RACCA
REGIONAL AIR CARGO CARRIERS ASSOCIATION

SMS *Lite*

Version 2

A safety management system designed for regional cargo operators

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FOREWORD

RACCA's "SMS Lite Version 2" manual was edited and reorganized in early 2009 to harmonize it structurally and as to general content with the Safety Management System Framework document dated 6 February 2009 from the FAA Flight Standards Service SMS Program Office, which in turn shares structure and organization with the SMS Framework developed by the International Civil Aviation Organization (ICAO).

This RACCA "SMS Lite" basis document was composed in MS Word using simple formatting, with the intent that individual operators would adjust it as necessary to conform with their own manual formats. The manual is available electronically on the RACCA Website.

Material below in [CAPITALS SURROUNDED BY BRACKETS] requires individual companies to insert their own company names or appropriate text. The entire manual is intended as a basis for individual operators to go forward with a safety management system suited to their own operation, objectives, and company policies.

Much of this may be done by simply filling in the blanks and entering details of procedures specific to your company. Some editing, rewriting, deleting, and expanding upon this document will be necessary to tailor it to your company's needs – or it may simply serve as the basis for developing a SMS that is entirely your own based upon the principles here and in other available guidance.

But filling in the blanks in this basis document is not enough. We cannot over-emphasize the importance of your company embracing the fundamental concepts of SMS, training your personnel in their implementation, and YOU developing, implementing, and continuing to use a Safety Management System suited to, and useable by, YOUR company. An SMS manual that sits on the shelf and never gets used is worse than nothing at all!

The material is available for use without limitation to RACCA members. Regional Air Cargo Carriers Association asserts that reasonable care and diligence was exercised in its preparation. The Association assumes no responsibility or liability in connection with its use.

Tom Jordan
Richard Mills
John Hazlet
RACCA Safety Committee
April 2009

[COMPANY NAME]

SAFETY MANAGEMENT SYSTEM MANUAL

Section 1
Safety Policy and Objectives

Safety Policy and Management Commitment
As [PRESIDENT, CHIEF EXECUTIVE OFFICER, ETC.] of [COMPANY NAME], I wish to state this company's commitment to providing our employees with a safe work environment. The concept of a "safety culture" at [COMPANY NAME] begins with me. I have put this Safety Management System in place as a means of achieving that goal. This Safety Management System is published in [MANUAL, CHAPTER – WHATEVER THIS DOCUMENT IS CALLED IN YOUR OPERATION]. While perfection is difficult to achieve, it is [NAME OF COMPANY]'s goal to strive toward it, with an interim objective of continual improvement in the safety of our operations.

It is the policy of [COMPANY NAME] that employees report unsafe conditions and do not perform work related tasks if the work is considered unsafe. Employees must report accidents, injuries, and unsafe conditions to the Safety Officer or appropriate manager responsible for the type of activity involved. If you don't know who to make the report to, the Safety Officer will take care of it or forward it as necessary.

With regard to such reports, [COMPANY NAME]'s policy is that no such report will result in retaliation, penalty or other disincentive.

[SIGNATURE]
[PRINTED NAME AND TITLE]

Safety Accountability
Every employee of the company is accountable for safety. We cannot maintain a safe workplace unless we follow safe practices. We cannot address safety problems unless they are identified and reported. To that extent, everyone who works here from the [TITLE OF CHIEF EXECUTIVE] on down is accountable for maintaining a safe work environment in [NAME OF COMPANY]'s operations. Guidelines and procedures for reporting of safety issues and maintaining general safety in our activities are addressed in this document.

Recommendations to improve safety will be given thorough consideration by the Safety Officer and other appropriate company managers. If deemed necessary, they will then be forwarded to appropriate executives or the [PRESIDENT, CEO, ETC.] of [COMPANY NAME] for further review and implementation.

[COMPANY NAME] will give top priority to the identification and correction of unsafe conditions.

[COMPANY NAME] will take disciplinary action against any employee who willfully or repeatedly violates the rules, policies and procedures contained in this [MANUAL, CHAPTER – WHATEVER THIS DOCUMENT IS CALLED IN YOUR OPERATION]. This action may include remedial training, verbal or written reprimands and may ultimately result in termination of employment.

The [COMPANY NAME] Safety Management System applies to the following company activities:

- Flight Operations

[SELECT ADDITIONAL ACTIVITIES FROM THE LIST BELOW OR ADD OTHERS AS APPROPRIATE]

- Flight Following
- Aircraft Maintenance and Inspection
- Facility Maintenance
- Line Service
- Aircraft Fueling
- Office and Administrative Activities
- Use of company vehicles

Management Change

In the event of change of senior management personnel (including the CEO), the Safety Officer will brief the new manager on the Safety Management system. If the new manager is the [CEO, PRESIDENT, ETC.] the name and signature on the "Safety Policy and Management Commitment" statement at the beginning of this manual must be revised.

Section 2
Safety Officer

[COMPANY NAME] has established the position of Safety Officer to monitor company activities from a safety standpoint, identify areas where corrective measures are needed to ensure continued safety, and recommend improvements. The name of the person currently assigned as Safety Officer appears in the [COMPANY OPERATIONS MANUAL OR OTHER DOCUMENT].

Safety Officer Qualifications
The [COMPANY NAME] Safety Officer will either be an appropriately certificated and rated pilot who is – or has been – trained, qualified and current [IN AT LEAST ONE MAKE AND MODEL OF AIRCRAFT OPERATED BY <COMPANY NAME>], or an FAA certificated mechanic or aircraft dispatcher who is thoroughly knowledgeable as to all aspects of the company's operations. It not necessary that a pilot be currently qualified in company aircraft. [OPERATORS MAY ELECT TO SET DIFFERENT QUALIFICATIONS FOR THEIR SAFETY OFFICERS THAN THESE RECOMMENDATIONS, BUT IT IS IMPORTANT THAT THE PERSON HAVE ENOUGH EXPERIENCE, KNOWLEDGE, AND STANDING IN THE COMPANY TO DO THE JOB]

Authority and Responsibility
The Safety Officer has the authority to:

- Within the limits of applicable regulations and [NAME OF COMPANY]'s approved training program, determine the schedule for evaluating the effectiveness of control measures used to ensure the safety of flight. These include, but are not limited to, enroute checks to evaluate [COMPANY NAME] pilots knowledge in the areas of safety
- Assist management in reviewing and updating safety rules, policies and procedures. Such reviews will be based on accident investigation findings, audit findings, and any reports of unsafe conditions
- Accept and address anonymous complaints and suggestions from employees
- Participate in safety training and
- Assist management in monitoring flight operations safety education and training
- Assist management in the revisions of [COMPANY NAME] operating manuals, checklists, and similar documents
- Require individuals involved to submit reports of any safety-related event at [COMPANY NAME]
- Conduct an investigation of any aviation safety-related event at [COMPANY NAME]
- Conduct safety inspections and audits of any [COMPANY NAME] operation or facility
- Interface directly with top company management on safety issues

The Safety Officer is responsible for:

- Maintaining a reporting system for accidents, incidents and hazards to flight operations
- Obtaining and distributing safety information
- Conducting company safety inspections and audits
- Developing and/or maintaining a pre-accident plan, and supervising its implementation when necessary
- Implementing and monitoring risk control measures
- Conducting accident and incident investigations
- Making regular reports to top management on activities associated with SMS, specifically including specific safety problems and measures taken to mitigate them
- Implementing suggestions from top management related to safety issues
- Taking measures as necessary to continuity of the SMS – including discussing with the CEO, department managers, etc., the necessity of encouraging participation in the SMS

SMS Process Flow

Flow diagrams on the following page outline SMS processes in easy-to-understand form. Frequent reference to them as you use this manual will be helpful.

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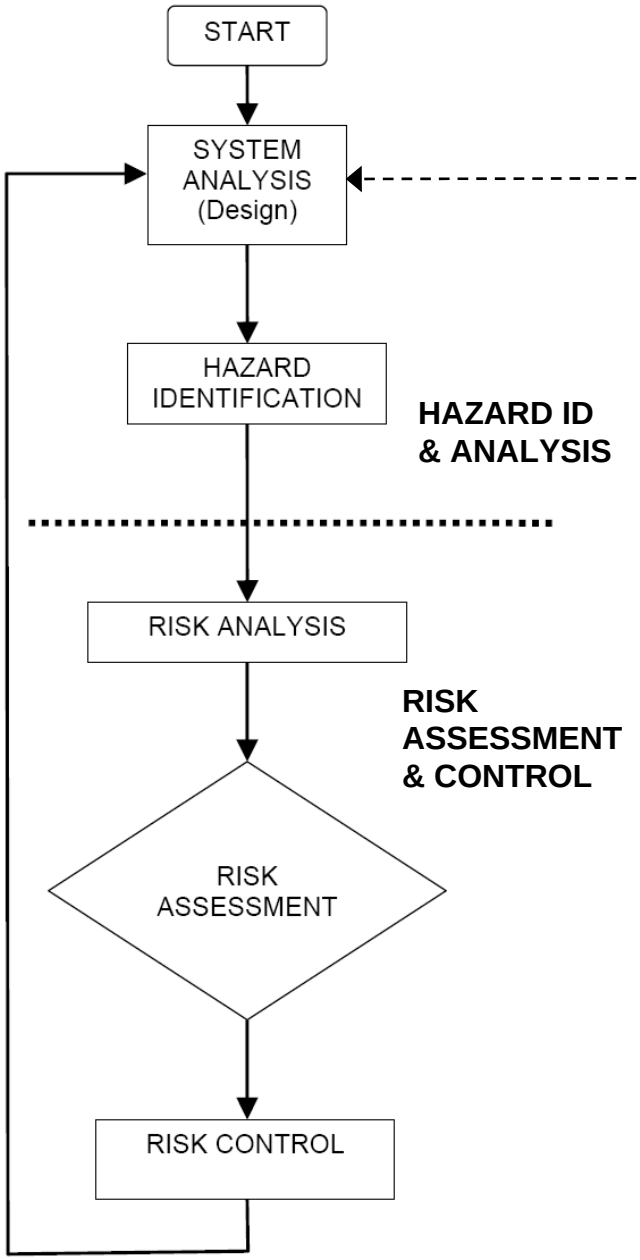

Fig. 1: Safety Risk Management Process flow diagram

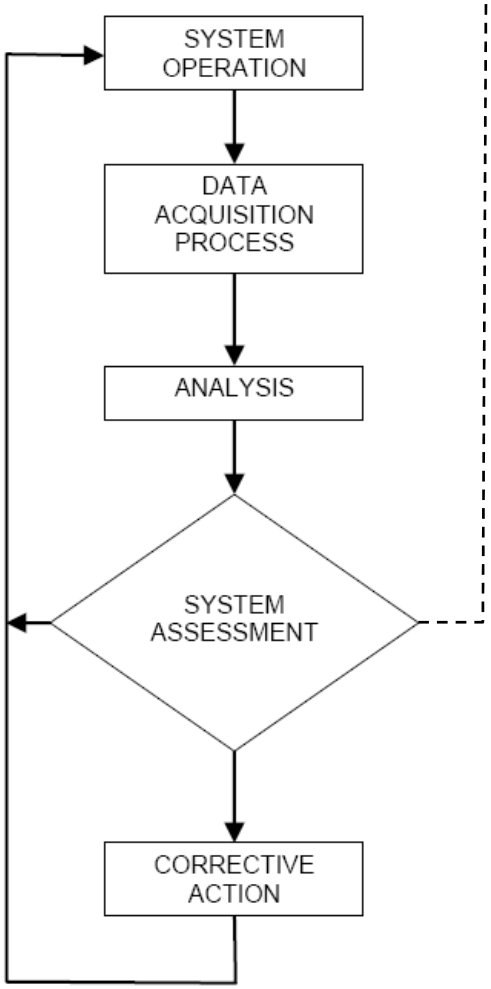

Fig. 2: Safety Assurance Flow Diagram

Dashed line from System Assessment in Fig. 2 to System Analysis in Fig. 1 indicates that Safety Assurance analysis and assessment may dictate redesign of one or more SMS elements.

Section 3
Reporting of Accidents, Incidents and Hazards

Accidents
All accidental damage to [COMPANY NAME] aircraft; injury to [COMPANY NAME] personnel or customers resulting from operations; or damage to non-[COMPANY NAME] property or injury to other personnel resulting from [COMPANY NAME] operations must be reported to [IDENTIFY POSITION AT COMPANY – DIRECTOR OF OPS, ETC.], who will in turn notify the appropriate company officials and the Safety Officer.

Incidents
[COMPANY NAME] employees will report the following:
AIRCRAFT –

- Any defect which adversely affects the handling characteristics or performance of the aircraft
- Failure of navigation or communications systems
- Loss of any external part of the aircraft
- Rejected takeoff
- Runway Incursion
- Landing on wrong runway or wrong airport
- Inadvertent engine shutdown
- Non-training inflight engine shutdown or failure
- Door warning (in flight)
- Significant fuel leak
- Fire, explosion, smoke, or toxic fumes in company aircraft or facilities
- Significant fueling error
- Insecure load, leakage or fumes from cargo
- Injury to any person while on or in company aircraft, [OPTIONAL] vehicles, or facilities

OTHER ACTIVITIES – [OPTIONAL]
Any other on-the-job activity, incident, or condition that is hazardous, or could result in hazards leading to injury, property damage, liability, or unwarranted cost.

Safety Reports
Safety reports may be made several ways:

- Verbal report, in person or via telephone, to the company safety officer. In the case of a verbal report, the Safety Officer will complete a safety report form to document the issue.

- Written report, on a Safety Report Form [THIS MAY BE ON A PAPER FORM, DELIVERED OR FAXED TO THE SAFETY OFFICER, OR VIA E-MAIL OR OTHER MEANS. ENTER SPECIFICS APPROPRIATE TO YOUR COMPANY

It is important that [NAME OF COMPANY] employees understand and believe that top management supports and encourages a non-punitive safety reporting program. We recognize that people make mistakes unintentionally. Identifying those mistakes and investigating their cause allows us to make changes that will reduce future risk.

However, not all safety problems result from accidental errors. A pattern of individual negligence, blatant disregard for safety, or chronic failure to comply with applicable company procedures, policies, and regulations, may result in disciplinary action at [NAME OF COMPANY] to preserve the overall safety of our activities.

All [NAME OF COMPANY] employees are responsible for reducing risk by maintaining a safety-oriented attitude. This includes following our policies and procedures. If a procedure is flawed and may lead to a safety problem, let us know. If you make a mistake and have the choice of covering it up, or reporting it to prevent someone else from making the same mistake, ***please*** report it to your supervisor or the Safety Officer.

Confidential reporting

If you are still concerned about reporting a safety concern, you may report the problem confidentially using a Safety Report From, but omitting your name, department, and/or other identifying data [APPROPRIATE PROCEDURE FOR YOUR COMPANY]. Your report will only go to the Safety Officer, who is authorized by [THE PRESIDENT, CEO, ETC.] to keep your report confidential. While confidential reports are acceptable – and appropriate in some cases – you should remember that the Safety Officer cannot go back to an anonymous reporter to request further details on the problem; this may interfere with resolution of it.

Emergency Preparedness and Response

Procedures related to [NAME OF COMPANY]'s preparedness and response are contained in [SEPARATE MANUALS – TYPICALLY GENERAL OPERATIONS MANUAL, MAINTENANCE OPERATIONS MANUAL, ETC. INSERT SPECIFICS HERE].

Section 4
Safety Promotion and Training

Safety Orientation
Safety Orientation will begin on the first day of initial employment or job transfer. Each [pilot] [employee] [OR BOTH] will have access to a copy of this manual, through his or her supervisor, for review and future reference. Each pilot will be given a personal copy of [COMPANY NAME] safety rules, polices and procedures pertaining to his/her job.

Employees will be instructed that compliance with the rules, policies and procedures described in [THIS MANUAL / OTHER COMPANY PUBLICATIONS AS APPLICABLE] is mandatory.

All training will be documented and records will be maintained by [INSERT RESPONSIBLE JOB TITLE].

Safety Promotion
One objective of [NAME OF COMPANY]'s safety training is to promote the concept of the Safety Management System. The system depends for its success on all company personnel, from top to bottom, participating: Both from the standpoint of day-to-day safe work practices, and identifying, reporting, and resolution of safety problems in accordance with the SMS.

Training Expectations and Competencies
As a result of SMS training, we expect that that employees will –

- Acquire an understanding of the program, its purpose, and how to use it – in short, to become competent in practice and implementation of [NAME OF COMPANY] SMS policies and procedures.
- Understand that the key to success of the SMS is participation, open communication, and awareness of potential risks in the workplace and means to resolve them

Job-Specific Safety Training
PILOTS

- Basic Indoctrination Training for pilots, as specified in the [COMPANY NAME TRAINING OR OTHER MANUAL], will include review of company safety procedures, policies, and publications, including this [MANUAL, CHAPTER, ETC.]
- Recurrent Training
    - Review of company SMS policies and procedures
    - [REFERENCE TO SPECIFIC RECURRENT GROUND, FLIGHT, EMERGENCY/DRILLS, ETC., TRAINING SHOULD BE INSERTED HERE AS APPLICABLE TO YOUR OPERATION]

[NON-PILOT EMPLOYEES]

[APPLICABLE INITIAL AND RECURRENT (IF APPLICABLE) TRAINING SHOULD BE INSERTED HERE – MAINTENANCE, INSPECTION, FIRE/EMERGENCY EVACUATION DRILLS, LINE SERVICE, AIRCRAFT TOWING, FUEL DISPENSING, FORKLIFT AND OTHER POWER EQUIPMENT TRAINING, OFFICE EVACUATION AND FIRE PROCEDURES, ETC.]

Section 5
Accident/incident investigation and Analysis

Accident/Incident Investigation Procedures
In the event of an aircraft accident, incident, or overdue aircraft, the Safety Officer will ensure that the FAA and NTSB are notified and will coordinate company participation in the NTSB or FAA investigation.

In addition to local, state and federal investigations, [COMPANY NAME] will perform an internal investigation using policies and procedures from [THIS MANUAL, OR AS APPLICABLE], augmented by other applicable company manual material.

A company investigation will be conducted on any aircraft accident or incident, and selected non-aircraft-related incidents involving company personnel, injuries to company or other personnel, or property damage where the Safety Officer and [THE CEO, DIRECTOR OF OPS, ETC.] determine that such an investigation would be effective in mitigating future risk or loss. The Safety Officer will have access to any company records relevant to the accident and is authorized to interview any company personnel who might have knowledge of the accident or incident.

Any aircraft accident or selected incident investigation will include, but is not limited to the following activities. A file of appropriate data arising from the investigation will be maintained by the Safety Officer.

- Identify and interview witnesses
- Conditions as appropriate, to include, but not limited to, the following:
    - Weather
    - Time of day
    - Airport (or other) conditions, including runway conditions, lighting, etc…
    - Aircraft or equipment maintenance logs, if applicable
    - Aircraft flight records
    - Pilot records
    - Pilot flight-duty-rest times
    - Applicable Advisory Circulars or other data
    - Hazard reports
    - Investigative reports of Federal, State, Country and Municipal agencies
    - Medical Reports
    - Autopsy Reports
    - Wreckage Scene Photographs
    - Instrument Approach procedures charts
    - Reports of similar accidents involving similar aircraft

    - NTSB Safety Summaries and Recommendations
    - If available, recordings of all communications relevant to the accident flight
- Complete Accident Investigation Report
- [OPTIONAL: APPROPRIATE, SIMILAR ACTIVITIES AND ITEMS APPLICABLE TO INVESTIGATIONS OF NON-AIRCRAFT EVENTS]
- Recommendations for corrective action, remediation of risk, procedural changes, etc.
- Need for additional or remedial training as applicable

Accident and selected investigation reports must be submitted to the [COMPANY NAME] Safety Officer within 72 hours of the occurrence and will be forwarded to the [CEO OR AS APPLICABLE].

Analysis
Following an accident, incidents selected by [APPLICABLE PERSON – SAFETY OFFICER PLUS PRESIDENT, CEO, ETC.] for analysis, or Safety Reports that require action, the Safety Officer will convene a committee to analyze the event and –

- Identify areas where failure to comply with applicable rules, policies, or procedures caused or contributed to the event, if applicable
- Identify areas where risk of future, similar events could be reduced
- Assess the level of risk involved
- Develop, or propose, procedure or policy changes to reduce risk in future, similar situations
- Implement, or propose for implementation to [APPLICABLE COMPANY MANAGERS] the changes
- Arrange for appropriate followup and auditing

Section 6
Recordkeeping

The Safety Officer will control and maintain pilot accident and incident records. Records will include:

- Company Aircraft Accident/Incident Investigation reports
- Reports of other company accidents involving personnel injury or death, or property damage

Records will be maintained of operational safety issues brought to the attention of the Safety Officer, including:

- Date
- Local time in 24 hour format
- Location:
    - Airport, including specific location on the airport
    - Other specifically described location as applicable
- Description of threat to safety
- How the matter was resolved

Records will be kept on active file, by means of paper or digital storage, at [COMPANY NAME] headquarters for a period of five years [OR AS SPECIFIED] after which they may be [MOVED TO INACTIVE STORAGE OR DESTROYED – CONSULTATION WITH LEGAL COUNSEL IS RECOMMEND REGARDING THIS ITEM].

Section 7
Safety Rules, Policies and Procedures

The safety rules, policies and procedures on the following pages have been prepared to protect [COMPANY NAME] pilots during flight operations.

All [COMPANY NAME] pilots will refer to adhere to the following as applicable:

- Federal Aviation Regulations that pertain to [COMPANY NAME] operations
- Applicable portions of the Aeronautical Information Manual or equivalent publications (such as J-Aid)
- Aircraft Pilots Operating Handbooks, Airplane Flight Manuals, Quick Reference Handbooks, and similar publications
- Applicable [COMPANY NAME] aircraft checklists and Standard Operating Procedures
- [COMPANY NAME] Operations, Maintenance, and other applicable manuals, and associated Operations Specifications

[COMPANY NAME] will provide pilots and other employees with (or make available by means acceptable to the FAA) each of the following:

- Initial indoctrination and [IF APPLICABLE – CERTAINLY RECOMMENDED] recurrent training in company safety policies and procedures, including the reporting procedures in this [MANUAL, SECTION, ETC.].
- Aircraft Pilots Operating Handbooks, Airplane Flight Manuals, Quick Reference Handbooks, and similar publications applicable to their assignments
- [COMPANY NAME] aircraft checklists and Standard Operating Procedures applicable to their assignments
- Accident and Incident Avoidance guidance
- For non-pilot personnel, [COMPANY NAME] Operations, Maintenance, and other applicable manuals, Operations Specifications, and other company publications as applicable to their assignments

[COMPANY NAME – OPTIONAL SECTION, APPLICABLE IF THIS MATERIAL EXISTS; WE RECOMMEND IT] will supply each employee with (or make available by electronic or other means) a copy of each of the following as applicable to the employee's job:

- [COMPANY NAME] Accident and Incident Avoidance guidance
- [COMPANY NAME] Employee Handbook [OR EQUIVALENT PUBLICATION, IF APPLICABLE]

Responsibility for Provision of Company Documents and Manuals
Procedures for insuring that company documents cited above are maintained in current and serviceable condition can be found in [APPLICABLE COMPANY MANUAL OR DOCUMENT].

Section 8
Employee Reporting and Feedback

The purpose of Safety Reports is to let responsible management personnel know of an employee's experience, whether it occurred through an error on the part of the employee, by some problem noted on the job, or for other reasons. This report focuses on items that concern safety.

General
No disciplinary action will be taken against a person submitting a report, as a result of the report's findings. However, individuals who chronically violate company policies and procedures will be subject to review and corrective action as appropriate. The reports can be submitted anonymously.

Procedures

1. **Employee completes Safety Report** (SR) [COMPANIES SHOULD DEVELOP THEIR OWN REPORT FORM APPROPRIATE FOR THEIR OPERATION]
2. Employee sends the SR to the Safety Officer by U.S. Mail, COMAT, in person, or Email
3. [IF COMPANY E-MAIL WILL NOT SUPPORT A FILL-OUT-ABLE SR FORM If the employee submits a Safety Report via email, the safety officer will complete a SR form based on information from the email and attach a copy of the email to the report]
4. **The Safety Officer will investigate the safety concern** and report to the President, Director of Operations, Chief Pilot, Director of Maintenance, or other appropriate company manager with findings and suggested corrective actions
5. The Safety Officer will forward a copy of the completed SR to the President, and to the managers cited in Paragraph 4 above (as applicable) for review
6. **In meetings with appropriate company managers and other personnel, the Safety Officer will develop a resolution to the issue and monitor its implementation.**
7. **When resolution has been achieved, the Safety Officer will report the results back to the initiator of the report** (unless it was submitted anonymously). If the person submitting the report has requested confidentiality, the Safety Officer will honor that request.
8. Completed Safety Reports will be kept on file by the Safety Officer and made available for review by company managers and the FAA as provided below.

Action Timeline on Safety Reports

1. Safety Reports and Emails will be reviewed and evaluated within two [A REALISTIC NUMBER IN THE CONTEXT OF YOUR OPERATION MAY BE INSERTED HERE, BUT MORE THAN A FEW DAYS BLUNTS THE EFFECT OF THE SMS] working days by the Safety Officer.

2. If the issue has not been resolved within two weeks of receipt of the report, the employee imitating the report will be notified in writing of the current status of the report

Safety Report Form Availability

Safety Report forms will be made available to all employees through the [SELECT AS APPROPRIATE – SAFETY OFFICER, DIRECTOR OF OPERATIONS, ON THE COMPANY WEBSITE, FROM OTHER MANAGERS (NAME BY TITLE)]. If the person submitting the report desires confidentiality, that should be indicated on the report. If the report is submitted anonymously, the name area may be left blank – but bear in mind that the Safety Officer cannot go back to an anonymous reporter to request further details on the problem; this may interfere with resolution of it.

Section 9
Risk Management Process

Risk Management
Implementation and monitoring of the risk management process at [NAME OF COMPANY] is the responsibility of the Safety Officer.

1. Risk management is a proactive process that evaluates the risks associated with identified hazards. It establishes guidance to take action and maintain an appropriate level of safety.
2. The risk management process begins once hazards have been identified through actual incidents, hazard reporting, audits, or a safety assessment. Risk management evaluates the potential for injury or loss that may result from a hazard and then manages the probability of occurrence. The basic elements of the risk management process are:
    - **Risk Identification**
    - **Risk Analysis**
    - **Risk Assessment**
    - **Risk Control**
    - **Monitoring**

Risk Identification will involve study of entire areas of activity, as well as individual tasks, to identify areas of potential risk.
.
Risk Analysis is the first element in the risk management process. Once a hazard has been identified, the next steps are **analysis** of the risk and **assessment** of the risk's extent and consequences.

Probability → **Consequences ↓**		**Extremely Improbable** **1**	**Extremely Remote** **2**	**Remote** **3**	**Probable** **4**
Catastrophic	**4**	4 Review	8 Unacceptable	12 Unacceptable	16 Unacceptable
Critical	**3**	3 Acceptable	6 Review	9 Unacceptable	12 Unacceptable
Moderate	**2**	2 Acceptable	4 Acceptable	6 Review	8 Unacceptable
Negligible	**1**	1 Acceptable	2 Acceptable	3 Acceptable	4 Review

Fig. 3: Risk Assessment Matrix

Risk Assessment takes the work completed during risk analysis and goes further by conducting a risk evaluation. The probability and severity of the hazard are assessed to determine the level of risk. In the above diagram, the risk assessment matrix defines a method to determine the level of risk.

Use of the matrices: In Fig. 3 above, event probability is ranked from 1 to 4 along the top edge, most likely at the right. Severity is ranked from 1 to 4 along the left edge, most severe at the top. Risk evaluations that result in classification in the lower grey area of the table are acceptable. In the white area, they should be subjected to continuing review – preferably until they are moved into the lower grey area by further remediation. Risk levels are numbered in the individual cells of the matrix, and calculated by multiplying the "probability" number by the "severity" number, with 1 being the least risky, and 16 being the most risky. The Safety Officer should assign a risk level in the course of evaluating Safety Reports and take appropriate action as per Paragraph d) below.

For example (referring to Fig. 3), if the probability was "extremely remote" (2) and the consequences "moderate" (2), multiplying 2 x 2 = 4. This would fall in the lower grey "acceptable" area. Referring to Fig. 4 below, this places the event at the upper end of the "minimum risk" level. Recommended action is to proceed after considering all elements of risk.

VALUES	**RISK LEVELS**	**ACTION**
1-4	Minimum Risk	Proceed after considering all elements of risk
6-12	Moderate Risk	Continue after taking action to manage overall risk
16	High Risk	**STOP:** Do not proceed until sufficient control measures have been implemented to reduce risk to an acceptable level

Fig. 4: Risk Classification Matrix

Risk Control addresses risks identified during the evaluation process, determines what level of that risk is acceptable from a morale, reputation, business cost/benefit, or other standpoint, and develops further action to mitigate risks and maintain them at an acceptable level. In the upper grey area of Fig. 3, corrective action is clearly required and should be developed in cooperation with, and monitored by, the Safety Officer. Fig. 4 below will assist in determining the priority with which action must be taken, after determining a risk value from Fig. 3.

Corrective Action Plan: Corrective action is the means by which risk is controlled. It may involve a simple one-time fix, or development of a formal plan including justification for the control, estimated timeline, and cost. In either case, the "control" means must be included in the documents associated with each safety issue addressed by the SMS.

Monitoring is essential to ensure that once the corrective action plan is in place, it is effective in addressing the stated issues. The Safety Officer is responsible for monitoring "fixes" for identified risks, following up as appropriate to insure that risk exposure is maintained at an acceptable level, or taking further corrective action, procedure or policy changes, etc., as necessary.

Looking Ahead

SMS is not a strictly "reactive" program – where we evaluate problems that have already occurred and deal with them. An important element of SMS, and of risk management specifically, is being ***pro***active: In other words, employees and managers should all be on the lookout for practices, processes, customs, procedures, products, or equipment that contain potentially dangerous elements . . . and identify them *before* they cause a problem.

Often, opportunities to be proactive arise from employee reports and suggestions, beginning operations on unfamiliar routes, to new airports, with new kinds of aircraft, in new facilities, commencing maintenance or line service activities with new kinds of equipment, etc. All of us at [NAME OF COMPANY] need to be a part of identifying and solving these kinds of potential problems before they have a chance to hurt someone or interfere with the company's operations.

Section 10
Safety Assurance and Auditing

Safety Performance Monitoring and Measurement
The Safety Officer is responsible for developing and maintaining an ongoing program of safety monitoring, audits, analysis of data gathered by these processes, remedial action, and recordkeeping procedures. Audits will employ risk management procedures above where applicable.

As well as formal audits, the Safety Officer should encourage open conversation – in effect, continuous, informal monitoring – with any company employee who might have a safety concern – and take appropriate action.

"External Auditing" by Safety Officer
The safety officer will conduct periodic system assessment audits of company units that participate in the SMS. General objectives of these audits include:

- Employee and management understanding of SMS objectives and reporting procedures
- Compliance with existing company safety policies and procedures
- Evaluation of a "safety oriented attitude" in the workforce
- Analysis of audit and Safety Report data to determine where change or improvement is needed

External Auditing by Outside Entities
In larger organizations it may be beneficial to retain an outside specialist firm to periodically audit company SMS activities.

"Internal Auditing" by Individual Departments
Managers of company units that participate in the SMS should also conduct audits of their own activities, and are in a position to do so on a virtually continuous basis. Supervisors, foremen, leads, etc., should participate in this process where appropriate. Managers will include discussions of formal and informal intra-department audit and review activities in department meetings, and report the results to the Safety Officer.

The Safety Officer will assist in providing guidelines for intra-department audit and SMS review activities. [THIS SECTION WILL NEED TO BE REVISED OR SCALED TO WORK IN SMALLER COMPANIES WHERE INDIVIDUAL DEPARTMENTS MAY CONSIST OF ONLY ONE OR TWO PEOPLE]

[POTENTIAL SMS AUDIT TOPICS

- Route structure and 135.297 checks for compliance with company policies, including "ride along" route checks by auditor

- Airports approved for company use as regards SIDs, STARs, instrument approaches, and types of aircraft
- VFR policies and procedures
- Night flying policies and procedures
- Airport ramp and support facilities (general condition and adequacy, GPUs, deicing, weather info sources, etc.)
- Flight following procedures
- Company manual condition and currency
- Pilot instrument approach chart condition and currency
- Company check airmen (for compliance with company policies and FAA requirements)
- Hangar safety equipment and practices
- Company ramp and line service safety and practices
- Company refueling equipment, safety, and practices (if applicable)
- Company vehicle safety check
- Company office safety (availability of serviceable fire extinguishes, fire and emergency evacuation plans, etc.)

. . . THERE ARE NUMEROUS OTHER POTENTIAL AUDIT AREAS – TAILOR YOURS TO YOUR OWN COMPANY'S OPERATION]. [INDIVIDUAL OPERATORS SHOULD SELECT FROM THE OPTIONS ABOVE AND/OR ADD THEIR OWN, AS APPROPRIATE]

Followup

In addition to the audit topics above, two other areas will require periodic system assessment as part of the SMS audit process:

1. Followup on effectiveness of, and compliance with, general SMS procedures, employee familiarity with the process, and "fixes" for safety issues implemented as part of the SMS process. These audits may result in modification of the "fixes" to improve effectiveness and/or compliance, to reduce wasted time and motion if elements of the "fix" are not having a positive effect on safety, etc.
2. Followup on continued use of [NAME OF COMPANY]'s SMS, including understanding of it and proper application by line employees and managers. This may identify a need for formal or informal recurrent training, or modification of the initial SMS training.

Management review

The Safety officer will periodically review results of SMS activities with department managers and the company CEO. These reviews will specifically include:

- Safety issues and associated risk levels identified since the previous meeting
- Corrective/mitigation actions taken
- Results of followup on previous issues
- Request for input from managers

Frequency of these reviews will be determined by the Safety Officer on the basis of number and urgency of issues.

SMS Audit recordkeeping procedures

Audit and other records will be maintained by [SAFETY OFFICER OR WHOMEVER]. These records will consist of the following:

- Safety Reports, segregated as to new, in process, and completed
- Records of formal audits
- Records of informal audits (conversations with employees) that give rise to remedial or corrective action, policy or procedure changes, etc.
- Records of internal audits conducted by department heads
- Records of immediate action taken as a result of audit findings – individual counseling, meetings, management conferences, Voluntary Self Disclosures, etc.
- Records of long-term action taken as a result of audit findings – changes in company procedures and policies, revision of company manuals, etc.
- Summaries of Management Reviews

Records will be kept on active file, by means of paper or digital storage, at [COMPANY NAME] headquarters for a period of [SPECIFY] after which they may be [MOVED TO INACTIVE STORAGE OR DESTROYED – CONSULTATION WITH LEGAL COUNSEL IS RECOMMEND REGARDING THIS ITEM].