FLIGHT SAFETY FOUNDATION

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3 April 2013

The Committee Secretary
Senate Standing Committees on Rural and Regional Affairs and Transport
PO Box 6100
Parliament House
Canberra ACT 2600
Australia

Dear Sir,

Aviation Accident Investigations

The purpose of this submission is to provide a brief to the Committee on the existence of an industry-based aviation standard that has been developed to address typically higher risk operational aviation activities engaged in support of the mining and resources sector.

This Basic Aviation Risk Standard should not be seen as a panacea for addressing all aviation risks, nor should it be seen as a protocol that would have prevented the accident that is the subject of the inquiry of this committee. It also does not infer that current national aviation regulations are deficient.

I would be happy to provide any supplemental information that may be desired or to provide a personal brief to committee members if requested.

Yours Sincerely,

Greg Marshall
Managing Director – BARS Program
Flight Safety Foundation Ltd.

Flight Safety Foundation

The Flight Safety Foundation is a not-for-profit organization that was established in 1947 whose mission is to 'pursue the continuous improvement in aviation safety and in the prevention of accidents'. It comprises of over 1,000 members from all facets of the aviation community including regulators and airlines across more than 100 countries.

The Foundation's headquarters is located in Alexandria, Virginia, USA and it has a wholly owned Australian registered subsidiary office based in Melbourne, Australia. The Melbourne office manages the Basic Aviation Risk Standard (BARS) Program on behalf of the member resource and other sector organizations.

The Foundation was selected to manage the Program due to it being a not-for-profit organization with an independent and impartial status.

BARS Program Background

The mining and resources sector is a large user of outsourced aviation support. Whilst fly-in, fly-out (FIFO) is the most obvious and visible use of aviation support, this is but one of a number of activities that are used on a day-to-day basis utilizing rotary and fixed wing aircraft both large and small. In addition to the diversity of aviation resource sector activities, operations typically occur in a variety of remote environments including desert, jungle, arctic and overwater. Activities also occur over hostile terrain that, under the BAR Standard, is defined as 'an environment in which a successful emergency landing cannot be assured, or the occupants of the aircraft cannot be adequately protected from the elements, or search and rescue response/capability cannot be provided consistent with the anticipated exposure.'

Historically, resource sector organizations had devised their own independent sets of standards embodied within their internal aviation management policies. These were derived from a variety of sources lacking in consistency and quality and were often not maintained in a contemporary state. Furthermore, it was very common for one aircraft operator providing services to a number of resource sector clients to be audited on multiple occasions against a variety of different standards. Reports generated from these audits often included subjective comments or conflicting recommendations leading to confusion.

During 2009, a number of key resource companies came together with the aim of developing a better and more effective means of reviewing aircraft operations using a risk-based approach to a common standard. The BAR Standard was derived from a combination of existing standards employed within the sector updated to ensure they were contemporary. Importantly, these were derived from the lessons learnt from previous accidents experienced within the sector across all environments and conditions.

The first part of this process is for an aircraft operator's internal systems and processes would be tested against the concise elements of the BAR Standard with deficiencies noted and corrective action plans established with defined close-out dates. The reports of these audits would be objective in nature, without auditor bias and would be produced in a consistent manner irrespective of where across the globe the audit was conducted. Reports would be uploaded to a secure database and color-coded to reflect their status in terms of findings closure and registration status.

The second part of this process is the conduct of an operational review by the member organization of end-point high-risk activities. Rather than include these in a broad based audit once per year, these may be conducted independently of the BARS audit and at a suitable frequency. Combined with a BARS audit, this becomes a more effective means of identifying and reviewing key operational risks.

The first BARS audit was conducted during September 2010 and uploaded for viewing by, at the time, a small number of initial member organizations.

Two and a half years later, over 180 audits have been conducted on aircraft operators across 27 countries to date, some of these being third year audits. There are over 100 aircraft operators registered under the Program globally and this number continues to increase. There are 20 member organizations that are a part of the Program with a number of other organizations in the process of joining.

Audit Programs

All aviation activities are faced with a number of threats or hazards that if not properly managed may manifest themselves, either individually or collectively, into an incident or an accident. Many threats are well known and their defenses or controls have been embodied in the processes and procedures that are utilized in managing an aviation operation. These include the use of checklists followed by pilots during the course of a flight. Others include the use of equipment known to mitigate certain risks such as the use of Terrain Awareness Warning System (TAWS) to mitigate the risk of Controlled Flight Into Terrain accidents (CFIT), or Traffic Collision Avoidance Systems (TCAS) to mitigate the risks of in-flight collisions.

For most 'normal' operations the requirements embodied under the national regulations are adequate to assist in the mitigation of common threats by prescribing that aircraft operators have certain systems, procedures and processes in place.

However the resource sector realized the need to impose more stringent requirements though the imposition of standards to mitigate the generally higher risk operational activities posed employed within this sector. These standards are designed to ensure that aircraft operators have the necessary systems or controls in place to manage these higher risks. These controls will often be higher than is prescribed by national regulations.

It is important to note that audits and audit programs do not prevent aircraft accidents. It is not possible to cover every contingency, nor is it possible to account for every failing of the human condition. However adopting an industry standard like BARS allows aircraft operators to become more resilient against the threats posed in resource sector activities.

BARS Experience

Since the program began, over 60,000 audit questions have been asked and over 5,500 actionable findings have been raised. The close out rate for these findings is almost 100% representing a tangible incremental improvement in safety, especially in the more remote parts of the world where aviation safety has met with many challenges.

The BARS Program has generated interest from a number of organizations outside of the resources sector that face similar risks when using outsourced aviation support in comparable operating environments. In addition to humanitarian and other organizations, these include Government and Defence.

The data collected from these audits is yielding valuable global information that is used to further enhance the Program for its member organizations. For example, the top six audit findings for calendar year 2012 are:

1. Inadequate stabilized approach criteria,
2. Lack of Terrain Avoidance Warning Systems (TAWS) procedures and training,
3. Lack of Collision Avoidance Systems (TCAS) procedures and training,
4. Lack of thunderstorm avoidance policy and procedures,
5. Lack of windshear/microburst identification and recovery measures, and
6. Lack of procedures associated with exchange of aircraft control between pilots.

Another element of the Standard that has resulted in high findings is Safety Management Systems (SMS). Whilst the number of findings in Australia has been typically low, these are higher in a number of other regions of the world reflecting the effectiveness of the rollout and implementation of this requirement for certain classes of aircraft operators. Irrespective of the regulatory requirement or their class of operation, BARS registered aircraft operators must have an established and effective SMS.

In recognition of the value of the data coming from BARS and other Program under development, the Foundation has recently signed a Memorandum of Cooperation with the International Civil Aviation Organization (ICAO) to facilitate the exchange of de-identified data to assist ICAO in the conduct of its role.

Further information on the BARS Program is available from the Flight Safety Foundation website at www.flightsafety.org/bars

I would be happy to provide further information or a personal brief to the members of the committee, if desired.

Greg Marshall

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