

Safety Management System Emergency Preparedness

**"INNOVATION AND CHANGE IN CORPORATE AVIATION
EMERGENCY RESPONSE PLANNING"**

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Forward

Corporate aviation companies, when faced with an emergency, want to do the right thing, but are often unsure how to transition their intentions into planning or operation if ever needed. The Emergency Response Plan (ERP) is the guiding document that can encompass these intentions and put them into operational practice. The most effective corporate ERPs provide an operational platform and response chronology, and offer practical solutions that integrate industry best practices into response planning and operations.

The National Transportation Safety Board, via the statement of Member Deborah A.P. Hersman at the Corporate Aviation Safety Seminar (CASS) 2006, expressed concern over the lack of transparency in many corporate aviation operations. In recent meetings with the co-authors of this paper, NTSB leadership similarly questioned the ability of corporate aviation operators to respond to an accident efficiently and effectively and to meet the needs of victims and their families.

The consequences of failing to incorporate the modern expectations for victim and family assistance into the ERP transcend financial impact and business continuity. To respond poorly to a corporate aviation accident when the world is watching will impact the public image of the industry as a whole. Safety auditing agencies recognize the broad spectrum of risk and the profound negative impact on a corporate aviation operator for not including an ERP in their safety program, and are now including this area in their safety audits. Notable auditors such as those from the Aviation Research Group (ARG/US) are aggressively evaluating not only if the operator has an ERP, but if the plan incorporates vital components such as a robust and well trained family assistance team and an emergency contact notification team.

“Innovation and Change in Corporate Aviation Emergency Response Plans” details the modern advancements and expectations in corporate aviation ERPs. Those in corporate aviation all share the responsibility of preventing further unnecessary regulations by being *prepared* to do the right thing – and then *doing* it – when faced with an emergency.

SMS and Emergency Response- Preparedness and Planning

The Federal Aviation Administration (FAA) Advisory Circular AC No: 120-92, *“Introduction to Safety Management Systems for Air Operators”*, the International Civil Aviation Organization (ICAO) Safety Management Manual (SMM) Chapter 11 *“Emergency Response Planning”*, the Air Line Pilots Association International *“Background and Fundamentals of the Safety Management System for Aviation Operators”* and the FAA Guidebook for Air Carrier SMS all address the need to have Emergency Response Planning (ERP) as part of a company's SMS manual. The SMS process is evolving, and as it evolves, it is clear that the ERP and its associated components will become more recognized as an essential part of the organizational safety program. To understand the basics of an ERP, one must first understand the key components as they relate to the goals of SMS.

One of the key components of an SMS program is to identify potential risk, including the risk of incidents and accidents, and grade the risk as Acceptable, Acceptable with Mitigation or Unacceptable. To properly perform an emergency response plan risk analysis, one must understand the key considerations of a properly prepared emergency response plan and particularly how they relate to notification and family assistance. Some of the key attributes listed in the ICAO SMS Manual are:

1. To be able to respond successfully to an emergency, it is necessary to start with effective planning. An ERP provides the basis for a systematic approach to managing the organization's affairs in the aftermath of a significant unplanned event-in the worst case, a major accident.
2. Notification of relatives of victims
3. Accident site management of surviving passengers
4. Responding to the needs of victim's relatives
5. Handling of human remains and personal property of the deceased

The specific section of the 2006 ICAO SMS Manual Chapter 11, 11.3 k) Family Assistance states: "The ERP should also include guidance on the organization's approach to assisting the families of accident victims (crew and passengers). The guidance may cover such matters as:

1. state requirements for the provision of family assistance services;
2. travel and accommodation arrangements to visit the accident location and survivors;
3. assignment of a programme coordinator and point(s) of contact for each family;
4. provision of up-to-date information;
5. grief counseling;
6. immediate financial assistance to victims and their families;
7. memorial services."

Practical Example: The Executive Jet Management (EJM) Safety Management Manual, Section 9 "Emergency Response" provides guidance on how the company prepares to manage an aircraft emergency, incident or accident, how EJM will interface with the parent company, how it will prepare its emergency response teams, how the teams train, and the frequencies of individual and full exercises.

The company Safety Management Manual is the logical place for ERP steps to reside, and to administer guidance on planning and response.

When we look across the range of those operators that do have an ERP in place, we find that operationally, most emergency response plans should have **provisions for the following teams:**

1. Executive Team
2. Emergency Operations Center Team
3. Notification Team
4. Family Assistance Team
5. Communications Team
6. On-Site Team
7. Security Team
8. Information Technology Team
9. Safety/OSHA/EPA Team

For the majority of corporate flight departments or 135 charter operators, which are resource limited due to their size, staffing each of these teams to an acceptable level can be a daunting task. Fortunately the ERP is scalable and there are also external options to supplement the resources of the smaller operator.

As part of the ERP risk assessment, **staffing for each team** should be evaluated on:

1. the effect on the overall success of the response;
2. the effect on the company's ability to respond to family members of victims and survivors;
3. the effect on the continued operations during the response;
4. the effect on the expectations of regulatory agencies;

5. the effect on the company's reputation in the public's eyes;
6. the effect on the company's reputation in the customer's eyes;
7. the effect on the long term survival of the company.

Currently corporate and 135 charter operators are not legislated by law to provide assistance to survivors and family members of victims who are injured or perish in an aviation accident. That said, there is an undercurrent of professional expectation among the traveling public and within the regulatory offices that operators and large corporations with their own flight departments – will “*do the right thing*” and provide assistance to survivors, family members of victims and ground fatalities in the same manor that a commercial air carrier is required.

In part, this expectation has evolved from “Breaking News” coverage of high profile corporate aviation accidents. Many of these accidents have changed the face of the on-demand charter industry with heightened A008 operational control oversight by regulators, and customer's expectations that an aviation company will have an emergency response plan including trained notification and family assistance teams.

One of the major challenges and differences between legislated 121 scheduled carriers and non-legislated corporate and charter companies is the location of operations and people. Scheduled carriers operate out of specific airports and in most cases have staff trained in the basics of station emergency response. They have pre-determined rooms that the airport has designated to gather family and friends and the infrastructure to handle the large intake of people and media.

Conversely, corporate and charter companies fly to and from any airport that will support their aircraft and the customers' destination. The operator

may not have any employees stationed at the departing or arrival airport. This factor lends even less operational control in the first few hours after an event.

Most, if not all, of the initial on-scene first responder activities are out of the operator's span of control. The Airport Rescue Fire Fighting (ARFF) or volunteer fire department will respond, local law enforcement will manage traffic and crowd control, the local media will arrive, and airport management of the first responder agencies will likely hold the first press conference. During these first few hours the aircraft operator must effectively activate their plan, evaluate the accident location and determine the initial resources to deploy, and appraise the needs of survivors and victim's families. The ERP, therefore, guides the operator through the first several hours and brings it toward an operational state of readiness to respond as a company.

SMS and Emergency Response- The Emergency Response Plan

The ERP is not a bolt-on product or an amendment to your safety plan, it is an integrated operational methodology that is an essential part of your overall safety program, and must also match your organizational culture. In order to understand the connection between the ERP and the safety program, one must first embrace the fact that safety does not end in prevention.

While much of the organizational safety activity will likely involve proactive processes and systems to prevent accidents, it is the ERP that gives the safety manager options to address the remaining vulnerabilities that reside outside of prevention. Anyone who has worked in any appreciable amount of time in aviation knows that safety systems can make the operation as safe as possible, but as long as humans interact with

machines, there will always be a margin that prevention can never completely address. It is the ERP, and the response options it provides, that fills the gap created by the influence of chance, the risk inherent in man's interaction within the system, and the breaches created by equipment failures, inadequate training, and unforeseen hazards.

Within aviation circles, that which is known about effective ERPs resulted from commercial aviation and the infamous air disasters of the mid to late 1990s. The notable accidents of this period eventually led to ground breaking legislation such as the Aviation Disaster Family Assistance Act of 1996, the Foreign Air Carrier Family Assistance Act of 1997 and their amendments. While the requirements contained within these documents are limited to those operators within commercial aviation, the needs of victims and families after an aviation accident are not. Victims and families share common needs, and traumatic loss and grief make no discrimination across the aviation industry.

Corporate aviation is not commercial aviation however, and the emergency response realities operationally, demographically, and perceptually are much different than the realities of commercial aviation. Therefore, the planning, development, and implementation of an ERP for a corporate operator must capture and address these differences. In doing so, the corporate aviation ERP becomes not only a response tool that truly fits the realities of the corporate aviation industry, but also becomes an internal company resource that can be used not just in accidents, but virtually any scenario where serious injury, loss of life, or even exposure to a traumatic event occurs.

Operational Example: An accident on the hangar floor results in the loss of life of an aircraft mechanic. The ERP has operational procedures for contacting the mechanic's family and providing assistance. The training and exercises that your company has performed yield skilled company resources to professionally notify the family, offer condolences, and provide any necessary resources the family needs.

The ERP is an internal company resource that can be used in virtually any scenario.

An effective Emergency Response Plan has material and psychological qualities as well as preventative measures and mitigating qualities in the event an accident occurs. The material qualities of an ERP include provisions for the resources required to respond, which include trained personnel with a clear understanding of the need to respond professionally, compassionately, and with the necessary understanding and expectation of the boundaries of their role. The psychological qualities of an effective ERP are evident when employees report that they knew they worked for a company that would "do the right thing" if something bad happened. The ERP and associated trainings and activities that surround it firmly substantiate those feelings for employees. The preventative and mitigating qualities of the ERP are less evident at the surface, but are equally vital in establishing its value.

The very nature of the ERP seems to be a completely reactive one, or put differently, the ERP is the tool to use when safety fails. Therefore how is it that the ERP contains preventative and mitigating measures? In the previous discussion there was a comment regarding the accidents of the mid to late 90's. It is in the response (or lack thereof) to those accidents that we clearly see the preventative characteristics of the ERP, or more accurately, the results when the ERP is insufficient or non-existent. It is actually in the response - the way it is conducted, the level of training and preparation, and the breadth and scope of the response capabilities that we find prevention and mitigation.

A poor or unprepared response costs much more than just millions of dollars - it has put operators out of business or historically changed the brand by tying it to something negative. The toll on an untrained cadre of “responders” is simply more than most companies can bear. The families and victims who are treated poorly gain access to the media and tell their stories to the world. Groups are formed and those groups present their stories to our government and legislators, eventually leading to the creation of new laws and regulations. Much more important than the “good business” aspects of the ERP, are the moral and human aspects of the ERP. These provide the true value to the organization.

At a very fundamental and human level, a robust ERP prevents the exposure of victims and families to a *poorly constructed* process, and prevents a secondary trauma to victims, families, and company employees by having to negotiate their way alone through the chaos and distress of a *poorly constructed* response. The prevention qualities of the ERP, therefore, are actually found in the execution of it. The ERP is the vehicle that allows an operator to put its good intentions into operational practice, and mitigates the impact of the chaos and trauma already resident in the event. The resultant rewards are seen internally and externally, as the intention to do the right thing is demonstrated firmly and confidently. Let there be no mistake, a disaster is aptly named, but in proper management of the response, disorder returns to organization and control.

Effective ERP Planning and Family Assistance Training - A case study

The true organizational culture and ideals are best demonstrated when times are tough, not when times are easy. The construction of a robust ERP with sufficient resources and trained personnel, and the

organizational readiness to put it into action is simply the right thing to do, and puts your intentions into visible action.

In 2006, Executive Jet Management initiated a three year plan to expand the company's safety program as outlined in its General Operations Manual (GOM) to a full SMS and expand its current emergency response plan to reside within the guidance of the ICAO SMS Manual "Emergency Response Planning" guidance. During the gap analysis, the two areas that required the most attention were notification and family assistance.

To coincide with the company's goal of full SMS implementation by the ICAO member states' January 2009 deadline, a plan was developed to recruit and train additional notification and family assistance team members, gain synergy with governmental agencies involved in aviation disaster family assistance and develop relationships with legislated 121 air carrier emergency response departments. The goals that were set and accomplished for 2006 were:

1. Develop relationships with NTSB Board Members, Investigators and Directors
2. Evaluate current teams and restructure where needed
3. Develop relationships with ERP training providers
4. Develop programs for notification and family assistance training
5. Communicate with survivors and victim family members to understand the needs of these groups
6. Develop relationships with 121 air carrier emergency response department managers
7. Revise the emergency response manual to fit with-in SMS
8. Plan training schedules for 2007

In 2007, an aggressive training schedule was accomplished that allowed for a global corporate family assistance team which today exceeds 100 trained members. The initial family assistance class provided two days of instruction on working with survivors and family members of victims, roles of

outside agencies, why aviation disasters are different than other types of transportation accidents, different types of family centers, family briefings, psychological first aid principals, self care and other principals of family assistance. Three, 1-day recurrent classes were also provided to expand upon the basic skills learned in the 2-day initial class.

2007 Training Summary

In total, four initial and three recurrent family assistance classes were held in 2007. Four Maintenance Human Factors classes included training on the NTSB investigation process and the requirements and commitment that maintenance personnel would need to make if asked to be an investigation group member.

The year concluded with a full operational live exercise for the notification and family assistance teams, which included setting up a fully functional family assistance center at a local Holiday Inn, operating the center and handling family members that were played by local Red Cross volunteers and mental health professionals.

Timeline of 2007 Training Activities

1. January, two initial family assistance classes
2. May, third family assistance class
3. May, first recurrent family assistance class
4. May, Two one day Maintenance Human Factors classes with ERP components for maintenance personnel that may serve on a NTSB investigation group
5. June, exercise with family assistance team activation component
6. July, exercise with executive team with family assistance team component
7. August, fourth family assistance class
8. August, second family assistance recurrent class
9. August, third and fourth Maintenance Human Factors classes with ERP components
10. August, EJM vendor emergency response training seminar

11. August, participation in 121 air carrier ERP Working Group in Orlando
12. December, third family assistance recurrent class
13. December, full ERP drill for executive, notification and family assistance teams

In total - over 5000 man-hours of student and instructor time were dedicated in 2007 to train notification and family assistance teams to comply with the ICAO SMS Manual Family Assistance guidance and industry best practices.

In addition to being prepared to handle families in an aviation disaster, the skills that the notification and family assistance members learned transcend to other areas of the company and can be used to handle operational facility and personal emergencies.

Conclusion

Corporate aviation companies, when asked what they will do if faced with an emergency all provide the same answer -"the right thing". With that said, most are often unsure how to transition good intentions into safety planning or even into operational use if ever needed. The ERP is the guiding document that will incorporate the intentions of the company putting them into operational practice. When properly constructed, the ERP provides an "all-hazards" approach and integrates solidly within your company's safety and SMS program. It is the advent of the SMS program and the evolution of its worth as a safety tool that provides the corporate operator a solid foundation upon which to build an ERP. The failure to do so is not only a mistake from a good business perspective, it is a mistake from a safety standpoint, it is a mistake ethically, and the evidence is written plainly upon the pages of aviation disaster history. Together as an industry we will do the right thing.

Author's Biographies

Fred A Calvert

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Fred A. Calvert is the Chief Inspector, Air Carrier Certificate and Director of Safety at Executive Jet Management in Cincinnati, Ohio. Fred joined EJM in June of 1998 and had held various maintenance technician and management positions with the company.

For seven years prior to joining EJM, Fred held Station Manager and maintenance technician positions for various 121 air carriers at the Greater Cincinnati & Northern Kentucky International Airport conducting charter operations for Apple Vacations. Maintenance experience include Boeing 737-200/500, Boeing 727-100/200 and various corporate and general aviation aircraft

Fred's corporate aviation experience includes six years as a contractor for The General Electric Company, Corporate Air Transport based in Cincinnati performing maintenance on a Canadair Challenger 601.

Fred holds an Associate of Applied Science Degree in Aviation Maintenance & one year certificate in Employer & Employee Labor Relations from Cincinnati State & Technical College and has accumulated over 800 hours of formal classroom training from Embry-Riddle Aeronautical University and the National Transportation Safety Board Training Center in aviation safety, aircraft accident investigation and transportation disaster family assistance.

Fred is currently working on a BA in Psychology at The University of Cincinnati with a concentration in Crisis Intervention.

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Donald J. Chupp is the President of Fireside Partners LLC, a veteran-owned small business that began in early 2007 dedicated to helping organizations take care of their most important asset in a crisis – their people. Don develops and conducts specialized emergency response plans, provides educational seminars, and works in partnership with other safety and emergency response professionals around the country. Currently Don is working extensively with the commercial, corporate and business aviation industry developing emergency response plans, training programs, and exercises. Don is also an Adjunct Faculty Member at Wilmington University where he teaches courses in Decision Making and the Seminar in Public Administration in the MBA program.

Prior to his work with Fireside Partners, Don was the Program Director for the National Transportation Safety Board (NTSB) Academy. In this role, he managed the daily operations of the Academy and developed courses and workshops for the transportation industry and governmental agencies involved in disaster response, safety, and accident investigation. While fulfilling this role at the NTSB Academy, Don educated and managed the delivery of training courses for hundreds of emergency response professionals and planners in the airline, airport, and overall transportation industry.

Before coming to the NTSB Academy, Don was Assistant to the Director for the NTSB Office of Transportation Disaster Assistance. In this role he provided post-disaster family assistance for victims and their families after major transportation accidents. He managed the family assistance role in numerous accidents, including US Airways Express flight 5481 in Charlotte, NC in 2003, American Flight 587 in New York City in 2001, United Airlines

Flight 93 following the attacks of September 11th, 2001, and most recently, Comair Flight 5191 in Lexington, KY. Under National Response Plan objectives he responded to Hurricanes Katrina and Rita to provide assistance and liaison to agencies supporting the victims.

Prior to joining the NTSB, Don performed active military duty at Dover Air Force Base, Delaware. For eight of his twelve and a half years at Dover Air Force Base, Don worked on the flight line as an airframe and power plant mechanic, and later, a maintenance supervisor for the Transient Alert Flight. During these years, he was responsible for maintaining and servicing a variety of military and commercial airframes. Don held a seven-level heavy airlift maintenance certification, was engine-run certified on the Lockheed C-141A/B, and in 1995 attended and graduated from Advanced Aircraft Systems School at Travis Air Force Base, California.

In 1997, Don was selected to be the Family Support Readiness Program Manager at Dover AFB, DE. While in this position he served military families by constructing a comprehensive family support program to assist the military community during deployments, disasters, and wartime contingencies. He worked with military families following the USS Cole attack, both V-22 Osprey crashes, and several other military aircraft accidents. He has significant experience in developing disaster family support plans, operating family assistance centers, and the delivery of crisis intervention services.

Don holds an Associate Degree in Aerospace Systems Maintenance Technology, a BA with honors in Psychology, and an MS in Community Counseling. He is certified by the National Board for Certified Counselors, and holds certifications in Critical Incident Stress Management, Parent Education, and Family Wellness.

