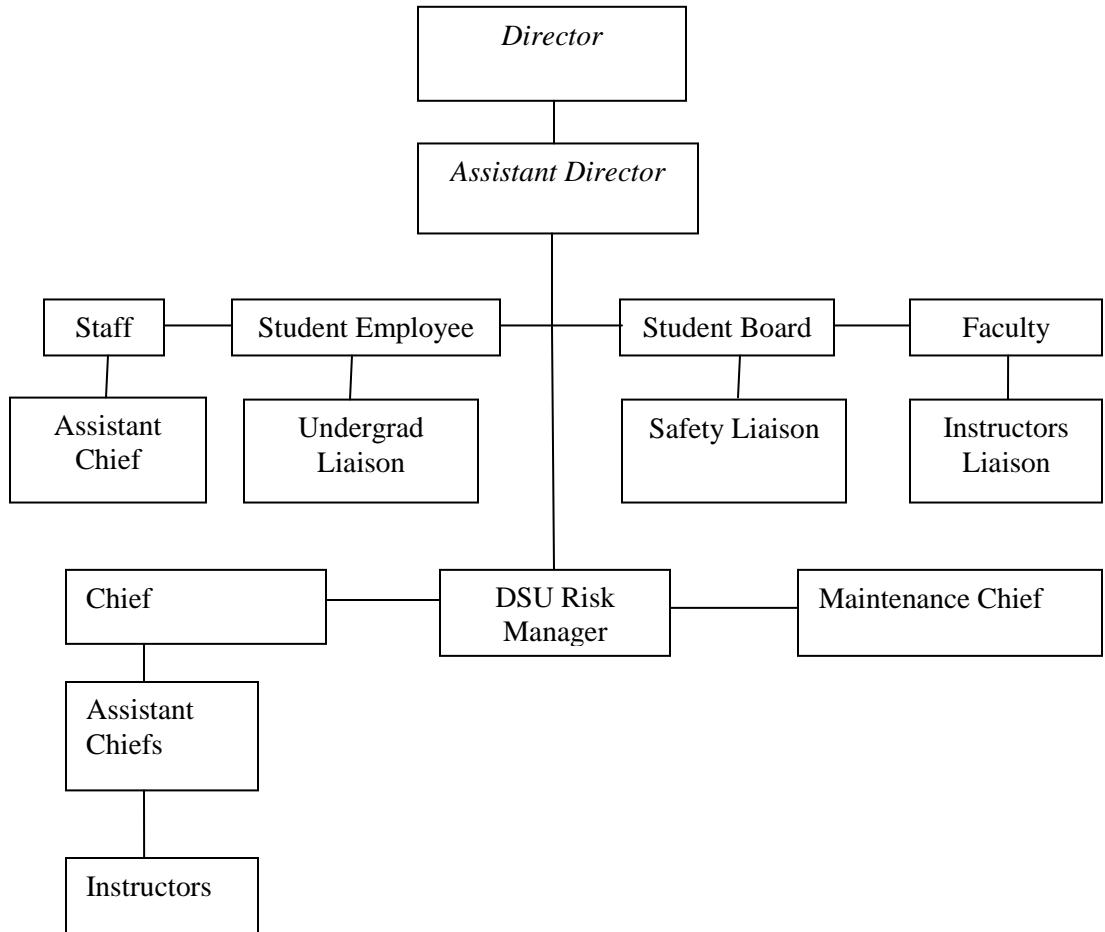
Safety Policy for DSU Aviation Program

DSU's journey into SMS is a concerted effort of all concerned to implement the safety management process using Safety Risk Management (SRM), Safety Assessment & Safety Promotion. From the onset, full cooperation from the brand new student pilot to top management, DSU's safety program will eventually become a benchmark for best practice. This new approach will be a work in progress, and with continuous improvements, as we measure our practices, take recommendations from the safety reporting & measurement systems, and make changes as deemed necessary through our safety management team. This approach will in effect guide our safety goals and promote safety through the ranks. This culture puts safety first, and that will contribute to the overall success in meeting the expectations & objectives of DSU's Safety Policy.

Safety is our first priority!

DSU puts forth the following policy in order to prevent mishaps & accidents. It is the intent of DSU's Safety Management Program to instill the value of safety into all those involved in the Aviation Program. In all we do, safety is our first priority! The overall goal of this program is to minimize or affect the prevention of accidents and the elimination/reduction of incidents to equipment and personnel through the mitigation of the associated risks inherent in the aviation industry. As WE progress into this business like approach to safety keeping the safety mindset in the forefront, we will effectively reduce our hazard exposure, and eliminate the human & monetary cost due to accidents/incidents. Following is the DSU's Safety Management System structure:

SMS Organizational Structure



DSU SMS Systems Introduction and Framework

System Introduction

As described in FAA AC 120-92 and the ICAO Safety Management Manual (SMM) (Document 9859), there are four SMS components that together make up the entire program of safety. They are the Safety Policy, Safety Assurance, Safety Risk management, and Safety Promotion. Each of these categories will be addressed in defining the DSU Aviation Safety Program.

- 1. DSU Safety Policy** is senior management's commitment to continually improve safety. Although our present program of safety is highly effective, there is no intent to change the overarching goal of an excellent safety record, but to enhance our present one with new, proven initiatives that creates a safety culture from our new student pilots up to and including our Program Director. This safety policy defines our methods, processes, and structure in meeting the tenets of SMS.
- 2. Safety Assurance** evaluates the effectiveness of the DSU SMS program. In doing so it becomes a study of the gaps in safety, and the ability to identify hazards, old & new. Auditing and monitoring processes ensure that aircraft and flight training operations are accomplished in such a way as to minimize the risks. So in implementing the risk control strategies, there will be assessment of the continued effectiveness of the entire program of SMS.
- 3. Safety Risk Management** will be the active mix of our entire Aviation cadre putting together a concerted effort to implement risk controls, or revise them based on assessment of the acceptable level of risk. We mitigate the risk every day. So it follows we will concentrate our efforts in tracking and logging our risk as a manageable survey of the variables we face in flight/ground operations. The concept of SMS is the tracking of the risk, and also continuous improvement of risk management. This becomes a task that students and instructors alike will factor into every flight operation they intend to make. Hazards can be identified and dealt with systematically through the Hazard Reporting Program that facilitates continuous improvement and professionalism. The SMS provides the highest reasonable level of safety by identifying and minimizing risks, which could contribute to accidents, incidents, or injury to persons.
- 4. Safety Promotion** an ongoing process entails the interaction of the other components of SMS in order for training, communication, and other actions to create a positive safety culture. To promote safety within the organization. Senior leadership must continuously promote the growth of a positive safety culture within the organization. Key components are training personnel and clear communication of lessons learned throughout the organization. See present plan of action to train the cadre in the accomplishment of risk management forms, hazard reporting, and other tracking devices.

DSU SMS Framework

DSU Safety Policy

- Safety Resources/Safety Regulations-documents covering safety
 - FOM
 - Standardization manual
 - SMS Training Program

Safety Assurance

- Identifying Possible Risk
 - Ground operations
 - TSA security requirements
 - Weather
 - Practice areas and Training Airports
 - National Airspace
 - Safety Stand downs
- Safety Training
 - Instructor sign-off on itemized safety/syllabus training
 - Online FAA Safety course and AOPA Safety course
- Ground Training Video (Handling video)

Safety Risk Management

- Risk Mgmt Worksheet
 - Student
 - Single Engine Rated Pilot
 - Multi-Engine
 - Flight Team
- Reports
 - Hazard and Incident reporting forms
- Tracking
 - Dispatch
 - Weather
 - Maintenance
 - Training
 - SFRA / Currency / Incidents / Accidents/ TSA training

Safety Promotion

- Safety Bulletins/alerts
- Mishap History
- Safety Notes and Meeting minutes

Safety Committee General Overview

The purpose of the safety committee is to promote the safety, health, and welfare of students, faculty, employees, staff, and airport community. In addition, the committee is to act proactively to:

- ensure the safe operation of equipment and facilities
- ensure compliance with the applicable regulations of local, state, and federal authorities
- enhance and protect university interests

Safety Committee Responsibilities

All Safety Committee members will be trained to function within the Safety Management System by the Safety Manager or the Assistant Safety Manager. The Safety Committee shall meet on a quarterly basis and the chairperson will establish procedures and agendas each meeting, and distribute meeting minutes and action items. All members are asked to bring safety concerns to the attention of the committee and provide feedback to department employees on the results of the meeting. All members will encourage the prompt and accurate reporting of incidents and safety issues that have surfaced since the last meeting. All members will discuss and recommend solutions to safety issues and/or hazards in the workplace and flight operations. All recommendations will be documented and communicated to all Aviation personnel. Any matter deemed urgent by the Safety Manager or a Safety Committee member shall be brought to the attention of the Director and staff rep immediately. The Committee is empowered by the Director to protect DSU Aviation program, its employees, its students, and university assets.

DSU General Aviation Security Responsibilities

General aviation security is important not only to Delaware State University but to the whole aviation community. We strive to be safe on the ground and air as well protecting our assets from damage and theft. Robust safety program covers all aspects of operations at Delaware State University. Random checks throughout the school year will be conducted to make sure safety policies outlined in the FOM are being followed by staff and students. Facility security must as well be followed up with each night by checking to make sure the building is secured at the end of each night.

Safety Processes

RISK MANAGEMENT PROCESS

1. **Identify potential risks:** Identify all potential risks associated with specified and implied tasks that will be undertaken. Make sure that all hazards, exposures, and probabilities are clearly determined.
2. **Assess the risks:** Use the formula provided earlier in this chapter to determine the severity of the risks.
3. **Make decisions:** Eliminate unnecessary risks immediately. For risks that cannot be mitigated, weigh the mission benefits against the potential risks, and only accept risks when the benefits outweigh all

potential risk involved. Ensure that decisions are made at the proper level in the chain of command. If necessary, make the decision to cancel the mission.

4. **Identify controls:** Controls are set in place in order to mitigate risks to acceptable levels, and may come in the form of operating procedures, weather conditions, additional training, and numerous others. Make sure all control options are identified and discussed.

5. **Implement controls:** Ensure that appropriate controls are incorporated into flight plans and mission performance in order to mitigate risks. Controls must be set in place on a program-wide level and on an individual basis.

6. **Monitor Operations:** It is important that mission performance and statistics be reviewed and analyzed frequently in order to ensure that the controls implemented are effective. Operations should be monitored at all levels, especially at the mission level.

HAZARD IDENTIFICATION

It is important to realize that hazard identification is a different process than risk identification, because hazards are the causes of risk. During the risk management process, it is important to identify hazards during the risk identification step. Hazard identification can and should be done by all individuals involved in the aviation program.

Hazard identification is best accomplished through a systematic sequence of actions set in place specifically for this. These actions usually come in the form of checklists in aviation, but can also be seen in numerous other forms. While hazard identification can take place before and after incidents, it is imperative for safety purposes and accident prevention that it is done in a proactive manner.

HUMAN FACTORS

Because human error accounts for approximately 80 percent of aviation accidents and incidents, human factors are the biggest threat to aviation safety. Because of its scope, human error can touch or affect every part of aviation operations, making by far the most dangerous part of mission planning and execution. Unfortunately, it is also impossible to completely eliminate. However, with proper oversight and a safety-conscious mindset, many human errors can be eliminated during both the planning and execution of operations, as well as mitigated during operations. Once again, the elimination of human factors as a hazard falls on everyone involved in aviation operations, as more eyes on the situation can.

SMS Reporting System

Delaware State University uses a multipoint reporting system for the different stages of flight. There is preflight briefing, post flight and if needed Incident/Accident reporting. Used together all three reporting systems will give insight into mitigating risks during all phases of flight. The goal at the end of each operational day is to be safe and this provides a means for the school to have operational overview of the schools operations.

Preflight Briefing

All reporting sheets unless noted otherwise are **mandatory** for completion before a flight can be dispatched. A preflight ORM sheet and preflight briefing must be complete and all post flight

Squawk Sheet

Pilot in command is the final authority to make sure aircraft is in an airworthy condition and if a discrepancy is found it is reported on the squawk form found in the aircraft can. This also must be reported to the head of maintenance or who is on duty that day. At end of each month these forms will be reviewed for trends and if needed training scheduled to limit the impact to operations.

Organizational Risk Management (ORM)

The ORM sheets are used for preflight risk management. The **PIC** will use the sheets to get a better understanding of all the risks that they may experience during a flight. There is several Delaware State University created ORM sheets in use. One for student pilots and the second is for all rated single engine pilots Private Pilot to CFII, third sheet exist for the Seneca.

These sheets must be completed as a part of the preflight briefing and submitted before a flight can be dispatched on any training or flight activity involving DSU owned equipment. Once filled out these sheets should be left in the designated location where they can be kept on file. At the end of each month the sheets will be reviewed and entered into the safety briefing for the next month.

Post Flight Debriefing

Hazard Reporting Form

The hazard reporting form is an optional reporting form that can be used during the post flight debriefing. The form is used to bring focus to an issue that may pose an issue at a later date. So it's the goal of the Hazard reporting form to prevent issues before they arise.

Forms are to be submitted in the designated location where they will be reviewed and logged into the tracking system.

Incident/Accident Reporting Form

The Safety Committee determines the status of the safety issue and updates the Action Log.

These forms are mandatory to be filled out by the PIC of the aircraft involved in the Incident.

Form must be filled out if there's any damage caused to a DSU aircraft. Form must be filled out and submitted within 72 hrs of the incident. PIC of the aircraft will be grounded till the form is submitted and an interview can be completed. Once this is completed the PIC may return to flight status with DSU aircraft. Below is listed what may require a report to be filled out.

Report Items

- **Mandatory Incident Reports**
 1. If evasive action was taken due to loss of aircraft separation and/or possible collision
 2. Pilot's loss of situational awareness resulting in his/her loss of position for more than 30 minutes
 3. Failure of navigation or communication systems
 4. Electrical failure resulting in a precautionary landing
 5. Damage to the aircraft, propeller, university property, or people
 6. Any unintentional exit from a paved surface while landing, taking off, or taxiing
 7. Critically low fuel quantity or landing with less than the prescribed reserve fuel load
 8. Any airframe icing encounter
 9. Severe turbulence
 10. Any evacuation of an aircraft for emergency purposes
 11. Engine failure or partial power loss
 12. Any intentional or unintentional violation of SASI's Standard Operating Procedures
 13. Any runway incursion
 14. Landing on the wrong runway or at the wrong airport
 15. Any departure or excursion from the runway
 16. Weather related injury or damage
 17. Fuel leak
 18. Takeoff with a weight and balance error
 19. Injury to any person while in or outside the aircraft
 20. Lighting strike or bird strike
 21. Damage to aircraft by ground equipment
 22. Damage to property
 23. Fire, explosion, smoke, or toxic fumes in or on the aircraft

- **NTSB Reportable Incidents (immediate notification required)**
 1. Flight control system malfunction or failure
 2. Inability of any required flight crewmember to perform normal flight duties as a result of injury or illness
 3. In-flight fire
 4. Failure of structural components of a turbine engine excluding compressor and turbine blades and vanes
 5. Damage to property, other than aircraft exceeding \$25,000 for repair
 6. Aircraft collide in flight
 7. Release of all or a portion of a propeller blade

- **Reporting Aircraft Accidents and Injuries**

Aircraft accidents will be reported in accordance with Federal Aviation Regulations and the National Transportation Safety Board regulations (Title 49 CFR Part 830).

- *NASA Reporting: All Aviation faculty, staff, maintenance & Pilots;* <http://asrs.arc.nasa.gov/>

NASA has established an Aviation Safety Reporting System (ASRS) to identify issues in the aviation system which need to be addressed. The program of which this system is a part is described in detail in **FAA Advisory Circular 00-46E**. Your assistance in informing us about such issues is essential to the success of the program. Please fill out this form as completely as possible.

The information you provide on the identity strip will be used only if NASA determines that it is necessary to contact you for further information. **THIS IDENTITY STRIP WILL BE RETURNED DIRECTLY TO YOU.** The return of the identity strip assures your anonymity.

Section 91.25 of the Federal Aviation Regulations (14 CFR 91.25) prohibits reports filed with NASA from being used for FAA enforcement purposes. This report will not be made available to the FAA for civil penalty or certificate actions for violations of the Federal Air Regulations. Your identity strip, stamped by NASA, is proof that you have submitted a report to the Aviation Safety Reporting System. We can only return the strip to you, however, if you have provided a mailing address. Equally important, we can often obtain additional useful information if our safety analysts can talk with you directly by telephone. For this reason, we have requested telephone numbers where we may reach you.

NOTE: Aircraft accidents should not be reported on this form. Such events should be filed with the National Transportation Safety Board as required by NTSB Regulation 830.5 (49CFR830.5): <http://asrs.arc.nasa.gov/>

- *Reporting Procedures for Hazards and Incidents*

The Hazard and Incident Report Form may be found in Appendix A of this document. The report may be submitted to the Safety Manger (paper copy or email attachment) or online with Blackboard, if so approved.. If a name is included on the report, a reply to the submitter will follow via email within five working days.

- *The Normal Process*

After a hazard or incident has been identified to the Safety Manager or Safety Committee, an Action Log and tracking number are assigned.

During the next quarterly Safety Committee Meeting, the safety issue is presented.

The Safety Committee determines if the item warrants further consideration, then assigns the item to the appropriate person for analysis and possible action.

Tracking

At the end of each month the safety documents that have been collected for the month will be reviewed and entered into the tracking system. Information will be entered into the excel sheets so that trends can be reviewed and steps taken to correct any safety issues if present. This information will also be used to create safety briefs for both the instructors meeting and monthly safety meeting. Also safety policy changes may be made based on the data collected. Once information has been entered into the database for tracking all the paper forms will be kept for 3 years.

Safety System

Currency & Enforcement

Each pilot involved in flight activities at Delaware State University has a responsibility to maintain a safety currency. The SMS program defined by the safety policy requires that all members of the aviation program remain current if they are to operate as a member of crew in association with flight activities with the university. This includes training, maintenance and any other flights outside of the approved 141 certificated operations. This includes Staff, Instructors and Students that will occupy front two flight positions. Both members of a flight must be current for the flight to be dispatch able this includes all activities involving Delaware State University aircraft. Exceptions may be made by the safety committee for those not enrolled in flight labs with the university.

Duration

The length of currency will extend for one half of the current semester for those that attend the required physical meeting held in the beginning of each semester. The second half of the semester currency will come from completion of either a online course or attending a mandatory meeting.

Expiration of Currency

If a pilots (Staff, Instructor or Student) currency should lapse the result will be **IMMEDIATE GROUNDING** of the pilot till an activity can be completed to satisfy becoming current.

Violations

Those found to violate the safety policy by dispatching a flight that is not safety currency will be immediately grounded. The crew will have to meet with a selected safety committee member where the policy will be re-explained to those that have violated it. Second offense penalties will be determined on as needed basis.

Safety Training

System safety training is one of the key elements within a Safety Management System. To conduct a successful program participants should be trained in appropriate concepts, duties, and responsibilities associated with each area of activity within the operation. Specific training in safety management duties is required for faculty, Safety Committee members, inspectors, maintenance personnel, aviation students, and flight instructors. The amount of safety training will be appropriate to the individual's responsibility and involvement in the SMS. Required training is also used as an *administrative control* to eliminate or mitigate risk to an acceptable level. To keep safety currency a pilot must attend a safety meeting or complete selected training outlined by the safety committee for that month. The primary means of keeping current will be attending a safety meeting followed by (online) training for those that can't attend the meeting. It will remain with the Safety Committee which means will be accepted for the month, or quarterly,

and at any time the committee could decline online training as acceptable means to become recurrent.

Training processes

Instructors and Staff

Instructors and staff may regain currency by attending the monthly instructors meeting at least once a semester. Unless otherwise directed that a mandatory meeting has been scheduled later in the month. A waiver may be issued for those that may lapse in currency but the safety board reserves the right to refuse to issue a waiver to anyone.

Students

Students must keep currency by attending the once a semester Social event and complete one required online test. If the Social event is missed the safety board will preselect a online test that must be completed to become current for flight status.

Mandatory Meetings and Required Ground training

Ground training will be released via Safety Bulletin

Fall- Beginning of Semester- Introduction of new students and review of flight program status.

Winter- Second half of Fall semester- Predetermined online course must be completed

Spring- Beginning of semester. Review status of program and spring operations

Summer- Second half of spring semester- Predetermined online course must be completed

Alternate means of compliance “Online”

Completion of preselected FAASAFETY.GOV courses and the certificate printed and submitted to a safety committee member. This method can't be used to fill in for meetings deemed mandatory or if committee decides not to allow online course for that month.

Tracking System

The SMS tracking system will take information given out by both schedule point and the completed ORM sheets. The information from ORM sheets will be compared to the flights that have been dispatched. It is the goal of the tracking system to show how many flights are dispatched, the safety percentage and how many cancellations are created per month. With this information it is the flight programs mission under the safety program that safety can be improved and the mitigation of risk areas minimized.

Safety Meeting Process

Timeline

Safety Committee Meeting End of previous month

Instructors meeting first week of the month

Student/Safety meeting Second and fourth Thursday of month

Outline of Meetings

Safety Meeting Outline

Review of the months safety documents, maintenance related reporting and trends
Create an agenda for safety education for the next months meetings

Instructors Meeting

Maintenance/ Safety Briefing
Currency Discussion for the whole program
Student progression
Q & A

Overall Risk Assessment Matrix (ORM)

The ORM sheets when completed and totaled the pilot will be given a total risk value. With that value the pilot will be categorized into a Low, Medium or High risk. These three categories have different meanings that the pilot must understand before going on a flight. Every flight will always have some sort of risk associated with it even on a low risk flight. The sheets are to help the pilot to identify areas that he or she will keep aware of.

- Low Risk- There is always some risk associated with a flight. In the low risk category the pilot should always be vigilant to mitigate even the smallest risk.
- Med Risk- Medium risk flights are not a no go flight but only to inform the pilot that is one or more areas of focus that the pilot needs to be aware of that could be a hazard. These areas can range from weather, solo and even health.
- High Risk- High risk flights should be some extreme consideration before they are to be dispatched. In some cases the flight should be rescheduled till the areas that caused the high values can be mitigated to a safer value.

How to Fill out SMS/ORM Forms

Student Pilot ORM

Value column:
Place the risk Pts that apply to the RISK that applies to the flight.

Top of Document
Fill Out Name, current date, Instructor on the flight and N# of Aircraft

The title bar that lays out columns for risk level

Delaware State University Operational Risk Management Worksheet						
Student Pilot						
Students Name:		Date:		N#:		
Instructors Name:						
Hazard	Low Risk	Pts.	Moderate Risk	Pts.	High Risk	Pts
Human						
Experience/ Training	≥ 10 Hrs PIC. 50 in Make	≥ 5	≥ 5 < 10 Hrs PIC. 20 < 50Hrs in make	≥ 10	<5 Hrs Pic <20 Hours in Make	20
Pilot Currency	≥ 15 Hours with last 30 days	0	≥ 5 < 15 Hours within last 30 days	10	< 5 hours with last 30 days	20
Health/ Crew rest	Good Health and proper crew rest	0	Fair health with adequate crew rest	10	Poor health or signs of fatigue	No Go
Machine						
Maintenance Factors	Fully Functional	0	Partially Non-Functional	15	Fully Non-Functional	No Go
Performance Factors	≤ 5,000' Density Altitude	0	> 5,000' < 8,000' Density Altitude	10	> 8,000' Density Altitude	20
Training						
Current Stage	Stage III	5	Stage II	15	Stage I	30
Maneuvers in Lesson	Ground maneuvers	5	Simulated Instrument	10	Stalls	20
Type of Flight	Dual	0	Solo	25		
Traffic pattern	Standard	0	Non- Standard	25		
Environment						
Weather (Current & Forecasted)	X- Winds 0 > 10kts	0	X-Wind: 10Kts<17Kts	5	X-Wind > 17kts	No Go
Solo Weather	X- Winds 5 > 0kts	0	X-Wind: <10kts	15	X-Wind > 10kts	No Go
VFR Weather Ceiling/Vis	≥ 3000' Agl and ≥5SM Vis	0	≥1000' < 3000 agl and / or ≥3 < 5SM Vis	25	< 1,000' agl and / or < 3SM Vis	No Go
Terrain	Low Flat	0	Foothills/ featureless	15	Mountainous	30
Airfield	Familiar	0	Unfamiliar	25		
Control Auth.	Controlled	0	Uncontrolled	25		
Additional Factors						
Cross country to/From	≤ 50NM Distance	0	50NM ≤ 100NM Distance	15	100NM < Distance	No Go
TOTAL CALCULATED RISK ASSESSMENT:						
OVERALL RISK ASSESSMENT				Initials	Date	
Low Risk	0-75*	Safety Officer				
Moderate Risk	76-150*	Assistant Chief				
High Risk	> 151*	Chiefs				
No Go	Activities can be rejected at anytime by anyone					
*Based on Risk Assessment authority can be given by those listed above.						

Human Factors Section
Experience: Fill out what current Exp Level is.
Currency: Hours Flown last 30days
Health/Rest: Your current Rest level

Machine Section
Maintenance: Current Statuses of the Aircraft
Performance: Performance calculations

Training Section
Stage: Current Stage of Training
Maneuvers: Maneuvers to take place
Flight type : Solo or Dual
Traffic Pattern: Standard or Non Standard


Environment Section
Weather: Current/ Forecasted
Solo: Wx for Solo if it is to take place
VFR Wx: Does it meet DSU Ops
Terrain: Type of Terrain
Airfield: Familiar or Not
Control: Tower or Non

Add up all the pts in the value and place it into this Box.

Any other additional Factors

The total calculated risk assessment is compared to these numbers. The total number determines the overall risk and determines if flight is go or no go

Hazard Reporting Form


 Hazard Reporting Form		
To: Safety Manager/Officer	From: (Optional)	Date:
Description of incident or observed hazard: (Provide date, time, and location, as applicable. Include a detailed and accurate description while being as concise as possible.)		
Recommendations to eliminate, correct, or minimize the hazard:		
Safety Manager/ Officer investigation summary:		
Tracking #:	Referred to:	Suspense Date:
Corrective action taken:		
Corrective action completion date:		by:
INSTRUCTIONS: Fill out using additional sheets as necessary. Fold and forward completed form to the Safety Manager/Officer in an envelope marked confidential. Thank you for your interest in your Safety Program.		

Description Section: Follow the prompts in the box. Provide as much detail as possible

Provide suggestions to help improve the safety program at the university.

For Internal use only! This will be used for investigation and review by safety committee.

Flight Operations Incident Report Form



Flight Operations Incident Report Form

1. Type of Flight Event

<input type="checkbox"/> Private	<input type="checkbox"/> Certified Flight Instructor	<input type="checkbox"/> Multiengine Instructor
<input type="checkbox"/> Instrument	<input type="checkbox"/> Certified FI-Instrument	<input type="checkbox"/> Flight Team
<input type="checkbox"/> Commercial	<input type="checkbox"/> Multi-Engine	<input type="checkbox"/> Demonstration Flight

2. Type of Incident Event - check all appropriate responses

<input type="checkbox"/> Human Factor Error	<input type="checkbox"/> Runway/taxiway excursion	<input type="checkbox"/> Foreign object damage
<input type="checkbox"/> Altitude Deviation	<input type="checkbox"/> Runway incursion	<input type="checkbox"/> Severe wake turbulence
<input type="checkbox"/> Navigation Error	<input type="checkbox"/> Severe Turbulence	<input type="checkbox"/> Collision Hazard
<input type="checkbox"/> Communication Error	<input type="checkbox"/> Severe Icing	<input type="checkbox"/> Aborted Takeoff
<input type="checkbox"/> Crewmember Incapacitation	<input type="checkbox"/> Other:	

3. Weather Conditions - check all appropriate responses

<input type="checkbox"/> IMC	<input type="checkbox"/> Thunderstorm	<input type="checkbox"/> Icing
<input type="checkbox"/> VMC	<input type="checkbox"/> Turbulence	<input type="checkbox"/> Crosswind
<input type="checkbox"/> Precipitation	<input type="checkbox"/> Windshear	

4. Time/Date - check all appropriate responses

Month: _____ Year: _____ All Local times are in EST

<input type="checkbox"/> 0800-1159 Local	<input type="checkbox"/> 1200-1559 Local	<input type="checkbox"/> 1600-2000 Local
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5. Duty Day (Defined by FOM pg)

<input type="checkbox"/> Standard Duty Day	<input type="checkbox"/> Extended Duty Day
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6. Mode of Flight

<input type="checkbox"/> Ramp	<input type="checkbox"/> Climb	<input type="checkbox"/> Descent
<input type="checkbox"/> Taxi	<input type="checkbox"/> Cruise	<input type="checkbox"/> Approach
<input type="checkbox"/> Takeoff	<input type="checkbox"/> Holding	<input type="checkbox"/> Landing

7. Action Taken - check all appropriate responses

<input type="checkbox"/> Performed Emerg. Proc.	<input type="checkbox"/> Declared Emergency	<input type="checkbox"/> In-Flight Engine Shutdown
<input type="checkbox"/> Followed FOM	<input type="checkbox"/> Requested Crash/Rescue	<input type="checkbox"/> Diverted From Dest. Airport
<input type="checkbox"/> Followed Checklist	<input type="checkbox"/> Requested Medical Assist.	

8. Crewmembers Assessment

Was the above procedure/checklist adequate for this situation? Yes No

Was training adequate for this situation? Yes No

9. Comments or Suggestions

Select the flight training that the incident took place during

Select the Incident event. Multiple events can be selected

Weather encountered during the incident

Time Event took place

Duty Day. Standard 8hrs
Non: Greater than 8hrs

Select mode of flight incident occurred

What action was

Pilot's assessment of the

Comments

SMS Initiatives: <http://www.faa.gov/about/initiatives/sms/>

Safety Management System (SMS) is becoming a standard throughout the aviation industry worldwide. It is recognized by the Joint Planning and Development Office (JPDO), International Civil Aviation Organization (ICAO), and civil aviation authorities (CAA) and product/service providers as the next step in the evolution of safety in aviation. SMS is also becoming a standard for the management of safety beyond aviation. Similar management systems are used in the management of other critical areas such as quality, occupational safety and health, security, environment, etc.

Safety Management Systems (SMSs) for product/service providers (certificate holders) and regulators will integrate modern safety risk management and safety assurance concepts into repeatable, proactive systems. SMSs emphasize safety management as a fundamental business process to be considered in the same manner as other aspects of business management.

By recognizing the organization's role in accident prevention, SMSs provide to both certificate holders and FAA:

- A structured means of safety risk management *decision making*
- A means of demonstrating safety *management capability* before system failures occur
- Increased confidence in *risk controls* through structured *safety assurance* processes
- An effective interface for *knowledge sharing* between regulator and certificate holder
- A *safety promotion* framework to support a sound *safety culture*

Basis	Learn about the evolution of safety management and how SMS addresses the organization's role in safety.
Components	What are the four SMS components or "pillars?" Learn about each major component and how they work together as a system.
Quality and Safety Management	What are the similarities and differences between QMS and SMS? How do they complement each other?
Regulation and SMS	What do you need to know now? How will SMS regulations evolve?

APPENDIX A

Definitions & Terminology

- **Accident** – an unplanned event or series of events that results in death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment.
- **Analysis** – the process of identifying a question or issue to be addressed, modeling the issue, investigating model results, interpreting the results, and possibly making a recommendation. Analysis typically involves using scientific or mathematical methods for evaluation.
- **Assessment** – the process of measuring or judging the value or level of something.
- **Attributes** – System Attributes, or the inherent characteristics of a system, are present in any well-defined organization and apply to an effective SMS.
- **Authority** – who can direct, control, or change the process, as well as who can make key decisions such as risk acceptance. This attribute also includes the concept of empowerment.
- **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 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.
- **Interfaces** – this aspect includes examining such things as lines of authority between departments, lines of communication between employees, consistency of procedures, and clearly delineating lines of responsibility between organizations, work units, and employees. Interfaces are the “Inputs” and “Outputs” of a process.
Interfaces in Safety Risk Management &
- **Safety Assurance** – Safety Risk Management (SRM) and Safety Assurance (SA) are the key processes of the SMS. They are also highly interactive, especially in the input-output relationships between the activities in the processes. This is especially important where interfaces between processes involve interactions between different departments, contractors, etc. Assessments of these relationships should pay special attention to flow of authority, responsibility and communication, as well as procedures and documentation.
- **Procedures** – “a specified way to carry out an activity or a process” – procedures translate the “what” in goals and objectives into “how” in practical activities (things people do). Procedures are simply documented activities to accomplish processes, e.g. a way to perform a process. The organization should specify their own procedures for accomplishing processes in the context of their unique operational environment, organizational structure, and management objectives.
- **Process Measures** – are ways to provide feedback to responsible parties that required actions are taking place, required outputs are being produced, and expected outcomes are being achieved. A basic principle of safety assurance is that fundamental processes be measured so that management decisions can be data-driven. The general expectations are that SMS outputs be measured and analyzed. These measurements and analysis are accomplished in Safety Assurance. Outputs of each process should be the subjects of continuous monitoring, internal audits, and internal evaluation.
- **Responsibility** – who is accountable for management and overall quality of the process (planning, organizing, directing, controlling) and its ultimate accomplishment.

- **Audit** – scheduled, formal reviews and verifications that evaluate whether an organization has complied with policy, standards, and/or contract requirements. An audit starts with the management and operations of the organization and then moves to the organization’s activities and products/services.
- **Internal audit** – an audit conducted by, or on behalf of, the organization being audited, e.g., the flight-training department audits the flight training department.
- **External audit** – an audit conducted by an entity outside of the organization being audited, e.g., the flight operations division audits the flight training department.
- **Aviation system** – the functional operation or production system used by an organization to produce an aviation product or service (see System and Functional below).
- **Complete** – nothing has been omitted and what is stated is essential and appropriate to the level of detail.
- **Conformity** – fulfilling or complying with a requirement [ref. ISO 9001-2000]; this includes but is not limited to complying with Federal regulations. It also includes complying with company requirements, requirements of operator developed risk controls, or operator policies and procedures.
- **Continuous monitoring** – uninterrupted (constant) watchfulness (checks, audits, etc) over a system.
- **Corrective action** – action to eliminate (remove) or mitigate (lessen) the cause or reduce the effects of a detected nonconformity or other undesirable (unwanted) situation.
- **Correct** – accurate without ambiguity or error in its attributes.
- **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 company policies, procedures, and systems [ref. AC 120-59A]. If accomplished by the company, the evaluation should be done by a person or 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.”
- **Functional** - The term “function” refers to “what” is expected to be incorporated into each process (e.g., human tasks, software, hardware, procedures, etc.) rather than “how” the function is accomplished by the system. 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** – any existing or potential condition that can lead to injury, illness, or death; damage to or loss of a system, equipment, or property; or damage to the environment. A hazard is a condition that might cause (is a prerequisite to) an accident or incident.
- **Incident** – a near-miss episode with minor consequences that could have resulted in greater loss. An incident is an unplanned event that could have resulted in an accident or did result in minor damage. An incident indicates that a hazard or hazardous condition exists, though it may not identify what that hazard or hazardous condition is.
- **Lessons learned** – knowledge or understanding gained by experience, which may be positive, such as a successful test or mission, or negative, such as a mishap or failure. Lessons learned should be developed from information obtained from inside and outside of the organization and/or industry.

- **Likelihood** – the estimated probability or frequency, in quantitative or qualitative terms, of an occurrence related to the hazard. Southeastern Aviation Sciences Institute 2/8/11 Safety Management System
- **line management** – the management structure that operates (controls, supervises, etc) the operational activities and processes of the aviation system.
- **Nonconformity** – non-fulfillment of a requirement (ref. ISO 9001-2000). This could include but is not limited to, noncompliance with Federal regulations, company requirements, requirements of operator developed risk controls or operator-specified policies and procedures.
- **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.
- **Operational life cycle** – time period from implementation of a product/service until it is no longer in use.
- **Organization** – indicates both certificated and non-certificated aviation organizations, aviation service providers, air carriers, airlines, maintenance repair organizations, air taxi operators, corporate flight departments, repair stations, and collegiate aviation schools.
- **Outputs** – the product or end result of an SMS process, which can be recorded, monitored, measured, and analyzed. Outputs are the minimum expectation for the product of each process area and the input for the next process area in succession.
- **Oversight** – a function performed by a regulator (such as the FAA) that ensures that an aviation organization complies with and uses safety-related standards, requirements, regulations, and associated procedures. Safety oversight also ensures that the acceptable level of safety risk is not exceeded in the air transportation system.
- **Preventive action** – preemptive action to eliminate or mitigate the potential cause or reduce the future effects of an identified or anticipated nonconformity or other undesirable situation.
- **Procedure** – a specified way to carry out an activity or a process.
- **Process** – a set of interrelated or interacting activities that transform inputs into outputs.
- **Process measures** – refer to definition for Process Measures under the Attributes definition, above.
- **Product/service** – anything that is offered or can be purchased that might satisfy a want or need in the air transportation system.
- **Records** – evidence of results achieved or activities performed.
- **Residual safety risk** – the safety risk that exists after all controls have been implemented or exhausted and verified. Only verified controls can be used for assessing residual safety risk.
- **Risk** – the composite of predicted severity (how bad) and likelihood (how probable) of the potential effect of a hazard in its worst credible (reasonable or believable) system state. The terms risk and safety risk are interchangeable.
- **Risk control** – steps taken to eliminate (remove) hazards or to mitigate (lessen) their effects by reducing the severity and/or likelihood of risk associated with those hazards.
- **Safety assurance** – a formal management process within the SMS that systematically provides confidence that an organization's products/services meet or exceed safety requirements. A Safety Assurance flow diagram includes the Framework element/process numbers and other notes to help the reader visualize the Framework in terms of a process flow (with interfaces), and understand the component / element / process expectations.
- **Safety Management System (SMS)** – the formal, top-down business-like approach to managing safety risk. It includes systematic procedures, practices, and policies for the management of safety (as described in this document it includes safety risk management, safety policy, safety assurance, and safety promotion.
- **Severity** – the degree of loss or harm resulting from a hazard.
- **Substitute risk** – a risk unintentionally created as a consequence of safety risk control(s).

- **Product/service provider Safety Management System (SMS-P)** – the SMS owned and operated by a product/service provider.
- **Oversight Safety Management System (SMS-O)** – the SMS owned and operated by an oversight entity.
- **Safety objective** – a goal or desirable outcome related to safety. Generally based on the organization’s safety policy, and specified for relevant functions and levels in the organization. Safety objectives are typically measurable.
- **Safety planning** – part of safety management focused on setting safety objectives and specifying needed operational processes and related resources to fulfill these objectives.
- **Safety risk** – the composite of predicted severity (how bad) and likelihood (how probable) of the potential effect of a hazard in its worst credible (reasonable or believable) system state. The terms safety risk and risk are interchangeable.
- **Safety risk control** – a characteristic of a system that reduces or mitigates (lessens) the potential undesirable effects of a hazard. Controls may include process design, equipment modification, work procedures, training or protective devices. Safety risk controls must be written in requirements language, measurable, and monitored to ensure effectiveness.
- **Safety Risk Management (SRM)** – a formal process within the SMS that describes the system, identifies the hazards, assesses the risk, analyzes the risk, and controls the risk. The SRM process is embedded in the processes used to provide the product/ service; it is not a distinct, separate process.
- **Safety promotion** – a combination of safety culture, training, and data sharing activities that support the implementation and operation of an SMS in an organization.
- **Separate Aviation Maintenance Organizations**– are independent maintenance organizations such as, but not limited to, certificated repair stations, non-certificated repair facilities, and separate maintenance organizations.
- **System** – an integrated set of constituent elements that are combined in an operational or support environment to accomplish a defined objective. These elements include people, hardware, software, firmware, information, procedures, facilities, services, and other support facets.
- **Safety culture** – the product of individual and group values, attitudes, competencies, and patterns of behavior that determine the commitment to, and the style and proficiency of, the organization’s management of safety. Organizations with a positive safety culture are characterized by communications founded on mutual trust, by shared perceptions of the importance of safety and by confidence in the efficacy of preventive measures.

APPENDIX B

Operational Risk Management Worksheet (Student Pilot)

<u>Delaware State University Operational Risk Management Worksheet</u>							
<u>Student Pilot</u>							
Students Name:		Date:			N#:		
Instructors Name:							
Hazard	Low Risk	Pts.	Moderate Risk	Pts.	High Risk	Pts	Value
<u>Human</u>							
Experience/ Training	≥ 10 Hrs PIC. 50 in Make	≥ 5	≥ 5 < 10 Hrs PIC. 20 < 50Hrs in make	≥ 10	< 5 Hours Pic <20 Hours in Make	20	
Pilot Currency	≥ 15 Hours with last 30 days	0	≥ 5 < 15 Hours within last 30 days	10	< 5 hours within last 30 days	20	
Health/ Crew rest	Good Health and proper crew rest	0	Fair health with adequate crew rest	10	Poor health or signs of fatigue	No Go	
<u>Machine</u>							
Maintenance Factors	Fully Functional	0	Partially Non- Functional	15	Fully Non- Functional	No Go	
Performance Factors	≤ 5,000' Density Altitude	0	> 5,000' ≤ 8,000' Density Altitude	10	> 8,000' Density Altitude	20	
<u>Training</u>							
Current Stage	Stage III	5	Stage II	15	Stage I	30	
Maneuvers in Lesson	Ground maneuvers	5	Simulated Instrument	10	Stalls	20	
Type of Flight	Dual	0	Solo	25			
Traffic pattern	Standard	0	Non- Standard	25			
<u>Environment</u>							
Weather (Current & Forecasted)	X- Winds 0 > 10kts	0	X-Wind: 10Kts<17Kts	5	X-Wind > 17kts	No Go	
Solo Weather	X- Winds 5 > 0kts	0	X-Wind: <10Kts	15	X-Wind > 10kts	No Go	
VFR Weather Ceiling/Vis	≥ 3000' Agl and ≥ 5SM Vis	0	≥ 1000' < 3000 agl and/ or ≥ 3 < 5SM Vis	25	< 1,000' agl and / or < 3SM Vis	No Go	
Terrain	Low Flat	0	Foothills/ featureless	15	Mountainous	30	
Airfield	Familiar	0	Unfamilair	25			
Control Auth.	Controlled	0	Uncontrolled	25			
<u>Additional Factors</u>							
Cross country to/From	≤ 50NM Distance	0	50NM ≤ 100NM Distance	15	100NM < Distance	No Go	
<u>TOTAL CALCULATED RISK ASSESMENT:</u>							
<u>OVERALL RISK ASSESSMENT</u>					<u>Initials</u>	<u>Date</u>	
Low Risk	0-75*	Safety Officer					
Moderate Risk	76-150*	Assistant Chief					
High Risk	> 151*	Chiefs					
No Go	Activites can be rejected at anytime by anyone						
*Based on Risk Assessment authority can be given by those listed above.							

Operational Risk Management Worksheet (Rated Pilot)

Delaware State University Operational Risk Management Worksheet						
Rated Pilot						
Students Name:		Date:		N#:		
Instructors Name:						
Hazard	Low Risk	Pts.	Moderate Risk	Pts.	High Risk	Value
<u>Human</u>						
Experience/ Training	≥ 500 Hrs PIC. ≥ 100 in Make	5	≥ 250 < 500 Hrs PIC. ≥ 50 < 100Hrs in make	10	<250 Hours Pic <50 Hours in Make	20
Pilot Currency	≥ 15 Hours with last 30 days	0	≥ 5 < 15 Hours within last 30 days	10	< 5 hours within last 30 days	20
Health/ Crew rest	Good Health and proper crew rest	0	Fair health with adequate crew rest	10	Poor health or signs of fatigue	No Go
<u>Machine</u>						
Maintenance Factors	Fully Functional	0	Partially Non-Functional	15	Fully Non-Functional	No Go
Performance Factors	≤ 5,000' Density Altitude	0	> 5,000' ≤8,000' Density Altitude	10	> 8,000' Density Altitude	20
<u>Training</u>						
Rating	CFI-I	5	Comm	15	Inst.	30
Maneuvers in Lesson	Ground maneuvers	5	Simulated/Actual Instrument	10	Stalls	20
Type of Flight	Dual	0	Solo	25		
Traffic pattern	Standard	0	Non- Standard	25		
<u>Environment</u>						
Weather (Current & Forecasted)	X- Winds 0 > 10kts	0	X-Wind: 10Kts<17Kts	5	X-Wind > 17kts	No Go
Solo Weather	X- Winds 5 > 0kts	0	X-Wind: <10Kts	10	X-Wind > 10kts	20
VFR Weather Ceiling/Vis	≥3000' Agl and ≥5SM Vis	0	≥1000' < 3000 agl and/ or ≥3 < 5SM Vis	25	< 1,000' agl and / or < 3SM Vis	No Go
Terrain	Low Flat	0	Foothills/ featureless	15	Mountainous	30
Airfield	Familiar	0	Unfamilair	25		
Control Auth.	Controlled	0	Uncontrolled	25		
<u>Additional Factors</u>						
Cross country to/From	≤ 50NM Distance	0	50NM ≤ 100NM Distance	15	100NM < Distance	25
TOTAL CALCULATED RISK ASSESMENT:						
OVERALL RISK ASSESSMENT				Intials	Date	
Low Risk	0-75*	Safety Officer				
Moderate Risk	76-150*	Assistant Chief				
High Risk	> 151*	Chiefs				
No Go	Activites can be rejected at anytime by anyone					
*Based on Risk Assessment authority can be given by those listed above.						

Flight Operations Incident Report



Flight Operations Incident Report Form

1. Type of Flight Event

<input type="checkbox"/> Private	<input type="checkbox"/> Certified Flight Instructor	<input type="checkbox"/> Multiengine Instructor
<input type="checkbox"/> Instrument	<input type="checkbox"/> Certified FI-Instrument	<input type="checkbox"/> Flight Team
<input type="checkbox"/> Commercial	<input type="checkbox"/> Multi-Engine	<input type="checkbox"/> Demonstration Flight

2. Type of Incident Event - check all appropriate responses

<input type="checkbox"/> Human Factor Error	<input type="checkbox"/> Runway/taxiway excursion	<input type="checkbox"/> Foreign object damage
<input type="checkbox"/> Altitude Deviation	<input type="checkbox"/> Runway incursion	<input type="checkbox"/> Severe wake turbulence
<input type="checkbox"/> Navigation Error	<input type="checkbox"/> Severe Turbulence	<input type="checkbox"/> Collision Hazard
<input type="checkbox"/> Communication Error	<input type="checkbox"/> Severe Icing	<input type="checkbox"/> Aborted Takeoff
<input type="checkbox"/> Crewmember Incapacitation	<input type="checkbox"/> Other:	

3. Weather Conditions - check all appropriate responses

<input type="checkbox"/> IMC	<input type="checkbox"/> Thunderstorm	<input type="checkbox"/> Icing
<input type="checkbox"/> VMC	<input type="checkbox"/> Turbulence	<input type="checkbox"/> Crosswind
<input type="checkbox"/> Precipitation	<input type="checkbox"/> Windshear	

4. Time/Date - check all appropriate responses

Month:	Year:	All Local times are in EST	
<input type="checkbox"/> 0800-1159 Local	<input type="checkbox"/> 1200-1559 Local	<input type="checkbox"/> 1600-2000 Local	

5. Duty Day (Defined by FOM)

<input type="checkbox"/> Standard Duty Day	<input type="checkbox"/> Extended Duty Day
--	--

6. Mode of Flight

<input type="checkbox"/> Ramp	<input type="checkbox"/> Climb	<input type="checkbox"/> Descent
<input type="checkbox"/> Taxi	<input type="checkbox"/> Cruise	<input type="checkbox"/> Approach
<input type="checkbox"/> Takeoff	<input type="checkbox"/> Holding	<input type="checkbox"/> Landing

7. Action Taken - check all appropriate responses

<input type="checkbox"/> Performed Emerg. Proc.	<input type="checkbox"/> Declared Emergency	<input type="checkbox"/> In-Flight Engine Shutdown
<input type="checkbox"/> Followed FOM	<input type="checkbox"/> Requested Crash/Rescue	<input type="checkbox"/> Diverted From Dest. Airport
<input type="checkbox"/> Followed Checklist	<input type="checkbox"/> Requested Medical Assist.	

8. Crewmembers Assessment

Was the above procedure/checklist adequate for this situation?

Yes No

Was training adequate for this situation?

Yes No

9. Comments or Suggestions

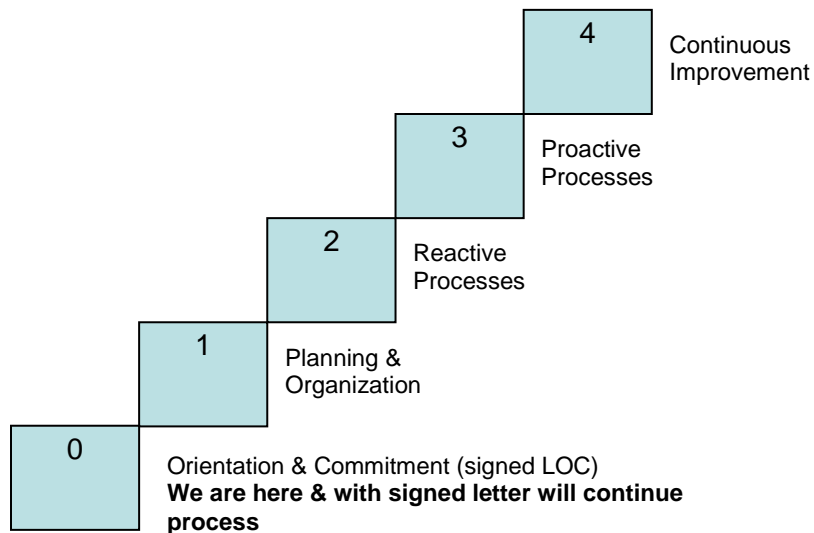
APPENDIX D

Gap Analysis

IMPLEMENTATION LEVELS

The overall objective of the levels is to “...develop and implement an integrated, comprehensive SMS for [the] entire organization.”

Levels of SMS development and implementation.



SMS Implementation Levels

a. Implementation Level Zero: Orientation & Commitment. Level zero is not so much a level as a status. It indicates that the service provider has not started formal SMS development or implementation and includes the time period between a service provider’s first request for information from the FAA on SMS implementation and when the service provider’s top management commits to implementing an SMS. Letter of Commitment starts process!

- (1) Level zero is a time for the service provider to gather information, evaluate corporate goals and objectives and determine the viability of committing resources to an SMS implementation effort. Information requested from the FAA may be satisfied with emailed documents and/or reference material and/or referrals to Internet web sites

Tracking the process/progress through detailed gap analysis

Assessment Level	Assessment Rating Scale Word Picture	Assessment Scale Value
Not Performed	No action has been taken on this expectation of the <i>SMS Framework</i> .	NP
Planned	A plan exists with resources and schedule identified to meet this expectation of the <i>SMS Framework</i> .	PLN
Documented	The expectations of this element/process are incorporated into company documents such as manuals, training material, and work instructions.	DOC
Implemented	Identifiable actions have satisfied this expectation of the <i>SMS Framework</i> . Resources have been allocated to accomplish the objectives of the elements, in accordance with SMS expectations. These actions have been observed in policies, procedures, organizational actions, and employee actions. However, performance need not be demonstrated at this level.	IMP
Demonstrated	This element of the service provider’s SMS has been subjected to at least one round of evaluation/auditing to demonstrate performance and there is evidence these expectations are being performed and are effective. Further, there are no identifiable reasons suggesting that continued sustainment will not occur.	DEM

Detailed Gap Analysis Assessment Scale

SMS Assessment Table

1. Safety Policy & Objectives: Expectations

-Policy

Organization reference	Score	Remarks (justification)
Policy in Place	Yes	present policy to be R2 by SMS
policy approved by mgmt	Pending	Dir., Asst Dir., CFI, Asst. CFI
policy promoted by mgmt	Yes	Dir., Asst Dir., CFI, Asst
safety policy reviewed by mgmt.		Dir., Asst Dir., CFI
employees free to report		
Hazards, etc w/o unjust discipline	Yes	sms continuous improvement All Flight Inst'/faculty/students
Includes commitment to continuous improvement	Yes	see Fig. 1 in SMS package
Comply with applicable legislation To which organ. Subscribes	Yes	FAA doc's, NTSB, FOM, TCD
Effectively communicated within Organ. /employees aware of policy	Yes	written/training pending
effectively communicated to Contractors and visitors	DRBA	ref. DRBA AOM
policy reflected in safety practices		after training on SRM

-OBJECTIVES

Organization reference	Score	Remarks (justification)
objectives established for each Relevant function	Some	dispatch; FOM proc's
publicized & distributed	?	Through training program copy by each individual
safety goals developed	?	pending
hazard indent., & risk		Hazard reporting form complete Assessments

-SAFETY ACCOUNTABILITY OF MANAGERS

Organization reference	Score	Remarks (justification)
ensures SMS properly implemented		in-prog TB
has control of financial/human resources		

-APPOINTMENT OF KEY PERSONNEL

Organization reference	Score	Remarks (justification)
Qualified people to oversee		TB, WJ
organ. Defined	Yes	see org/ safety chart
lines of communication	Yes	see org chart
mgrs. Commitment	Yes	Safety meetings attend/talk
Personnel understand authority Actions etc.	Yes	<ul style="list-style-type: none"> • Safety Mtg Minutes • Staff Mtg. • Safety Briefs • blast e-mail • Safety currency

-SMS IMPLEMENTATION & MGMT

Organization reference	Score	Remarks (justification)
plan of action	?	Safety Steering Committee
planning process conducted at regular Intervals	?	Safety Steering Committee

-DOCUMENTATION

Organization reference	Score	Remarks (justification)
Relevant info comm. To employees	?	DSU website, blackboard?
License and Permit required	?	In place

-SMS DOCUMENTATION

Organization reference	Score	Remarks (justification)
SMS description between components	?	In-Progress

-SAFETY RISK MANAGEMENT

Organization reference	Score	Remarks (justification)
Hazard Ident	Yes	All Forms/ORM's
proc's for hazard ident &Assessment	Yes	haz/incident/accident forms
simple reporting process	Yes	put reporting form into CANS, Online, etc
reports reviewed	Yes	Safety Committee
feedback process on reports		“ “ “ mandatory!
share safety info	Yes	Region 7...name them

-RISK ASSESSMENT & MITIGATION

Organization reference	Score	Remarks (justification)
assessment of risk	Yes	presently student/all other
covers all personnel	Yes	Flight Ops
evaluates risk level	Yes	numerical values assigned Low/med/high risk
risk assessment taken into account	Yes	Safety Mtg., cover Haz Rpt
consideration of risk/assessment	Yes	Hazard/Incident report

-OPERATING PROCEDURES

Organization reference	Score	Remarks (justification)
identified risks/control measures	Yes	feedback on report
cover all activities without deviation	?	individual dispatch Higher rated students
SMS interface	?	DRBA & maintenance
operating criteria	Yes	Haz rpt & risk mgmt.

-MITIGATION CONTROLS

Organization reference	Score	Remarks (justification)
corrective/preventive actions	Yes	low/med/high...NO-GO CFI/Safety Officer/Asst.
organization evaluates measures	Yes	follow up on Haz rptg

-INTERNAL SAFETY INVESTIGATIONS

Organization reference	Score	Remarks (justification)
all reports investigated	Yes	SMS/FAA/NASA
identify root cause		“ “ “
lessons learned from others as well	?	e mail/blackboard etc.

2. SAFETY ASSURANCE

-Safety Performance & Monitoring

Organization reference	Score	Remarks (justification)
safety performance indicators/targets related to safety objectives		how well we mitigate the risk
process for review	Yes	maintenance; trends
procedures to monitor/measure SMS	Yes	ORM & other forms

-AUDIT

Organization reference	Score	Remarks (justification)
conducts reviews	?	In progress
independent audit function	?	Safety Office/Team
audit scope/methods/frequency	Yes	in-prog; Mtg's/blackboard
audits account for risk And previous results	Yes	tracking of all

-MANAGEMENT OF CHANGE

Organization reference	Score	Remarks (justification)
process in place to analyze risk In the change process	Yes	flight ops personnel-identify Change/amend/remove
proposed actions reviewed	?	In progress
record of actions taken	Yes	incidents v. accidents

-CONTINUOUS IMPROVEMENT OF SMS

Organization reference	Score	Remarks (justification)
continuous improvement all levels	Yes	by Safety Team/cadre Of safety objectives
identifying opportunity for improvement	Yes	Haz Rptg for suggestions
decisions/actions monitored with any further action to be taken	Yes	see Organ. Charting
Managers kept informed	Yes	see Organ. Charting.
annual mgmt. review of SMS	No	In progression
results of mgmt. review documented	No	In progression

-TRAINING & EDUCATION

Organization reference	Score	Remarks (justification)
trng req's	Yes	grnd/flt ops defined in SMS
appropriate trng provided	Yes	Safety mtg video, ancilliary trng
trng effectiveness	?	In progress
emergency preparedness	Yes	rewrite
trng records maintained	Yes	paper, then digital

-SAFETY COMMUNICATION

Organization reference	Score	Remarks (justification)
free exchange of info up & down organ	?	See Org Chart
Employees involved in development to manage risk	Yes	ORM mandatory

levels of SMS related issues	No	1 level
results of safety coordination meetings communicated to all	Yes	minutes/bulletins/etc
safety info disseminated	Yes	acknowledgement sheet

3. EMERGENCY PLAN

-COORDINATION OF EMERGENCY RESPONSE

Organization reference	Score	Remarks (justification)
potential emer. Situations/incidents	Yes	Appendix A, Present Safety Practices
emer response procedures	Yes	Already outlined
assigned to responsible manager	Yes	See Faculty/ FOM
process to coordinate emer planning	Yes	see SMS document also
emer response teams trained	Yes	faculty/asst CFI/etc
conducts drills/exercises	No	Annual Discussion, fire ext. trng Accident proc's (what to do)
review of emer procs as mgmt. review of sms	No	SMS implementation

4. Record Keeping

-DOCUMENTATION & DATA CONTROL

Organization reference	Score	Remarks (justification)
procs for document control		
documents reviewed regularly		
obsolete/current revisions		

-RECORD & RECORD MANAGEMENT

Organization reference	Score	Remarks (justification)
airport has office for record keeping	Yes	TB office/Safety library
control process	Yes	Safety Office

Appendix E

SUMMARY CROSS REFERENCE:

AC 120-92 (Appendix 1)	SMS Framework , Revision 3 (6-1-2010)
4. Policy	1.0 Safety Policy and Objectives
4.1. General Requirements	1.0 Safety Policy and Objectives
4.2. Safety Policy	1.1 Safety Policy
4.3. Quality Policy	1.0 Safety Policy and Objectives, b (4) (b)
4.4. Safety Planning	1.0 Safety Policy and Objectives, b (4) (g)
4.5. Organizational Structure and Responsibilities	1.2 Management Commitment and Safety Accountabilities
4.5. Organizational Structure and Responsibilities	1.3 Key Safety Personnel
4.6. Compliance with Legal and Other Requirements	1.0 Safety Policy and Objectives, b (4) (c) and (d)
4.7. Procedures and Controls	1.0 Safety Policy and Objectives, b (4) (e) and (f)
4.8. Emergency preparedness and Response	1.4 Emergency Preparedness and Response
4.9. Documentation and Records Management	1.5 Documentation and Records
5. Safety Risk Management	2.0 Safety Risk Management (SRM) and 3.2 Management of Change
5.1. System and Task Analysis	2.1.1 System and Task Analysis
5.2. Identify Hazards	2.1.2 Identify Hazards
5.3. Analyze Safety Risk	2.2.1 Analyze Safety Risk
5.4. Assess Safety Risk	2.2.2 Assess Safety Risk and 1.2, Management Commitment and Safety Accountabilities, b (4)
5.5. Control Safety Risk	2.2.3 Control/Mitigate Safety Risk
5.7 Change Management (proposed)	3.2, Management of Change
6. Safety Assurance and Internal	3.0 Safety Assurance

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Evaluation	
6.1. General Requirements	3.0 Safety Assurance
6.2. System Description	3.0 Safety Assurance, b (1) (d)
6.3. Information Acquisition	3.0 Safety Assurance, b (2)
6.3.1 Continuous Monitoring	3.1.1 Continuous Monitoring
6.3.2 Internal Audits by Operational Departments	3.1.2 Internal Audits by Operational Departments
6.3.3 Internal Evaluation	3.1.3 Internal Evaluation
6.3.4 External Auditing of the SMS	3.1.4 External Auditing of the SMS
6.3.5 Investigation	3.1.5 Investigation
6.3.6 Employee Reporting and Feedback System	3.1.6 Employee Reporting and Feedback System
6.4. Analysis of Data	3.1.7 Analysis of Data
6.5. System Assessment	3.1.8 System Assessment
6.6. Preventive/Corrective Action	3.1.9 Preventive/Corrective Action
6.7. Management Reviews	3.1.10 Management Review
6.8. Continual Improvement	3.3 Continual Improvement
7. Safety Promotion	4.0 Safety Promotion
7.1. Safety Culture	4.0 Safety Promotion
7.2. Communication and Awareness	4.2 Communication and Awareness
7.3. Personnel Requirements (Competence)	4.1.1 Personnel Requirements (Competence)
7.4. Training	4.1.2 Training
7.5. Safety Lessons Learned	3.3 Continual Improvement

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