

Making **IS-BAO** More Robust

The standard, good as it is, could be made better by addressing the risks of outsourcing.

BY SUSHANT DEB

In the recent past, the aviation world has observed a significant growth in business aviation.

In response, and in recognition of a worldwide need for an international business operations standard, the International Business Aviation Council (IBAC) developed the International Standard for Business Aircraft Operations (IS-BAO), adopting some of the quality management system (QMS)-related principles inherent in the International Organization for Standardization (ISO) 9001:2000 standard.

The adoption of the safety management system (SMS) concept tied to risk analysis (RA) is what makes the IS-BAO standard sensible and appropriate. The IS-BAO standard was created before the

International Air Transport Association's (IATA's) Operational Safety Audit (IOSA) standard as well as the International Civil Aviation Organization (ICAO) AVSEC (aviation security) standard. Today, implementation of IS-BAO by operators complies with, or meets the spirit of, regulatory requirements of many civil aviation authorities.

The IS-BAO standard requires implementation of an SMS, which contains many of the key clauses of the ISO 9001:2000 QMS.¹ Furthermore, within the SMS, the call for RA makes the IS-BAO standard robust. The reason is clear: Since the goal of an SMS is to manage safety risks, it means that SMS must be proactive; and to have a management system proactive, we need to apply the well-accepted P-D-C-A (plan,

do, check, and act) approach, which is also the basis of the ISO 9001 standard.

Safety is enhanced by identifying and assessing the hazards and associated safety risks that are ever-present in aviation operations. The IBAC publication *Guidelines for the Conduct of Risk Analyses by Business Aircraft Operators* provides additional guidance on conducting RA, such as identifying accident scenarios and the associated hazards; severity and likelihood of safety risk determination; hazard and risk management decisions; and documenting the information for traceability and assessment of results. This document provides a valuable instruction for business aviation operators — ISO 9001 does not go that far — in two appendixes:

- Appendix A, *Forms & Checklists*, is in three parts — the RA Checklist that is used when planning and conducting an RA; an accident scenario form by events and hazards within each event; and a hazard sheet that for each hazard describes an event scenario, mitigation, severity category and likelihood.
- Appendix B, *Conducting a Hazard Analysis*, follows a standardized sequence of steps.
- Another IBAC publication, *Tools for Efficient SMS Design*, further strengthens the IS-BAO standard.

IS-BAO comes with acceptable means of compliance (AMCs) that help operators seeking certification. These are not procedures or work instructions in the ISO sense; however, the AMCs can be helpful for operators developing their own procedures or work instructions. The compliance with AMCs is not mandatory.

The AMCs are in line with a few of the eight quality management principles identified in ISO 9004:2000, which form the basis of the ISO 9001 standard. These are:

- *Factual approach to decision making*: Effective decisions are based on analysis of data and information, and organizations need a system of collecting and documenting such data. Documentation can help a business

aviation operator to manage planning, operations and control of its safety and quality service processes.

- *Systems approach to management*: This involves identifying, understanding and managing a system of interrelated processes for given objectives that improves the business aviation operator's safety effectiveness. The system approach specified by IS-BAO mandates some form of review conducted at regular intervals by top management.
- *Continual improvement*: The primary purpose is to institute an internal evaluation program that would serve as a "feedback" system. The implication is that, by knowing what and how well the operator does in that area, it is possible to identify ways to continually improve the business aviation operator's safety and quality initiatives.

IS-BAO is a well-designed standard at the macro level. However, further improvements in the standard are possible at the micro level. IS-BAO is based on 14 protocols, with subsets in each protocol called elements. The standard uses "shall" and "must" to indicate a required element, and "should" to indicate a recommended practice. The protocols are shown in Table 1.

This standard mandates that safety will not be compromised by the business aircraft operators under any circumstances. They are in a service business, and customer satisfaction is a quality objective that is integral with their safety objectives. Thus, *safety is the most important operating rule for business aircraft operators.*

IS-BAO Protocols

Safety Management System
 Organization and Personnel Requirements
 Training and Proficiency
 Flight Operations (Domestic)
 Flight Operations (International)
 Aircraft Equipment Requirements
 Aircraft Maintenance Requirements
 Company Operations Manual
 Emergency Response Plan
 Environmental Management
 Occupational Health and Safety
 Transportation of Dangerous Goods
 Security

Source: Sushant Deb

Table 1

This all-important operating rule becomes “vulnerable” for almost all operators, because none of these operators are vertically or horizontally integrated with the sources of supplies they need to operate. For example, their maintenance departments purchase parts and materials from suppliers within the industry. Many operators use outsourced services such as calibration, preventive maintenance and training, as the operators do not have in-house expertise in these areas.

These are common processes within business aircraft operations. IS-BAO must address these processes because they affect the safety operating rule directly. One of the eight management principles on which the ISO 9001 is based states:

“Mutually Beneficial Supplier Relationships: An organization and its suppliers are interdependent and a mutually beneficial relationship enhances the ability of both to create value.”

After all, the foundation of IS-BAO is the identification of processes needed for the SMS and the application of these processes throughout the operations; determining the sequence and interaction of these processes; ensuring the availability of resources to support the safety objectives; and implementing actions necessary to achieve planned safety results. Implementation of this management principle from the ISO 9001 standard will enhance operational safety.

Indeed, the above management principle can be incorporated within the operator’s operations manual (Protocol 10) under a new element. For example, within Protocol 10 of IS-BAO, a new element could be called Purchasing Process, to include the following suggested sample checklist questions as sub-elements:

10.X. Purchasing Process.

10.X.1. Does the operator ensure that a purchased product conforms to specified purchase requirements?

10.X.2. What type of control is applied to the supplier and to what extent?

10.X.3. Does the operator evaluate and select suppliers based on their ability to supply products in accordance with the operator’s requirements?

10.X.4. Are the criteria for selection and evaluation established by the operator?

10.X.5. Does the operator maintain a list of approved suppliers that includes the scope of the approval?

10.X.6. Has the operator established a supplier audit program? Does the operator maintain the records of such audits and follow through on any corrective action resolution process?

10.X.7. Do the operator’s purchasing requirements accommodate supplier notification to operators of nonconforming products?

10.X.8. Do the operator’s purchasing requirements include specific approval requirements?

10.X.9. Has the operator established receiving inspection or other activity necessary for ensuring that purchased product meets specified purchase requirements?

10.X.10. Do the operator’s verification activities include obtaining objective evidence of the quality of the product from suppliers, such as accompanying documentations, certificate of conformity, test reports, etc.?

Since safety cannot be compromised under any circumstances, IS-BAO mandates the operator to be ultimately responsible for the quality of all products purchased from suppliers. Such probing will force the operator to

take appropriate measures to prevent the purchase of counterfeit product. Another positive result would be the operator’s purchasing process satisfying authority requirements related to the use of non-certificated suppliers.

Taking advantage of services from outside is common today in most business operations. The business aircraft operators are no exception. Business aircraft operators seeking IS-BAO certification should be required to address the management of “outsourced processes” in the company operations manual (Protocol 10).

An “outsourced process” is one that a business aircraft operator needs for its SMS and which the operator chooses to have performed by an external party. Ensuring control over outsourced processes does not absolve the operator of the responsibility of meeting customers’ needs, such as schedule changes or the need for expanded service contracts, as well as statutory and regulatory requirements.

The following suggested sample checklist questions may be included as sub-elements within a new element called Outsourced Process, of Protocol 10 of the standard:

10.Y. Outsourced Process.

10.Y.1. Does the operator have contracts executed with external service providers?

10.Y.2. Do such contracts include metrics that can be monitored to ensure that requirements affecting the safety of operations are being met?

10.Y.3. Is the type and extent of control to be applied to the outsourced processes documented in the operator’s SMS?

10.Y.4. Does the operator use audits to manage the outsourced processes?

10.Y.5. If the operator has “wet lease” type operations, does the operator have a monitoring process in place to meet the safety objectives of the operator?

Similar sample questions can be developed as elements in other IS-BAO components, such as Training and Proficiency (Protocol 5), Aircraft Maintenance Requirements (Protocol 9) and Security (Protocol 15), introducing elements related to outsourcing. At the same time, it should be recognized that the type and extent of control applied to the outsourced processes may be influenced by factors such as the potential impact of the outsourced processes on the operator's capability to provide services that conform to safety objectives, the degree to which the control for the processes is shared, and the capability to achieve necessary control through the application of the suggested purchasing process elements described in **10.X**.

Besides controlling the supply chain, Security (Protocol 15) may need additional elements to make this protocol robust. The acceptable means of compliance, AMC 15.0 in an IBAC publication titled *An International Standard for Business Aircraft Operators*, provides significant guidelines. In addition, two attachments, *Sample Security Checklist* and *NBAA Voluntary Security Protocol for Part 91 Operators* in the same AMC section, may be helpful to business aircraft operators seeking IS-BAO certification. Unfortunately, the AMCs are guidelines only. Operators are not required to comply unless requirements are actually included in the protocol as elements.

Again, sample checklist questions are suggested to be included as elements in the Security protocol of the IS-BAO:

15.Z.1. Does the operator have a management system in place for operational security?

15.Z.2. Has the operator appointed a security chief who has direct access to top

management of appropriate authorities — for example, the U.S. Federal Aviation Administration (FAA), the U.S. Transportation Security Administration (TSA) if applicable and the local airport — as well as the security chief's own organization?

15.Z.3. Has the operator developed a security manual?

15.Z.4. Has the operator implemented a formal security program based on the security manual?

15.Z.5. Has the operator established a review process for security training programs?

15.Z.6. Does the operator ensure access control at airside areas of the airports at which it operates?

15.Z.7. Does the operator use general aviation airports that comply with the TSA's Security Guideline IP-001, Rev. 05/2004?

15.Z.8. Does the operator adhere to TSRs (Transportation Security Regulations), Title 49 CFR Part 1550 and/or Part 1544 or Part 1546?

15.Z.9. For international flights, does the operator conduct basic background checks of ground handling agents at destinations?

15.Z.10. Does the operator have a procedure for an aircraft security check at the point of origin (domestic and international)?

15.Z.11. Has the operator established procedures for carrying dangerous goods and weapons?

15.Z.12. Does the operator have a contingency plan in case of a security violation?

IS-BAO is a very practical standard. The requirements are not difficult to implement by any safety-conscious operator. The operator aspiring for achieving IS-BAO certification may

have been already subjected to more rigorous FAA requirements if it is certified under U.S. Federal Aviation Regulations Part 135. The IS-BAO standard has been tested over the past six years and the business aviation operators all over the world who implemented this standard now have healthy safety and quality cultures in their organizations.

The suggested new elements in this article are examples only; the lists are not exhaustive. Currently, IS-BAO certified auditors may not be looking at the control of outsourced services, since that is not included in the IS-BAO Audit Procedures Manual. Incorporating additional elements will require auditors to look into those processes. Without control of suppliers and outsourced processes and without a comprehensive security program, operators — especially those at general aviation airports — may be exposing themselves to greater risk in their operations. ➔

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Notes

1. ISO 9001:2008 was officially released on Nov. 15, 2008. There are no changes in clauses or elements, and no new requirements; however, clarifications and added responsibilities are explained for certain existing clauses. The term "ISO 9001 standard" is therefore used throughout this article.
2. "Operator" here refers to the business aircraft operator.

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