

**SAMPLE AVIATION SERVICES, INC.
OPERATIONAL SAFETY REVIEW**

**Conducted By
WALTER KRAUJALIS**

Date

EXECUTIVE SUMMARY

The Sample Aviation Services, Inc. (SAS) flight department substantially conforms to, and exceeds, the generally accepted standards of the industry.

No action items or recommendations are consider urgent in nature.

This Review produced 16 recommendations. Six of the recommendations concern administrative issues, seven recommendations concern flight operational procedures and three pertain to the hangar facility.

The Sample flight department had numerous standards that are excellent and clearly are at the top of industry standards. For example: the requirement that pilots be present to observe SAS aircraft being fueled; planning fuel reserves to destinations with only one runway; takeoff abort procedures; and runway braking action requirements.

INTRODUCTION

SCOPE OF REVIEW

The purpose of this Operational Safety Review was to determine whether the operating practices of Sample Capital Aviation Services, Inc. conform to the generally accepted standards of the industry. The industry in this case, refers to aircraft operators that are similarly structured and operating similar aircraft as a flight management company and air-taxi operator which also provides incidental support (“industrial aid”) to its parent company. The standard to achieve is that of the safe, reasonable and prudent aircraft operator.

This Review is not intended to affix blame or point fingers. It is to enhance safety through awareness of techniques that lead to a reduction in risk of loss. The typical aircraft operator is confronted daily with balancing operational flexibility with risk. Those procedures and practices that systematically reduce risk are encouraged.

It is beyond the scope of this Review to determine whether the operator is within full compliance of all applicable federal, state, and local regulations. For this Review, it is presumed that the diligent aircraft operator is aware of and maintaining compliance. Special mention is made in situations where non-compliance is obvious or where applicable regulations are typically not known to operators in the industry.

Procedures and practices that meet or exceed the accepted standard are not detailed in this report. Only those areas where improvement may be considered are listed with a recommendation.

DISCLAIMER: The performance, analysis and documentation of this Operational Safety Review by AERONOMX, or its employees and agents, is not to be used in any manner as a guarantee, warranty, certification or promise that the operator reviewed met any legal standard of documentation or performance.

BACKGROUND

This Review was conducted at the request of SAS management. The on-site visit was conducted on MM/DD/YYYY, at the SAS hangar facility at Sample County Airport, Sample, New York. The Review team consisted of Walter Kraujalis, AeronomX LLC.

The individuals interviewed for the Review were:

<u>NAME</u>	<u>POSITION</u>
Fred G	Director, Flight Operations
Bob	Chief Pilot
Gle	Director, Maintenance & Facilities
Mic	Senior Captain
Jos	Pilot
Joh	Pilot
Tor	Pilot
Fra	Pilot
Joh	Pilot
Jos	Maintenance Supervisor
For	XXX Crew Chief
Pa	XXX Crew Chief
Sa	Aircraft Detail
Lis	Office Manager/Flight Coordinator
Ph	Reception

SAS operates three jet aircraft, all of which were acquired in YYYY.

- XXX, N1234, flew 89.2 hours in YYYY, projected to fly 400 hours in YYYY, estimated to fly 100% of the time within North America.
- XXX, N2345, flew 150.0 hours in YYYY, projected to fly 480 hours in YYYY, estimated to fly 40-50% of the time internationally.
- XXX, N3456, flew 165.7 hours in YYYY, projected to fly 480 hours in YYYY, estimated to fly 10-20% of the time internationally.

In the past, SAS has operated a Falcon 20, a Hawker 700, and a Lear.

SAS operates under FAR Part 91, the General Operating Flight Rules and, FAR 135 the Operating Requirements of Commuters and On-Demand Operations. They are approved for world-wide operations.

GUIDELINES

The following section contains a list of Guidelines used by the Reviewer in evaluating whether the flight department is optimizing its resources and pursuing normal safe operating practices used throughout the industry. These Guidelines are not meant to depict the “right” way of conducting flight department operations. Rather, they are meant to raise certain issues within flight department operations that affect safety.

Those practices or procedures that met or exceeded the generally accepted industry standards are not mentioned in this Report.

Practices or procedures that generated a recommendation by the Review team are listed in the following “FINDINGS” section. The recommendation is numbered corresponding to the numbering used within the Guidelines.

FINDINGS AND RECOMMENDATIONS

Those practices or procedures that met or exceeded the generally accepted industry standards are not mentioned in this Report.

Practices or procedures that generated a recommendation by the Review team are listed here. The recommendation is numbered corresponding to the numbering used within the Guidelines listed in the previous section.

1.4.1 Common Destinations, Runway lengths

Findings: SAS regularly operates in and out of Smallville Airport.

Recommendation: See Recommendations 3.18.3 and 3.19.4 below. If, after adopting these Recommendations and the runway length at Smallville is insufficient, then the closest available airport meeting these criteria should be used.

2.4 Safety Program

Recommendation: Although recently there had been a pilot assigned with the responsibilities of being the “Safety Officer”, there is no definitive Safety Program in place. A Safety Program should be a two-pronged pro-active process for the gathering, analysis and use of meaningful safety information. First, there should be a constant review of industry safety practices and determination of whether they should be adopted. And second, the collection of information and suggestions for review within the flight department itself.

2.5.1 Staff Meetings

Recommendation: It has been a long time since the flight department has had a staff meeting all together. It is recommended to have such a meeting at least once a quarter, preferably once a month. It is difficult to schedule everyone to be present, however, guidelines can be set in establishing a “quorum” and then have the meeting either audio-taped or video-taped for those not present to know what was discussed. It must be mentioned that morale among the pilot group appears to have been adversely affected by the process of instituting the charter certificate. It appears that this can be alleviated by simply increasing the communications between flight department management and the pilots, through frequent and frank staff meetings and a pro-active stance by management.

2.13 Company Pre-Accident Plan

Recommendation: Section 2.08.00 of the 135 Manual and section 2.120 of the 91 Manual could be more definitive in a planned company response to an accident involving an SAS aircraft. See the AERONOMX Sample Corporate Aircraft Accident Response Plan in the Supporting Documentation section.

3.1 Flight Operations Personnel Job Descriptions

Recommendation: Consider splitting the responsibilities of Chief Pilot and Check Airman between two pilots.

3.3 Use of Part-time Pilots

Recommendation: Section 1.118 of the 91 Manual has good criteria for the use of non-company pilots. Recommend adding the requirement that non-company

pilots that have not previously flown with SAS be given a one-day orientation of the SAS Operations Manual, the cockpit of the specific aircraft to be flown, and familiarization with the checklists to be used.

3.8 Personnel Records

Recommendation: Within section 3.06.00 of the 135 Manual and section 1.105 of the 91 Manual, those records pertaining to the training, qualifications and discipline of pilots should be kept in accordance with the Pilot Records Improvement Act.

3.17.1.2 Weather Minimum Recommendation for Takeoff

Recommendation: Section 2.111.4 of the 91 Manual allows takeoffs under “zero-zero” conditions. We discourage this practice. The higher weather minimums stated within the same section are acceptable.

3.18.3 Takeoff Runway Minimums Recommendations

Recommendation: There should be an established margin of additional runway length for safety required over the FAR 91 takeoff distances given in the Aircraft Flight Manual. This can be stated as either a percentage of runway available or as a finite number (such as, 1,000 feet) over takeoff distance calculated. This is to enhance operational safety beyond the takeoff performance figures generated under the “clinical” aircraft certification process.

3.19.4 Landing Runway Minimums Recommendations

Recommendation: There should consistently be an established margin of additional runway length for safety required over the FAR 91 landing distances given in the Aircraft Flight Manual. Section 4.02.01 of the 135 Manual states that the landing runway shall meet the regulatory requirement of the aircraft landing within 60% of available runway, with no exceptions. Section 2.111.10 of the 91 Manual states that the runway length required is the landing distance multiplied by 1.3 for dry (landing within 77% of available runway) and 1.6 for wet runway conditions (landing within 62% of available runway). However, this 91 Manual requirement may be waived by the Director of Flight Operations on an individual basis. We recommend that there be no waivers. This is to enhance operational safety beyond the landing performance figures generated under the “clinical” aircraft certification process. At a minimum, there should be clearly defined criteria that are to be considered for reducing the landing runway length safety margin yet maintaining the same level of landing safety.

3.19.5 Weather Minimums to Initiate an IFR Approach

Recommendation: Section 2.111.7 of the 91 Manual allows an SAS pilot to initiate an approach with weather reported below the minimums prescribed for the approach specified. We discourage this practice of “look-see” approaches. This increases the risk of flight by knowingly flying closer to the ground with a high probability of not seeing the landing runway and then having to perform a missed-approach procedure.

3.19.7 Canceling IFR at Uncontrolled Fields

Recommendation: Amend section 4.06.04 of the 135 Manual and section 2.109 of the 91 Manual to adopt the practice of not canceling the IFR flight plan at uncontrolled airports until safely on the ground and clear of the runway. This

enhances emergency services response time in the event that an accident or incident were to occur during the landing.

3.24.3 **GPWS and TCAS Procedures**

Recommendation: Recommend that SAS develop and train to specific ground proximity warning system (GPWS) and traffic collision avoidance system (TCAS) escape procedures.

4.10.2 **Hangar Floor Area**

Recommendation: When tested, an eye-wash basin was inoperative on the north wall of the hangar. This should be repaired.

Recommendation: Suggest posting more “No Smoking” signs.

4.10.3 **Shop Area**

Recommendation: All power tools must be securely anchored to the floor for OSHA Control of Hazardous Energy requirements.

4.10.6 **Combustible Storage Area**

Recommendation: Review the adequacy of the fire-detection and suppression of this area. It appears that a fire would not be detected in sufficient time to be suppressed by the water sprinkler system.

Recommendation: Fluid spills are properly contained under the floor. However, it appears that it is rather difficult to remove the floor grating and clean up a spill, which would likely discourage personnel from cleaning up spills in a timely manner.

SUPPORTING MATERIAL

The following pages are references to developing a safety management program. First is a listing of the services from the Flight Safety Foundation. Then there is a listing of 3 books concerning aviation safety management.