

# **Safety Management System Development**

**Don Rickerhauser**  
**Manager, Safety and Security**  
**Bombardier Flexjet**





# Flexjet Overview

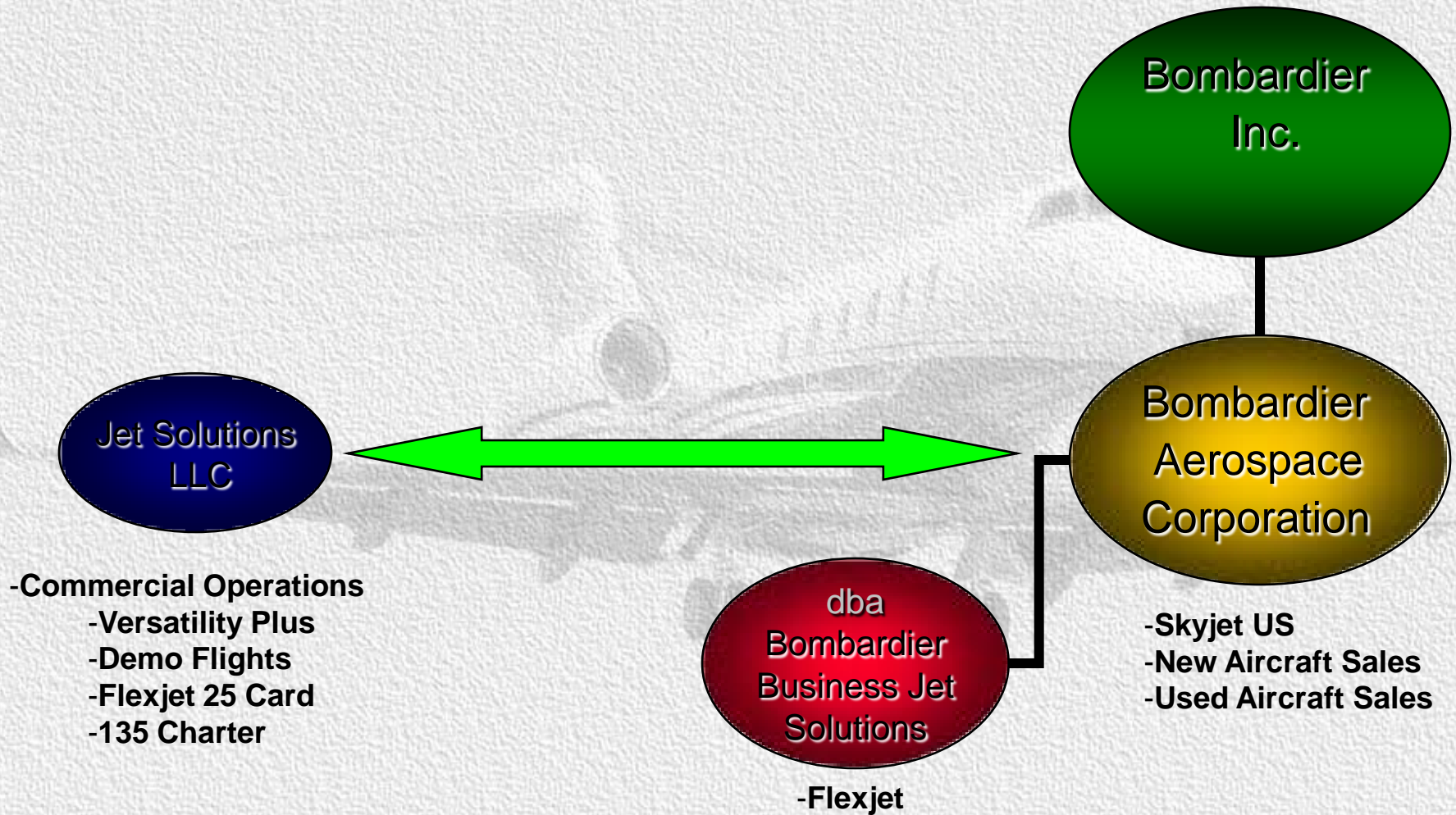


**FLEXJET**

BY BOMBARDIER



# Operational Structure





# Phase Zero

## → Objective

- × Prevent personal injury and property loss resulting from accidents and incidents through early identification and resolution of identified hazards.
  - Establish a positive safety culture
  - Identify hazards and risks throughout the entire organization.
  - Develop and implement interventions to correct identified hazards and monitor for effectiveness.
  - Communicate safety awareness throughout the organization.
  - Stimulate continuous improvement in safety performance.
  - Recognize and reward for good safety performance.



# Resources

- CAP 712 Safety Management Systems for Commercial Air Transport Operations
- Transport Canada Safety Management System
- Airline Pilots Association SMS Manual
- NATA Safety 1<sup>st</sup> Management Systems for Air Operators
- ICAO Safety Management Manual
- FAA Advisory Circular 120-92



# Core Components

## NATA Safety 1<sup>st</sup>

- Senior Management Commitment
- Safety Policy
- Safety Information
- Setting Safety Goals
- Hazard Identification and Risk Management
- Safety Reporting Program
- Audit and Assessment
- Accident and Incident Reporting and Investigation
- Training



# Phase 1

- Management Commitment
- Gap Analysis
- Implementation Roadmap



# Phase 1

## → Management Commitment

- × Participate in establishing safety performance goals.
- × Allocating resources to achieve these goals
- × Senior management must be kept informed on overall safety of company.



# Policy



FLEXJET BY BOMBARDIER  
3400 Waterview Parkway  
Suite 400  
Richardson, TX 75080-1476  
www.bombardier.com  
TEL 972-730-3800  
FAX 972-730-2043

December 2008

## Bombardier Flexjet Safety Management Policy


Safety is our highest priority because we care deeply about health and safety of our employees and customers and we are committed to ensure compliance with industry best practices and governmental regulations with regard to continual improvement in the level of safety in air travel, the work place, and the environment.

It is the responsibility and commitment of our highest levels of management to provide the direction and oversight needed to ensure that the Company monitor and assess the safety of the entire operation, provide a work environment conducive to maximizing safety in every aspect of our operation through communications, teamwork, and mutual respect, collectively identify, manage and control safety issues that have a negative impact on the safety of the Company and its employees, and to find ways to correct identified hazards and / or risks rather than affix blame on any certain individual or department.

To meet those responsibilities and commitments, our core safety objective is to focus on a systematic, explicit, and comprehensive process for the identification of latent failures, which provides a proactive approach to safety, and the investigation of active failures to prevent recurrence. Through the investigation of incident reports, the establishment and measurement of safety goals and objectives, trend analysis, the uninhibited reporting of all hazards, incidents and occurrences through our confidential reporting programs, the risk assessment process, and an internal evaluation program, we will identify emerging problems, generate corrective actions, allocate responsibility to fix those problems, and ensure that the responsible department representative provides the actions necessary for closure.

Every employee of Bombardier Flexjet has the responsibility to make our workplace safe for everyone. Each employee has the responsibility of bringing safety issues to the attention of their supervisor and / or the Safety and Security Department for the express purpose of correcting hazards before they adversely affect persons or property of Bombardier Flexjet. The Company has the responsibility to provide to every employee the opportunity to report those hazards and concerns and do so with confidentiality and without fear of reprisal. Every supervisor, manager, and / or department head must ensure that every reported safety concern is quickly resolved.

Safety is a fundamental part of our business and through our Safety Management System; we are committed to achieving the highest possible degree of safety in air transportation and along with our Company and our industry, share a common goal of providing a safe and healthy work environment for all Company employees.



Frederick W. Reid  
President, Flexjet



David W. Gross  
Vice President, Flexjet Operations



FLEXJET BY BOMBARDIER  
3400 Waterview Parkway  
Suite 400  
Richardson, TX 75080-1476  
www.bombardier.com  
TEL 972-730-2800  
FAX 972-730-2043

December 2008

## Flexjet Non-Reprisal Policy for Safety Hazard Reporting

Bombardier Flexjet is committed to the safest operation possible. Therefore, it is imperative that we have uninhibited reporting of all safety hazards, concerns and / or suggestions that in any way affect the safety of our operation.

Every employee at Bombardier Flexjet has the responsibility and right to report safety hazards, concerns and / or suggestions that may affect the integrity of our operation to their supervisor or to the Flexjet Safety and Security Department. The Company has the responsibility to provide to every employee the opportunity to report those hazards and concerns and do so with confidentiality and without fear of reprisal.


To promote the timely, uninhibited flow of information, it is the policy of Bombardier Flexjet that there will be no reprisal taken against any employee for reporting a safety hazard or perceived hazard, safety concern and / or suggestion.

The Company will not initiate disciplinary proceedings against an employee who discloses a safety hazard or perceived hazard, safety concern and / or suggestion involving safety. However, the non-reprisal policy does not apply to defined aircraft accidents, willful violations of law or company policy, or any event where there was intentional disregard for safety. The policy also does not apply to any event or condition that involves criminal activity, substance abuse, controlled substances, alcohol or intentional falsification. In such cases, the Company reserves the right to take disciplinary actions as appropriate.

The Company also reserves the right to take appropriate action in the event that a report indicates willful violations of law or company policy, intentional disregard for safety, or any event or condition that involves criminal activity, substance abuse, controlled substances, alcohol or intentional falsification by an individual other than the reporting individual.

The Company has in place a program for reporting safety hazards, concerns and / or suggestions that protect the identity of the employee who provided the information.

We urge every employee to use this program to help us provide the highest level of safety for our employees and owners. Every employee who submits a report will be provided feedback on the final outcome regarding his or her report.



Frederick W. Reid  
President, Flexjet



David W. Gross  
Vice President, Flexjet Operations





# Phase 1

## → Gap Analysis

### × Where are we now?

- Reporting
- Safety Committee
- Monitoring and Trend Analysis
- Risk Assessment
- Internal Evaluation
- Incident / Accident Investigation
- Safety Awareness and Information Distribution
- Training
- Emergency Response



# Phase 1

→ Gap Analysis → Implementation Roadmap

× Where do we need to be and how are we going to get there?

- Tools

- NATA Safety 1<sup>st</sup> Management System for Air Operators
- FAA Advisory Circular AC 120-92
- FAA Guidebook for Developing a Basic SMS
- Air Charter Safety Foundation Industry Audit Standard



# Phase 2

- Documented Safety Plan
- Documented Policies and Procedures
- Initial Training
- Processes for reactive occurrence reporting



# Phase 2

## → Safety Management Plan

- × (Senior Management Commitment / Safety Policy)
- × **Reporting** (Safety Reporting Program)
- × **Safety Committee** (Setting Safety Goals)
- × **Monitoring and Trend Analysis** (Hazard ID and Risk Mgt.)
- × **Operational Risk Management** (Hazard ID and Risk Mgt.)
- × **Internal Evaluation** (Audit and Assessment)
- × **Quality Assurance / External Auditing** (Audit and Asses.)
- × **Incident / Accident Investigation** (Accident / Incident Reporting & Investigation)
- × **Safety Awareness & Information Distribution** (Safety Information)
- × **Training** (Training)
- × **Emergency Response** (Emergency Response)
- × **Safety Recognition and Awards**



# Phase 2

## → Documented Policies and Procedures

### × Safety Management Manual

- Flight Operations Manual
- SOC Policy and Procedure Manual
- Quality Policy Manual
- General Maintenance Manual (Jet Solutions)
- Internal Evaluation Program Manual (Jet Solutions)
- Emergency Response Plan

### × AS9100



# Phase 2

## → Training

Position	Supervisory Personnel	Ground Operations Staff	Flight Crews	Safety Analysts	Safety Manager
<b>Training</b>					
OSHA (Office)	X	X	X	X	X
Accident / Incident Reporting	X	X	X	X	X
Hazard Reporting	X	X	X	X	X
Safety Data Collection				X	X
Audit Results Reporting	X			X	X
Flexjet Safety Management System	X	X	X	X	X
Corrective / Preventive Actions	X	X	X	X	X
Root Cause Analysis				X	X
Risk Assessment and Risk Management	X	X		X	X
Emergency Response Plan (ERP)	X	X		X	X
Disaster Response Plan	X	X		X	X
Aviation Safety Action Program	X		X	X	X



# Phase 2

## → Safety Reporting System

- × Web-based system used to report all matters of safety.
  - Flight Crew (irregularity and ASAP)
  - Cabin Crew
  - Maintenance Technicians
  - Dispatchers
- × Safety Suggestion / Hazard identification



# Phase 2

## → Reporting Channels

- × Safety Reporting System (web-based)
- × Paper forms (pre-addressed, postage-paid envelope)
  - Intranet and crew site, facility break rooms
- × Safety Hotline (toll free)
- × Safety email address
- × Direct call



# Phase 2

## → Three-Tiered Safety Committee Structure

### × Tier 1

- Employee Safety Groups
- Flight Safety Committee
- ASAP Event Review Committee

### × Tier 2

- Corporate Safety Committee

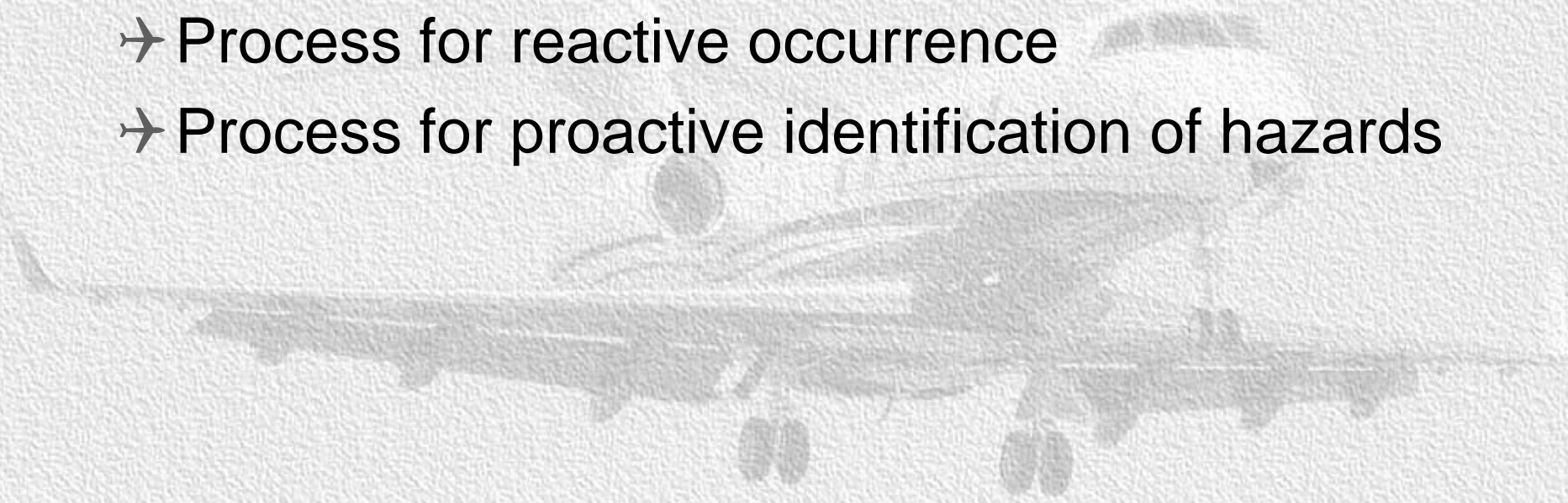
### × Tier 3

- Executive Safety Review Board



# Phase 3

- Process for reactive occurrence
- Process for proactive identification of hazards





# Phase 3

## → Monitoring and Trend Analysis

### × Company Safety Indices

- Operational Safety Indices
- ASAP Index
- Continuing Analysis and Surveillance
- Occupational Safety Index



# Phase 3

## → Safety Awareness and Information Dissemination

### × Program elements

- Communicate safety issues and objectives to the employee groups.
- Communicate safety policies
- Communicate safety performance
- Feedback to senior management



# Phase 3

## → Safety Awareness and Information Dissemination

### × Management Communications

- Weekly safety report
- Monthly operational safety performance report
- Monthly personal injury report



# Phase 3

## → Safety Awareness and Information Dissemination

### × Employee Communications

- Nice to Know

- Newsletter
- Website
- Bulletin Boards

- Critical

- Dispatch system
- Text messaging (Blackberry)
- Voice messaging system
- Company e-mail
- Safety Alert



# Phase 3

→ Internal Evaluation – Jet Solutions





# Phase 4

- Recurrent Training
- Quality Assurance
- Emergency Preparedness
- **Safety Recognition**



# Phase 4

→ Recurrent Training  
× Online





# Phase 4

## → Quality Assurance System

## → AS9100 International Standard

- × Controls that ensure customer requirements are met.
- × Defect prevention rather than defect detection
- × Continuous process improvement

## → Audit Process

- × Control of records and procedures
- × Document and data control
- × Discrepancy Action Reports
- × Internal Quality Audits



# Phase 4

## → Emergency Response Plan

- × Provides adequate and appropriate response utilizing a series of checklists
  - Category A – Major or catastrophic aircraft accident
  - Category B – Missing aircraft
  - Category C – In-flight aircraft emergency
  - Category D – Hijacking
  - Category E – Bomb Threat
  - Category F – NTSB reportable incidents
  - Category G – Facility Accident / Incident



# Phase 4

## → Safety Recognition Program

- × President's Safety Award
- × Aviation Safety Award
- × Safe Flying Award
- × Flex Air Safety Award
- × Maintenance Technician Safety Award
- × Safety and Health Achievement Award





Thank You

**FLEXJET**  
BY BOMBARDIER