Safety Management Systems (SMS) Program

Chester County Aviation

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RECORD OF REVISIONS

No.	Date of Revision	Affected Pages
01	October 06, 2021	1-16
02	March 11, 2022	As Indicated by Change Bars; 12,13
03	June 01, 2023	As Indicated by Change Bars; 1,9,10,12,13,14

REVISION OVERVIEW

This is an overview of the changes incorporated with the most recent version of this document. The revised items below are marked in the margins with change bars. Read each change carefully to verify you fully understand the changes.

Revision 03, active June 01, 2023

VAR Fixed Various Typos
p.1 Original release of content
p.9 Added the term “incidents” to show the safety team is not just for major accidents.
p.9 Restructured the presentation of safety team members.
p.10 Indented 5.2.1.1 and 5.2.1.2 to streamline presentation of the steps.
p.12 Added the use of an abnormal or emergency checklist (not for training) as a required VSOAR report
p.13 Added the new Safety Officer, Joshua Wanagel.
p.13 Restructured the ERP for CCAAA new ERP.

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SECTION 1: GENERAL

1. **Purpose.** The purpose of a Safety Management System (SMS) at Chester County Aviation is to protect our pilots, mechanics, and passengers from injury and to minimize damage to property.
   - **1.1.** This document outlines the CCA SMS approach to safety and risk management (RM), developed after and adapted from industry best practices and FAA AC 120-92B.
   - **1.2.** A thorough understanding of the purpose, components, and processes outlined in this document is vital to the success of the CCA Safety Program and vision.

2. **Safety Vision.** The vision of CCA's SMS program is to be known as the best SMS model to small flight training operations through proactive actions, risk management, continuous improvement, safety education, and a strong culture focused on safety.
   - **2.1.** *Proactive Action*. This will be made through our safety reporting system and regular meetings of the safety team to identify weaknesses in our operation and make recommendations to improve safety before an accident occurs.
   - **2.2.** *Risk Management (RM).* Recognizing that there is always an element of risk in our operation, and in our daily lives, RM is an on-going process used in the planning and execution of all CCA flight operations, in groups and as individuals.
   - **2.3.** *Continuous Improvement*. As our operation continues to evolve and fleet expands or regulations change, CCA needs to be flexible into a new environment. The real world is a dynamic environment and our approach to safety must be the same.
   - **2.4.** *Safety Education.* Staff will be trained on the theory and practice of RM so that every employee possesses the competence and confidence to employ RM in every aspect of their job.
   - **2.5.** *Safety Culture.* CCA will employ a strong culture of safety by promoting SMS concepts to all staff and customers. Safety begins with us and our mindset towards safety.

3. **Safety Management Systems Model (SMS.)** The CCA SMS approach to safety reflects an organizational commitment to use of RM in CCA flight and ground operations. SMS relies on four components to be effective.

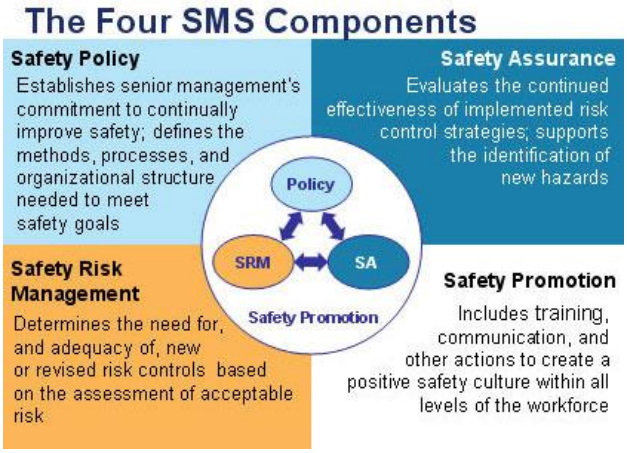

Figure 1 The Four SMS Components

3.1. *Safety Policy.* Establishes senior management's commitment to continually improve safety; defines the methods, processes, and organizational structure needed to meet safety goals.

3.1.1. Use/Development of a Standard Operating Procedure Manual (SOPM) to aid in transferring the safety policy and best practices to our customers and students will be vital. Instructor pilots will be the stewards of the safety culture, polices, and best practices.

3.1.2. Education of staff members on our best safety practices and safety policy to improve our communication about safety.

3.1.3. Management review of data and set safety goals to continuously improve the flight and ground operations.

3.2. *Safety Risk Management (SRM).* Determines the need for, and adequacy of, new or revised risk controls based on the assessment of acceptable risk.

3.2.1. RM is the key to accident prevention. Being an active member of continuous risk assessment is key to the success of SRM.

3.2.2. The loop in the *Figure 1.2* symbolizes that the RM process is on-going. The process begins in the planning stages with hazard identification and assessment of risk. Risk controls are developed and implemented. Supervision and evaluation ensure controls are effective and adjusted when needed. The process continues after the operation with assessment of the effectiveness of the controls, allowing for continuous improvement efforts.

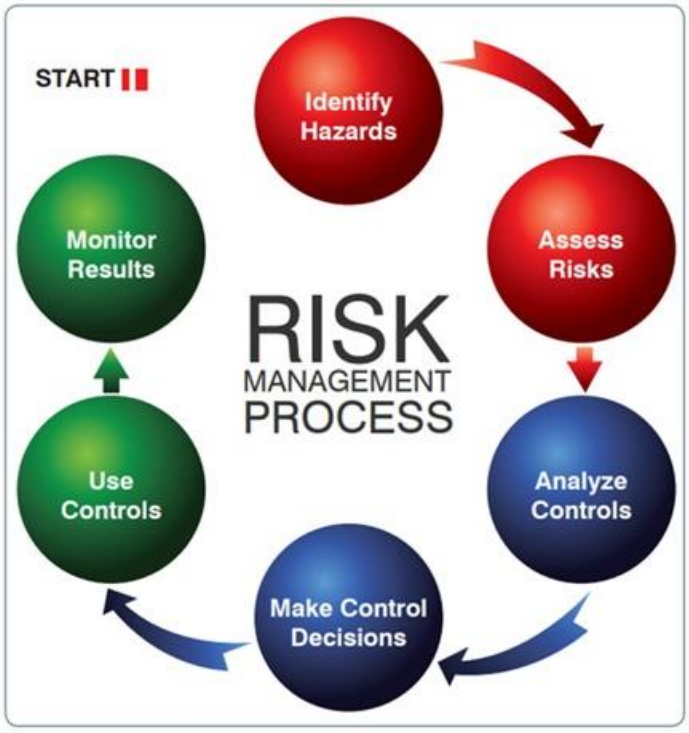

Figure 1.2 Risk Management Decision-Making Process

3.3. *Safety Assurance (SA)*. Evaluates the continued effectiveness of implemented risk control strategies and supports the identification of new hazards.

3.3.1. SA is the evaluation, review, and monitoring that assures CCA management those elements of their safety program are effective. This includes assessments on how well the system itself is working, as well as a thorough review of accidents, hazards and undesirable events and their causes to ensure they are adequately addressed by the system. When areas for improvement are noted or new hazards are identified, they should be addressed through the methodical processes outlined in this document. RM combined with SA makes up the continuous improvement "loop" of the SMS.

3.3.2. Annual review of the SMS program by the safety team will occur.

3.4. *Safety Promotion.* Includes training, communication, and other actions to create a positive safety culture within all levels of the workforce.

3.4.1. Annually a safety meeting will occur for all staff members to discuss recent safety issues including a safety seminar providing education on safety related topics specific to our operation.

3.4.2. Safety must be a part of all staff meetings.

3.4.3. Staff and customer should receive visible recognition for their commitment and participation to the SMS program at CCA.

3.4.4. Strong communication between management, staff, and customers is critical to safety promotion and to an environment where safety is at the forefront.

3.4.5. VSOAR report posters should be placed in all spaces used by our pilots, mechanics, and passengers.

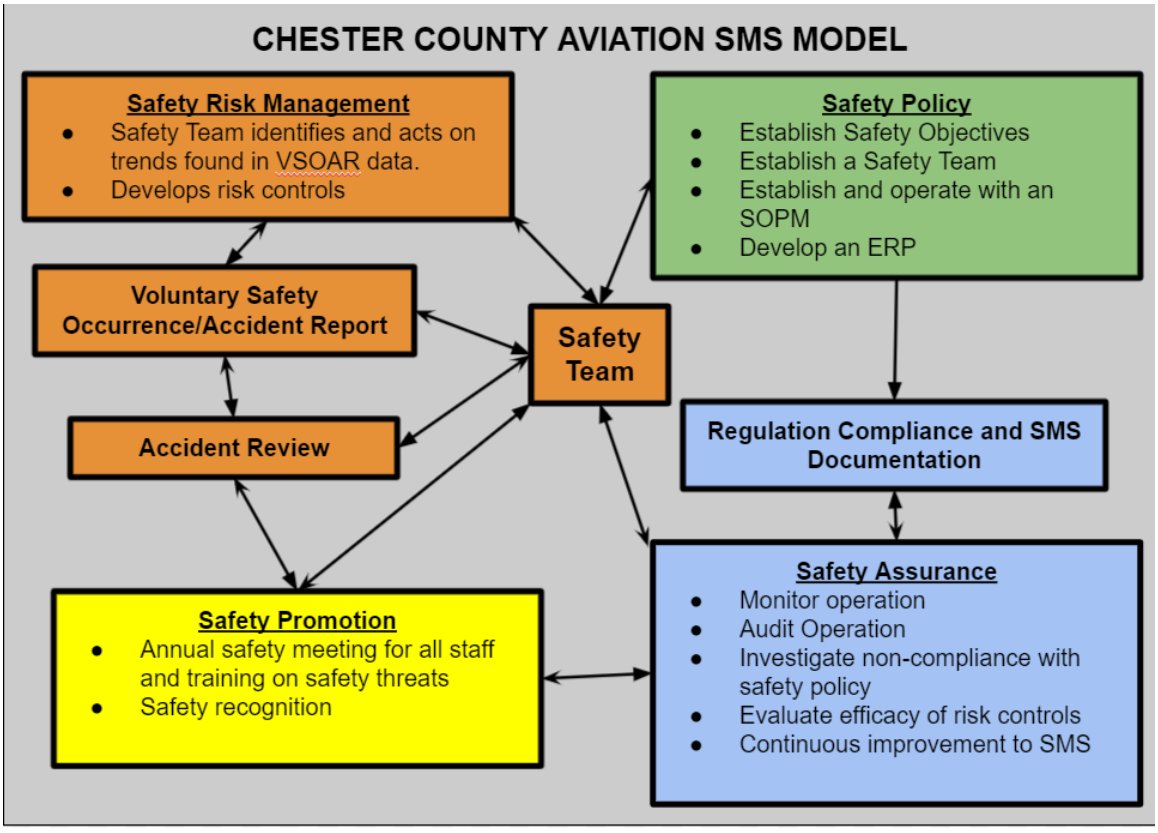

Figure 1.3 Chester County Aviation SMS Model

4. **Additional Risk Management Considerations.** Not all risk can be averted and handled but it is our responsibility to manage most risk to our greatest extent in our operations and everyday lives.
   - **4.1.** Everyone should use the consideration of **"accept no unnecessary risk."**
   - **4.2.** *Hot Weather*. Heat brings increased risk of dehydration and heat-related illness. Increases in heat, or humidity, or direct sunlight will increase the risk. Anytime it appears an operation may take place in hot or humid conditions everyone will specifically address the risks associated with the heat and develop risk controls in their plan to address the increased risk of heat related illness.
   - **4.3.** *Cold Weather*. Cold weather can also bring specific hazards and risks. Anytime extreme cold temperatures or prolonged exposure to the cold will present an increased risk of cold-related illness or injury, everyone should develop specific controls to mitigate the effects of the cold.
   - **4.4.** *Proper Clothing*. Proper clothing is critical to safety during pre-flight, in-flight, and post-flight. Proper clothing should be considered for departure, enroute, and destination unexpected incidents. Improper clothing could lead to death in extreme cold temperatures after a forced landing.
   - **4.5.** *Hearing Protection*. Many CCA flight and ground operation expose employees and customers to elevated sound levels which can result in damaged hearing. Proper actions should be taken to limit damage to hearing. Proper headset operation should be verified before flight.
   - **4.6.** *Use of a risk matrix*. A risk matrix is an excellent resource for pilots and mechanics to use to analyze risk objectively. A risk matrix is another tool the safety team will use to analyze SMS improvement and operational changes. Appendix A has the risk matrix.

5. **Safety Culture.** A strong RM-based safety culture provides a foundation for the success of the CCA SMS and requires an informed and involved participation. Everyone must be confident in their own role as contributor to, and beneficiary of, the success of the SMS. This informed culture begins with a basic awareness that there are hazards and risks which influence the outcome of all flight and ground operations, and these risks need to be addressed in a successful safety program.
   - **5.1.** Everyone must report mishaps and hazards for the SMS to succeed. The need to report accidents, deviations, near-misses, observed hazards, and improvement suggestions should be constantly emphasized by management at every level.
   - **5.2.** To encourage open reporting by members, members must be confident they will be treated fairly when they report. Management should foster an environment of trust where members are encouraged and even rewarded for reporting safety related information, while still realizing there is a line to be drawn between acceptable and unacceptable behavior.
   - **5.3.** All safety accident reviews should be conducted solely with the goal of determining "what happened and why" rather than "who is to blame." This just culture promotes an atmosphere where participants can speak freely in cooperation with an accident review, and will not be punished for blameless errors, but rather be part of the commitment to reduce such errors going forward.
   - **5.4.** A flexible culture is realized when the tenets of safety RM are employed at every level and at all operations and activities throughout CCA and in our daily lives.
   - **5.5.** Leaders at all levels should show a willingness to learn from errors as well as successes, inspiring others to follow their lead.

SECTION 2: SAFETY TEAM

1. Purpose. The safety team is in place to manage the CCA SMS, review data, and make recommendations to prevent accidents/incidents.

2. Members. Safety team members are appointed by CCA management and will need a strong commitment to the CCA SMS and continued safety of our operations.

2.1. The safety team will include the following members:

2.1.1. Safety Officer
2.1.2. Chief Operating Officer
2.1.3. Chief Instructor Pilot
2.1.4. Assistant Chief Instructor Pilot
2.1.5. Director of Flight Operations
2.1.6. Service Advisor

3. Meetings. A quarterly safety meeting will occur for the safety team to meet and discuss all the recent issues, identify trends, make recommendations to change, and improve the safety program.

3.1. All meetings should have some proactive/reactive means of analyzing the safety in our operations.

3.1.1. "Proactive means" will be hazard identification and the use of a safety survey to customers and mechanics.

3.1.2. "Reactive means" will be the review and identification of trends in VSOAR data.

3.2. *Safety Survey.* A survey review CCA's operation should be used at the outset and annually to re-evaluate our risk controls and the SMS program.

4. Responsibility. The single most important factor in the success of the CCA SMS is leadership. Leaders at every level of the organization will demonstrate their visible commitment to the SMS, RM, and the CCA Safety Program. "Leaders" are the members of the safety team and all employees of CCA. Active leadership is important to the success of the CCA SMS.

4.1. The CCA president is responsible for safety promotion of the safety team on the entirety of the CCA SMS.

4.2. The Chief Flight Instructor, Assistant Chief Flight Instructor, and Director of Maintenance will share the responsibility to employ measures to accurately determine the efficacy of the safety program and make changes as needed.

4.3. The safety officer will continuously monitor safety report data and follow up with investigations or recommendations to other team members.

4.4. The CCA Chief Flight Instructor will model and will lead other safety team members to achieve the highest degree of safety that CCA can.

4.5. The safety team will promote the SMS through active education of staff and customers .

4.6. The safety team will ensure all VOSAR posters are in good shape and have no issues.

5. Safety Assurance Improvements. Any trends identified by any member of the safety team should be brought up to the entire team and discussed to prevent an accident/occurrence. If timing is critical, that person will contact the CCA Chief Flight Instructor.

5.1. The use of a risk matrix will be used in implementing any changes to operation or SMS. The risk matrix will also be used in analysis of occurrence and prevention. Appendix A has the risk matrix.

5.2. *Change Process*

5.2.1. *Step 1*. Team member identifies a trend, develops a plan to prevent that issue, present the issue to the safety team.

5.2.1.1. Use of a risk matrix will be essential.

5.2.1.2. Documentation of all changes is required.

5.2.2. *Step 2*. At the next availability, the team will receive a presentation from the member recommending change and vote.

5.2.3. *Step 3.* Change will be implemented in a timeline determined after the vote.

SECTION 3: VOLUNTARY SAFETY OCCURRENCE/ACCIDENT REPORT (VSOAR)

1. **Purpose.** VSOAR data will be key in Safety Risk Management and Safety Assurance by identifying hazards that are present in our operation.
   - **1.1.** VSOAR data should be used as a measure of effectiveness of our risk management considerations and how to develop new risk controls to prevent future issues.
   - **1.2.** VSOAR data is by nature reactive, but it is key that data become proactive to developing recommendations then reactive to recent issues.
   - **1.3.** No punitive actions can be taken on VSOAR data within in reason.

2. **Access to VOSAR**. Everyone will have access to the report form to fill out. QR codes will be placed on poster in all heavily used locations to customers and employees. A link to the VSOAR report from will also be available on the CCA website.

3. **Content.** The information collected on the VOSAR are vital to the success of the CCA SMS. Below are all the questions asked on the from.
   - **3.1.** Date of occurrence?
   - **3.2.** What was the time of occurrence? (HH:MM)
   - **3.3.** Is it okay for a safety officer to contact you?
   - **3.4.** If you answered "Yes" to the question above, what is your full name and preferred contact information?
   - **3.5.** Was a NASA ASRS report submitted?
   - **3.6.** Were there any injuries?
   - **3.7.** If you answered "Yes" to the question above, what is the extent of injury?
   - **3.8.** Type of Incident?
   - **3.9.** Location of the incident?
   - **3.10.** What aircraft was involved?
   - **3.11.** What was your responsibility at the time of occurrence?
   - **3.12.** If there was damage, where was the damaged? Check all that apply as involved?
   - **3.13.** Was there a bird strike?
   - **3.14.** What was the prevailing weather at the time?
   - **3.15.** Did you encounter Wake Turbulence?
   - **3.16.** Was Wind Shear a contributing factor?
   - **3.17.** Provide a detailed sequence of events that lead to the occurrence. DO NOT include names.
   - **3.18.** What can Chester County Aviation do better to prevent this?

4. **Use of VSOAR Data.** VSOAR data cannot be used to make any punitive action against any individual and data can only be accessed by the safety team.
   - **4.1.** Data shall be reviewed as quickly within reason after a report has been submitted.
   - **4.2.** All Reports must be reviewed by a safety officer.
   - **4.3.** All data and trends will be reviewed in the safety meeting.

5. **Review of VSOAR Report.** Reports will be immediate sent to the safety officer and the Chief Flight Instructor.
   - **5.1.** A Safety Officer will respond to the information and review the report.
   - **5.2.** A Safety Officer will review that report and make comments on the resultant spreadsheet.
   - **5.3.** If the report warrants any danger, refer to Section 4 of this document (Emergency Response Plan)

6. **Required Reports.** This is a list of all accidents/occurrence that must be immediately reported.
   - **6.1.** Bird Strike
   - **6.2.** Severe Turbulence Encountered In-Flight
   - **6.3.** In-Flight Emergencies
   - **6.4.** Onboard Fires
   - **6.5.** Crew Incapacitation
   - **6.6.** Personal Injury
   - **6.7.** Aircraft Damage
   - **6.8.** Aircraft Limitation(s) Exceeded
   - **6.9.** Flight Control Malfunction or Fire
   - **6.10.** Aircraft Collision
   - **6.11.** Deviation from an ATC instruction or FAR
   - **6.12.** Near Miss
   - **6.13.** Anytime an Abnormal/Emergency Checklist is used (Not for training)

7. **In-Person Reporting.** An “open-door” mindset will be used for any employee for safety reporting. Any customer or employee should feel comfortable bringing up a safety concern that was not reported through the VSOAR report. If the person receiving the report is not on the safety team, contact a safety team member. If the report warrants any danger, refer to Section 4 of this document (Emergency Response Plan).

8. **VSOAR Link.** The VSOAR link is: **https://bit.ly/3rOjHz8**.

SECTION 4: EMERGENCY RESPONSE PLAN (ERP)

1. **Purpose.** An emergency response plan is in place to make timely, safe, and proactive decisions after an emergency event.
   - **1.1.** This should answer the question of:
     - **1.1.1.** Who to contact? How to Act? Resources to Use?
   - **1.2.** In all situations it is critical that all participants in an event remain calm

2. **Contact.** This is a list of people or organizations to contact to aid in crisis response immediately after an emergency event or time after.
   - **2.1. CCA Operations**: (610)-465-1225
   - **2.2. Safety Officer**, Joshua Wanagel: *(*607)-351-4720
   - **2.3. Chief Operating Officer**, Ken Fritz: (484)-368-9739
   - **2.4. Chief Instructor Pilot,** Nicholas McBride: (610)-930-6068
   - **2.5. Assistant Chief Instructor Pilot**, Thomas Birsch: (610)-405-0715
   - **2.6. Director of Flight Operations,** Doug Orr: (610)-596-1814
   - **2.7. Maintenance Coordinator**, Connor Lapps: (610)-596-1821
   - **2.8. KMQS Airport Manager,** Gary Hudson: (610)-383-6057
   - **2.9. KMQS Airport Maintenance Supervisor,** Doug Eadline: (484)-880-0190
   - **2.10. Signature Flight Support**, (610)-384-9000
   - **2.11. Police Non-Emergenc**y, Valley Township Police: (610)-383-7000

3. **Off-Airport landing.** This is any landing that was on a surface not intended for takeoff or landing. <u>These are the following steps to take in the event this occurs:</u>
   - **3.1. Immediate Action. DO NOT PANIC.** Call 9-1-1. Follow all of the dispatcher instructions.
   - **3.2.** Call the CCA Operations – (610)-465-1225.
   - **3.3.** CCA Ops will call 9-1-1, if necessary, to aid post-crash response. Advise the 911 dispatcher that this is an “MQS” alert status 4.
   - **3.4.** CCA Ops will notify the CCA COO, Chief Instructor Pilot, and Director of Flight Operations.
   - **3.5.** Once immediate threat to life has fallen, The CCA COO will contact the KMQS Airport manager and advise them of the situation - (610)-383-6057. If there is no answer, call the KMQS Airport Maintenance Supervisor - (484)-880-0190.
   - **3.6.** The CCA COO will contact the CCA CEO and assess the situation.

4. **Aircraft fire on the ground.** This is any fire that started at any location on the aircraft during any time on the ground. <u>These are the following steps to take in the event this occurs:</u>
   - **4.1. Immediate Action. DO NOT PANIC.** Call 9-1-1. Follow all of the dispatcher instructions.
   - **4.2.** Call the CCA Operations – (610)-465-1225.
   - **4.3.** CCA Ops will call 9-1-1, if necessary, to aid fire response. Advise the 911 dispatcher that this is an “MQS” alert status 3.
   - **4.4.** Westwood Fire Company can be reached directly at (610)-383-0538.
   - **4.5.** Ensure the main gate to the airport ramp is opened using the button.
   - **4.6.** CCA Ops will notify the CCA COO, Chief Instructor Pilot, and Director of Flight Operations.
   - **4.7.** Once immediate threat to life has fallen, The CCA COO will contact the KMQS Airport manager and advise them of the situation - (610)-383-6057. If there is no answer, call the KMQS Airport Maintenance Supervisor - (484)-880-0190.
   - **4.8.** The CCA COO will contact the CCA CEO and assess the situation.

5. **Aircraft mishap on the ground.** This is any ground related accident that causes damage to people or property that did not cause a fire. This includes but is not limited to: propeller strikes, gear up landings, aircraft taxied into a structure, accident with ground vehicle, or struck another aircraft. These are the following steps to take in the event this occurs:
   - **5.1. Immediate Action. DO NOT PANIC.** Call CCA Ops - (610)-465-1225.
   - **5.2.** CCA Ops will call 9-1-1, if necessary, to aid post-accident aid response. Advise the 911 dispatcher that this is an "MQS" alert status 4.
   - **5.3.** CCA Ops will notify the CCA COO, Chief Instructor Pilot, and Director of Flight Operations.
   - **5.4.** Once immediate threat to life has fallen, The CCA COO will contact the KMQS Airport manager and advise them of the situation - (610)-383-6057. If there is no answer, call the KMQS Airport Maintenance Supervisor - (484)-880-0190.
   - **5.5.** The CCA COO will contact the CCA CEO and assess the situation.

6. **Injury that is non-aircraft.** This is any non-aircraft related injury to any pilot, passenger, or mechanics. This is encompassing injuries obtained on a CCA aircraft or on CCA property. These are the following steps to take in the event this occurs:
   - **6.1. Immediate Action. DO NOT PANIC.** Call CCA Ops - (610)-465-1225.
   - **6.2.** CCA Ops will call 9-1-1, if necessary, to aid in medical assistance.
   - **6.3.** CCA Ops will notify the CCA COO, Chief Instructor Pilot, and Director of Flight Operations.
   - **6.4.** The CCA COO will contact the CCA CEO and assess the situation.

7. **Chemical spill.** This is any chemical spill including Jet A, 100LL, or oil that present a hazard to CCA operations. Extensive fuel spills may be included here. These are the following steps to take in the event this occurs:
   - **7.1. Immediate Action. DO NOT PANIC.** Call CCA Ops - (610)-465-1225.
   - **7.2.** CCA Ops will call Signature Flight Support - (610)-384-9000.
   - **7.3.** CCA Ops will notify the CCA COO, Chief Instructor Pilot, and Director of Flight Operations.
   - **7.4.** The CCA COO will contact the CCA CEO and assess the situation.

8. **All Maintenance.** This is any maintenance related mishap. These are the following steps to take in the event this occurs:
   - **8.1. Immediate Action. DO NOT PANIC.** Call CCA Ops - (610)-465-1225.
   - **8.2.** CCA Ops will call 9-1-1, if necessary, to aid in medical assistance.
   - **8.3.** CCA Ops will notify the CCA COO, Chief Instructor Pilot, and Director of Flight Operations.
   - **8.4.** The CCA COO will contact the CCA CEO and assess the situation.

APPENDIX A

FAA Risk Matrix

Severity / Likelihood	Minimal 5	Minor 4	Major 3	Hazardous 2	Catastrophic 1
Frequent A	[Green]	[Yellow]	[Red]	[Red]	[Red]
Probable B	[Green]	[Yellow]	[Yellow]	[Red]	[Red]
Remote C	[Green]	[Green]	[Yellow]	[Yellow]	[Red]
Extremely Remote D	[Green]	[Green]	[Green]	[Yellow]	[Red] * / [Yellow]
Extremely Improbable E	[Green]	[Green]	[Green]	[Green]	[Yellow]

High Risk [Red]
Medium Risk [Yellow]
Low Risk [Green]

* High Risk with Single Point and/or Common Cause Failures

SAFETY IS NO ACCIDENT

DID YOU SEE SOMEHTING HAPPEN?

WERE YOU INVOLVED IN A SAFETY OCCURENCE?

DO YOU WANT TO PREVENT AN SAFETY OCCURENCE?

CAN YOU PREVENT AN SAFETY OCCURENCE?

SAFETY STARTS WITH YOU

Scan this QR code with your phone's camera to get a link to Chester County Aviation's Voluntary Safety Occurrence/Accident Report (VSOAR). **OR** go to https://chestercountyaviation.com/ and press the VSOAR link at the bottom.

Only takes 10 minutes and is 100% anonymous