



**DECISION RECORD
IS-BAO STANDARDS BOARD/6
ORLANDO, FL - NOV. 8, 2005**



Attendees

Members

John Batty – BBGA	Chair
Paul Stinebring – NBAA	Vice-chair
Len Beauchemin – NBAA	Member
William Boucher – CBAA	Member
Pat Dunn – NBAA	Member
Steve Fisher - EBAA	Member
Gary Ridley - EBAA & BBGA	Member
Bill Stine - NBAA	Member
Don Spruston – IBAC	Member
Ron Swanda - GAMA	Member

Support Staff

Ray Rohr	Standards Manager
Peter Ingleton	Director, ICAO Liaison

Others

Sandy Murdock	NBAA
Doug Carr	NBAA
John McNamara	TCCA

1. Call to Order

John Batty called the meeting to order at 0900 hrs and introduced the new members and guests.

2. Adoption of Agenda

The proposed agenda was reviewed and it was moved by Paul Stinebring and seconded by Len Beauchemin that it be adopted.

Carried

Action - Info

3. Review of Decision Record of October 11, 2004

The Decision Record of October 11, 2004 was reviewed and it was moved by Steve Fisher and seconded by Paul Stinebring that the Decision Record of the October 11, 2004 Standards Board/5 meeting be adopted as presented.

Carried

Action - Info



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4. Action Items from Last Meeting

4.1 The following Action Items from the Oct. 11, 2004 meeting were reviewed and the actions taken were accepted. It was noted that care must be taken when presenting the benefit of reduction in insurance premiums so as not to create unwarranted expectations.

Action - Rohr

Action Item	Report
a. Single Pilot Supplement and Generic Operations Manual	<p>The single pilot supplement to the IS-BAO and generic operations manual were issued on August 5, 2005. The Supplement will be added as an appendix to the IS-BAO and the generic operations manual will be included on the IS-BAO CD.</p> <p>The support of the NBAA Safety Committee was vital to the success of this project.</p>
b. Operator Registration Motivation	<p>Registration was addressed in the January 2005 IS-BAO Operators Survey. A copy of the key results of the survey is attached as Appendix A.</p> <p>The issue was also addressed in the April IS-BAO Newsletter and in several follow-up messages to all operators who have purchased the IS-BAO.</p> <p>The NBAA have also included articles in their weekly NBAA Update.</p> <p>Feedback has indicated that the cost of having an audit is being cited by some operators as the reason for not becoming registered.</p> <p>We are hoping that the IS-BAO Users Forum and the new IS-BAO brochure will be of some assistance toward this end.</p>
c. IS-BAO Awareness Initiatives	<p>The IS-BAO DVD has been broadly distributed at IS-BAO Workshops and at Association events.</p> <p>A new IS-BAO Brochure is being completed.</p> <p>The IS-BAO is mentioned in the new <i>NBAA Membership Benefits Guide</i> and we made an IS-BAO presentation at the NBAA San Jose Regional Form, the NBAA Maintenance Managers Conference and at EBACE.</p> <p>Preservations were also made to the Aviation Insurance Association Convention in New Orleans, the Mitre SMS Symposium in Washington, DC and the USC SMS course in Los Angles.</p> <p>The IS-BAO Workshop schedule is posted on the IBAC and NBAA Web sites and has been included in the weekly NBAA Update.</p> <p>The Single Pilot Supplement Press Release obtained some coverage in the business aviation media.</p>
d. 2005 IS-BAO Revisions	<p>The January 1, 2005 IS-BAO revisions were completed and sent out by Dec. 31, 2004. This year there were no mailing problems encountered.</p>



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5. Standards Board Membership and Executive

John Batty advised that he would not be serving another term on the Board. Paul Stinebring and Gary Ridley advised that they were prepared to serve another term.

John Batty nominated Paul Stinebring as Chair and Steve Fisher as Vice-Chair. Don Spruston seconded the nominations.

Carried

Moved by John Batty and seconded by Don Spruston that Gary Ridley be appointed for another three year term.

Carried

It was also agreed that Don Spruston would request that the Governing Board appoint a replacement for John Batty and attempt to recruit a member from South America.

Action - Spruston

Secretarial Note: The Governing Board has subsequently approved the appointment of Rudy Toering of the BBGA to the Governing Board.

The current members and terms of office are as follows:

Member	Position	Term Expires
Paul Stinebring – NBAA	Chair	2008
Steve Fisher – EBAA	Vice-Chair	2006
Len Beauchemin – NBAA	Member	2007
William Boucher – CBAA	Member	2007
Pat Dunn – NBAA	Member	2006
Gary Ridley – EBAA & BBGA	Member	2008
Bill Stine - NBAA	Member	2007
Ron Swanda – GAMA	Member	2007
Rudy Toering - BBGA	Member	2008
Don Spruston - IBAC	Member	IBAC DG

6. IS-BAO Activity Update

The IS-BAO Activity Report that is attached as Appendix B was reviewed and accepted. Ray Rohr noted that there were a number of IS-BAO audits in process and he anticipated that there would be 50 registered operators by the end of the year.

John Batty advised that he will investigate including an IS-BAO presentation in the program for the BBGA Conference at St. Albans on March 7, 2006

Action - Batty

Bill Stine suggested that we post the new IS-BAO Brochure on the IBAC web site and include links to it on the Member Association web sites.

Action – Rohr



7. Amendments to ICAO Annex 6 and Other Related Annexes

The summary of the amendments to the ICAO Annexes was reviewed and the recommended actions were accepted. A copy of the summary is attached as Appendix C.

Action – Rohr

8. Amendments to IS-BAO, APM and GCOMs

The proposed amendments to the IS-BAO, Audit Procedures Manuals and generic company operations manuals were reviewed in detail and accepted with the following additions:

- a. Upset training – It was noted that the most significant threat is related to wake turbulence and this training is available in most modern simulators. It was agreed that such a note be included in the training section.
- b. As recommended in the *Briefing Note re Annex 6 Part I Amendment 29* included in Appendix C, a provision will be added to the IS-BAO as 8.2.3 that will address the integrity of electronic navigation data bases.

Action – Rohr

9. IS-BAO Policy Issues

The draft policies on IS-BAO registration involving common services provided by aviation support service companies and IS-BAO registration when a flight department is split into two or more separate entities were reviewed. The two policies are attached as Appendix E.

It was moved by John Batty and seconded by Don Spruston that the policies be approved.

Carried

Action – Rohr

10. IS-BAO Workshop Schedule

The IS-BAO Workshop schedule was discussed and the following schedule was agreed:

- January 20 - Boca Raton, FL (the day after the NBAA Regional Forum)
- March 30 - St. Louis. MO
- May 2 - Geneva, Switzerland
- June 9 - Dulles, DC (the day after the NBAA Regional Forum)
- August 22 - Washington DC (Auditor Renewal)
- November 17 - Long Beach, CA (the day after the NBAA Regional Forum)

Additional Workshops may be held as required.

Action – Rohr

11. Other Business

Ron Swanda provided information that indicates that the FAA plans in February or March 2006 to publish a notice of proposed rulemaking on ETOPS for Part 135 operations. The information that he has indicates that the proposal will not be onerous and that the manufactures should be in a position to provide the required data for most applicable aircraft.

Action – Info



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12. Next Meeting

The next meeting will be held in Orlando, FL on October 16, 2006 or, if required, at the call of the Chair.

Action – Info

There being no further business it was moved by John Batty that the meeting be adjourned.

Carried



Results

IS-BAO SURVEY 2005

Appendix A - IS-BAO Operators Survey Results

Overview

The January 2005 IS-BAO Survey (copy attached) was distributed by mail to the 349 listed IS-BAO holders. That number included auditors and operators worldwide. Also, an electronic copy of the survey form was posted on the IBAC web site. An e-mail message was also sent to all IS-BAO holders through the NBAA Airmail system urging them to respond by either returning the hard copy of the survey form or submitting the electronic form. In total 71 responses were received. The vast majority submitted their response electronically.

1. Year IS-BAO Was Obtained

The years that the operators obtained their copy of the IS-BAO were as follows:

- 2002 - 16 - 23%
- 2003 - 23 - 33%
- 2004 - 24 - 34%
- 2005 - 7 - 10%

2. Type of Operation

The nature of their operation was described as:

▪ Corporate Operator (US Part 91 or equivalent)	54	77%
▪ AOC Holder (US Part 135 or equivalent)	4	6%
▪ Not an air operator	12	17%

3 & 4. Registration Intentions

The responses indicated that 50% of the operators who had not yet achieved IS-BAO Registration were working towards registration in 2005, while 19% indicated that they have implemented or are implementing IS-BAO, but were not planning to have an audit to become registered. Of the same group, 10% indicated that they were undecided on implementation and/or registration.

Some that had decided to not become registered cited the cost of the audit as a factor while most did not provide a reason and some indicated that they may reconsider once they had more experience with the IS-BAO.

5. Identified Benefits

The benefits of IS-BAO implementation that were identified by those who had already achieved IS-BAO Registration were:

- Enhanced operating safety 72%
- Team building and pride of achievement 72%
- Efficiency improvements in operations and/or maintenance 50%
- Increases employee satisfaction 40%
- Improved senior management understanding of the operation 40%
- Reduced insurance rates 28%
- Improved regulator understanding and confidence 20%

6. IS-BAO Workshops

Of those responding 60% indicated that they had attended an IS-BAO Workshop while 40% had not. However, there is some doubt of the validity of some responses. That is because the Workshop records do not show that they, or anyone from their company, ever attended a Workshop. It is suspected that



Results

IS-BAO SURVEY 2005

what they attended was a one hour IS-BAO information session such as those that were held at the NBAA Convention and did not realize that they were different from an IS-BAO Workshop that is a full day in duration.

While most comments about the Workshops were very positive, a few indicated that the Risk Assessment process and SMS development should be covered in greater detail. One suggested that the Workshop include a presentation by an operator who had completed the IS-BAO implementation and two suggested that a presentation by an auditor be included.

7. NBAA Ops Manual Workshop

Of those responding 13 indicated that they had attended an Ops Manual Workshop while 47 had not. All of those that attended a Workshop provided positive comments except one. That person indicated that the Ops Manual Workshop may be good for new managers or those that do not have an ops manual.

8. Use of Implementation Service Providers

Of the operators that responded to this question 25% indicated that they had used service providers to assist them with their is-BAO implementation while 75% indicated that they had not.

9. Need for Assistance

Virtually all of those that responded to this question indicated that they were satisfied with the assistance that they received and would call whenever additional assistance was required. However, one operator responded that he was not aware that assistance was available.

10. General Comments

Many very positive comments were received including the following:

"The IS-BAO has given our flight department the framework to not only become safer but also to become better organized and more professional in all aspects of our operation"

"Great program, challenging but well worth the effort"

"IS-BAO will raise level of safety"

"Great idea, lot of forethought & beta testing"

"Outstanding program to achieve excellence in Business aviation"

"Beneficial to any flight department"

"Useful program places safety of flight issues up front"

"The information that comes in the package is very useful in the implementation process"

"IS-BAO Auditors have brought a high level of professionalism and consistency to the IS-BAO audit process"

"It is the best thing to ever happen to business aviation"

A few operators commented on the amount of effort required to complete IS-BAO implementation and one expressed concern with the effort required to convert the GCOM "Regular" version from UK English to US English.

11. Other Issues

One operator indicated that the Flight and Duty Time limitations were far too restrictive and that several other requirements were excessive, so they would not be implementing the IS-BAO in their flight department. A phone call was made to this operator upon which it was learned that he was considering the AMCs as standards rather than as guidance material. After further discussion it became apparent that the individual had only given the IS-BAO a cursory glance and formed his negative opinion on the basis of this and some other erroneous information.

IS-BAO OPERATOR'S SURVEY JANUARY 2005

Dear IS-BAO Holder:

The International Business Aviation Council (IBAC) and its member national and regional business aviation associations are continually working to support the efforts of business and commercial aviation operators to enhance the safety, security, efficiency and effectiveness of their operations. The IS-BAO – an International Standard for Business Aircraft Operations is one initiative that has been developed for this purpose. As the third anniversary of the release of the IS-BAO is nearing, it has been decided to gather information on the results of this program. Accordingly, it would be appreciated if you could take a few minutes of your time and complete this survey form and return it to the IBAC office.

To check a check-box simply click on it. To type in a text-box put the curser in the upper left hand corner of the box and type.

Please then save the document on your computer and send it to rayrohr@telusplanet.net as an attachment. You can also submit it by fax or mail as noted at the end of the form.

1. When did you obtain your copy of the IS-BAO?

- a. 2002 –
- b. 2003 –
- c. 2004 –
- d. 2005 –

2. What is the nature of your operation?

- a. Corporate Operator (US Part 91 or equivalent).
- b. AOC Holder (US Part 135 or equivalent).
- c. Not an air operator. *In this case please jump to question 10.*

3. Which of the following best describes the status of your IS-BAO implementation efforts?

a. We have implemented the IS-BAO, undergone an audit and are IS-BAO Registered.	<input type="checkbox"/>
b. We are in the process of implementing the IS-BAO and plan to be registered this year.	<input type="checkbox"/>
c. We have or are implementing the IS-BAO but are not planning to have an audit and become registered.	<input type="checkbox"/>
d. We are not planning to implement the IS-BAO	<input type="checkbox"/>

4. If you checked 3.c. or 3.d. could you please advise what motivated that decision?

5. If you have completed your IS-BAO implementation please indicate which of the following benefits you have derived.

- a. Enhanced operating safety.
- b. Team building and pride of achievement.
- c. Increases employee satisfaction.
- d. Efficiencies improvements in operations and/or maintenance.
- e. Reduced insurance rates.
- f. Improved senior management understanding of the operation.
- g. Improved regulator understanding and confidence.
- h. Other (please specify below).

IS-BAO OPERATOR'S SURVEY JANUARY 2005

6. Have you or any of your staff attended an IS-BAO Workshop?

a. Yes

b. No

If yes, please give us your assessment of how it assisted your IS-BAO implementation efforts.

We are also interested in any changes that you would recommend to the IS-BAO Workshops.

7. Have you or any of your staff attended an NBAA Operations Manual Workshop to assist with IS-BAO implementation?

a. Yes

b. No

If yes, please give us your assessment of how it assisted your IS-BAO implementation efforts.

8. Did you use a service provider to assist you with your IS-BAO implementation?

a. Yes

b. No

9. If you are currently implementing the IS-BAO is there any assistance that we can provide to you to facilitate the process?

10. Do you have any general comments on the IS-BAO that you would like to share with us?

Contact Details – Optional

Name and Address

	Telephone	
	e-mail	

Please return the completed form by mail, fax or e-mail.

Ray Rohr IBAC Standards Manger 48 Enderby Cres. St. Albert, AB T8N 6Y2 Canada	Fax - +1-514-954-6161	e-mail – rayrohr@telusplanet.net
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APPENDIX B – IS-BAO ACTIVITY REPORT
IS-BAO Sales

The following are the IS-BAO sales reported to October 1, 2005 with comparative data sales for 2004

MEMBER ASSOCIATION	REPORTED IS-BAO SALES		
	OCT. 1, 2005	OCT. 1, 2004	LAST YEAR
ABAG (Brazil)	3	3	-
BBGA (United Kingdom)	13	11	2
BAASA (S. Africa)	2	2	-
CBAA (Canada)	7	6	1
EBAA (Europe)	17	13	4
EBAA-F (France)	3	3	-
GBAA Germany	3	3	-
JBAA (Japan)	5	5	-
NBAA (United States)	370	275	95
Total	423	321	102

IS-BAO Auditors

The list of accredited IS-BAO Auditors is as follows:

Brazil	1	Luxembourg	1	South Africa	1
Canada	3	Netherlands	1	UK	4
Japan	1	Russia	1	USA	55
				Total	69

It would appear that 7 auditors of the 14 whose accreditation expire on Dec. 31, 2005 will have not met their renewal requirements. One has indicated that he will not be renewing but the other six have not advised of their intentions.

Three Auditors were monitored in the past year. They have been exempted from submitting their completed Audit Protocols and per the AMP amendment approved secretarially in June 2005.

APPENDIX B – IS-BAO ACTIVITY REPORT
2005 IS-BAO Workshops

Eight IS-BAO Workshops were held in the past year. Attendance and financial results were as follows:

Date	Location	Attendance				Revenue	Expense	Profit (Loss)
		Operators & Others	Auditors Initial	Auditors Renewal	Total			
Jan 27	Miami Lakes	13	6	1	20	¹ \$14,800	¹ \$5,946	¹ \$8,854
Mar 10	Teterboro	7	2	0	9	\$4,700	\$2,844	\$1,856
Mar 28	Sao Paulo	5	1	0	6	\$2,750	\$1,046	\$1,704
May 17	Geneva	3	1	3	9	\$3,900	\$1,299	\$2,601
Jun 2	Minneapolis	14	1	0	15	\$6,800	\$2,995	\$3,805
July 8	San Jose	3	2	0	5	\$4,200	\$2,725	\$1,475
Aug 23	Washington	2	0	7	9	\$3,600	\$2,833	\$723
Sep 16	Denver	8	2	1	11	\$6,600	\$2,833	\$3,767
Oct 19	Cleveland	8	2	3	13	\$7,400	\$2,416	\$4,984
	Specials ²	12 ³	1	0	13	\$3,468	\$2,464	\$1,004
	Total	75	18	15	110	\$58,218	\$27,401	\$30,773

¹ Includes the revenues and expenses related to a special Workshop at Cessna in Wichita, KA.

² Special Workshops were held in Farnborough for an auditor and a consultant and in Los Angeles for an operator.

³ This total number of people includes those from Cessna who attended the special Workshop that is financially accounted for with the Miami Workshop.

APPENDIX B – IS-BAO ACTIVITY REPORT
Registered Operators

The following is a list of registered operators. Eighteen of the operators have been registered in the past year.

	Operator	Location
1	Weldwood Canada	Vancouver, BC, Canada
2	Entergy Services, Inc.	New Orleans, LA
3	The Coca Cola Company	Atlanta, GA
4	Altria Corporate Services Inc.	White Plains
5	Toyota AirFlite	Hebron, KY
6	MI Home Products	Harrisburg, PA
7	Netjets Executive Jet Management	Cincinnati, OH
8	Magna International, Inc.	Toronto, ON, Canada
9	Yum! Brands Aviation	Louisville, KY
10	IBM	White Plains, NY and
11	"	Paris, France
12	Countrywide Home Loans	Van Nuys, CA
13	Boeing Executive Flight Operations	Chicago, IL
14	The Home Depot	Atlanta, GA
15	Shell US	Houston, TX
16	Sky River Management	Henderson, NV
17	Gannett Co. Inc.	Dulles, VA
18	Shell Aircraft International	Rotterdam, Netherlands
19	Darden Restaurants	Orlando, FL
20	BP America Inc.	Sugar Grove, IL
21	Aon Aviation, Incorporated	Chicago, IL
22	BellSouth Corp. Aviation and Travel Services, Inc.	Atlanta, GA
23	Executive Fliteways, Inc.	Ronkonkoma, NY
24	AFLAC Incorporated	Columbus, GA
25	T-Bird Aviation	DuPage West Chicago, IL
26	Cargill Corporate Aircraft	Minneapolis, MN
27	Koch Business Holdings, LLC	Wichita, KS
28	Textron, Inc.	Warwick, RI
29	Caterpillar, Inc.	Peoria, IL
30	Consórcio Voa	Belo Horizonte, MG, Brazil
31	Anglo Operations Limited	Bonaero Park, South Africa
32	Mente, LLC	Seattle, WA
33	Merck & Company Inc.	West Trenton, NJ
34	General Mills Inc.	Minneapolis, MN
35	Harley-Davidson Motor Co.	Milwaukee, WI
36	CVS Corp	Warwick, RI
37	BD Aviation	Teterboro, NJ
38	Marathon Oil	Houston, TX
39	BMW	Munich, Germany
40	CIGNA Corp.	Windsor Locks, CT
41	Husky Injection Moldings	Toronto, ON, Canada
42	Kellogg Company Aviation Dep't.	Battle Creek, MI
43	Bunn-O-Matic Corp	Springfield, IL
44	Amerada Hess Aviation	West Trenton, NJ
45	GE Corporate Air Transport	Newburgh, NY

2005



APPENDIX B – IS-BAO ACTIVITY REPORT

IS-BAO Marketing

The IS-BAO sales and registration results were reported earlier in this Agenda Item.

The sales results of the NBAA have been most notable. Activities which it is believed have contributed to this success are:

- The NBAA have IS-BAO information on their web site including the list of IS-BAO Workshops etc.
- IS-BAO articles have been included in their weekly NBAA Update.
- The IS-BAO is mentioned in the new *NBAA Membership Benefits Guide*.
- The Safety Committee worked with IBAC in developing the Single Pilot Supplement and generic operations manual. This has increased IS-BAO exposure.
- They included IS-BAO presentations at the Maintenance Managers Conference and some Regional Forums.

Other marketing and awareness activities undertaken include:

- Nine IS-BAO Workshops were held in 2005.
- Presentations were made at:
 - Aviation Insurance Association convention,
 - EBACE,
 - EASA and CEN,
 - Mitre SMS Symposium,
 - GAMA Turbine Aviation Safety Workshop,
 - USC Aviation Safety Program,

The Introduction to IS-BAO DVD has been distributed IS-BAO Workshops and at Association events and to those indicating an interest.

The results from the January 2005 IS-BAO Survey, the *Backgrounder* and *What People are Saying About IS-BAO* have also been distributed when opportunities are found.

A new IS-BAO Brochure has being completed.

Feedback has indicated that the cost of having an audit has been cited by some operators for not becoming registered.

The Single Pilot Supplement Press Release obtained some coverage in the business aviation media but, unfortunately, the press release did not get the distribution and coverage that we had anticipated.

It is obvious that we need a more integrated marketing program to which all of the member associations are committed and involved, in order to accomplish the objective of taking the IS-BAO from the “Early Adopters” to mainstream.

APPENDIX C SUMMARY OF AMENDMENTS TO ICAO ANNEXES & MANUALS

ICAO Document	Amdt #	Applicable	Nature	Attachment Reference	IS-BAO Impact	IS-BAO Ref
Annex 1	166	24 Nov 2005	<ol style="list-style-type: none"> 1. Amendment of medical provisions, 2. New provisions on approved training organizations. 	12402	<ol style="list-style-type: none"> 1. None 2. None 	Current 4.3.1 is generic. No action required.
Annex 2	38	24 Nov 2005	<ol style="list-style-type: none"> 1. Definitions; marshalling signals (3.4.4);, 2. (“3.4.4 No person shall guide an aircraft unless trained, qualified and approved by the appropriate Authority to carry out the functions of a signalman.”) 3. Communications failure procedures; interception manoeuvres. 	12404	<ol style="list-style-type: none"> 1 & 2. New 3.4.4 is apparently applicable to an Operator’s employees! 3. None. 	5.1.3 was augmented.
Annex 6 / I	29	24 Nov 2005	<ol style="list-style-type: none"> 1. New definitions related to RVSM Operations and cruise relief pilots, 2. New Standards 4.9.1 and 4.9.2, concerning single pilot operations under IFR or at night, 3. An exception to the operating limitations in 5.1.2 for approved single-engine turbine-powered aeroplanes, 4. New Standards 5.4.1 and 5.4.2 , specifying requirements for approval of commercial operations by single-engine turbine –powered aeroplanes in IMC or at night, 5. New Standard 6.22 ,specifying aeroplane equipment requirements for single pilot operations under IMC or at night 6. Amendments to 7.2.4 regarding flight levels for RVSM operations, and new standards 7.2.5 , 7.2.6 and 7.2.7, specifying the responsibilities of the relevant State authority to take prompt and appropriate action if the monitoring results indicate that the height – 	12409	<ol style="list-style-type: none"> 1. None 2. See BN below 3. See BN below 4. See BN below 5. See BN below 6. None 	No action required re single pilot ops. Commercial ops requirements addressed by State rules and are caught by SMS requirement 3.2.1.d.

APPENDIX C SUMMARY OF AMENDMENTS TO ICAO ANNEXES & MANUALS

ICAO Document	Amdt #	Applicable	Nature	Attachment Reference	IS-BAO Impact	IS-BAO Ref
			<p>keeping performance of a particular aircraft or an aircraft type group exceeds the prescribed limits,</p> <p>7. New Standards 7.41. and 7.4.2 concerning operator management of electronic navigation data products,</p> <p>8. Amendments to Standards 9.4.1 and 9.4.2 concerning recent experience of the pilot – in –command, co-pilot and cruise relief pilot,</p> <p>9. Amendments to Standards 9.4.3.5 and 9.4.3.6, concerning area, route and aerodrome qualifications of the pilot in command,</p> <p>10.New Standard 9.4.5.1 requiring States to specify requirements applicable to single pilot operations under IFR or at night,</p> <p>11.A new RP 9.4.5.2, specifying pilot-in-command experience and training requirements for single pilot operations under IFR or at night,</p> <p>12.Amendments to Appendix 2 , regarding the contents of operations manuals in relation to area, route and aerodrome qualifications of the pilot-in-command and maximum cross wind and tailwind operating limits,</p> <p>13.A new Appendix 3 specifying additional requirements for approved operations by single-engine turbine-powered aeroplanes at night and/or in IMC, and a new Appendix 4 regarding the height –keeping performance</p>		<p>7. See BN below</p> <p>8. None</p> <p>9. Possible</p> <p>10. None</p> <p>11. See BN below</p> <p>12. See BN below</p>	

APPENDIX C SUMMARY OF AMENDMENTS TO ICAO ANNEXES & MANUALS

ICAO Document	Amdt #	Applicable	Nature	Attachment Reference	IS-BAO Impact	IS-BAO Ref
			criteria for operations in RVSM airspace.			
Annex 6 / II	24	24 Nov 2005	<ol style="list-style-type: none"> 1. New definitions and provisions regarding height - keeping performance and height-keeping monitoring requirements associated with RVSM operations, 2. New requirements for the carriage of ACAS II in general aviation aeroplanes, and associated training requirements for pilots. 	12406	<p>None</p> <p>Re ACAS II carriage-possible? Re training -None</p>	2. ACAS requirements modified as per new requirements
Annex 6 / III	10	24 Nov 2005	<ol style="list-style-type: none"> 1. New provisions concerning references to noise certification. 	12410	None	
Annex 8	100	13 Dec 2007	<ol style="list-style-type: none"> 1. new definitions of Category A, Category B, critical engine, discrete source damage, engine, fire proof, fire resistant, and satisfactory evidence; 2. Amendment to the definition of repair; 3. Revision of the provisions of Part II to allow the introduction of new parts in the Annex, amend Chapter 3 to clarify provisions relating to the limiting conditions under which a damaged aircraft is permitted to fly non-commercially to an aerodrome where it can be restored to airworthy condition and reorganize Chapter 4 to clarify State's responsibilities; 4. Revisions of provisions of Part III A pertaining to applicability and operating limitations, proof of compliance; 5. Revision of provisions pertaining to applicability, operating limitations, performance, stability, structure, design and construction, power-plant, operating limitations, crash worthiness and cabin safety, operating environment and human factors; 6. Restructuring of Part IV into Part IVA (same provisions as those contained in the current Part IV of Annex 8, Ninth Edition including Amendment 99, except for applicability clauses 	12369	<p>None</p> <p>None, but note revised definition.</p> <p>None</p> <p>None</p> <p>None</p> <p>None</p> <p>None</p>	No action required.

APPENDIX C SUMMARY OF AMENDMENTS TO ICAO ANNEXES & MANUALS

ICAO Document	Amdt #	Applicable	Nature	Attachment Reference	IS-BAO Impact	IS-BAO Ref
			and cross-references) and Part IV B (new); 7. Introduction of new Part V – <i>Small Aeroplanes</i> , Part VI – <i>Engines</i> and Part VII – <i>Propellers</i> .			
Annex 10 / I, II & III	80	24 Nov 2005	1. Updates to strategy for introduction and application of non-visual aids for approach and landing. 2. Changes to procedures for the indication of the transmitting channels in VHR RTF communications. 3. Provisions for the use of location protocols for use in ELTs operating on 406 MHz.	12405	None None None	No action required.
Annex 11	43	24 Nov 2005	1. Definitions; use of surface movement radar; ATS requirements for communications; meteorology information; height keeping performance by aircraft; ATS safety management ; electronic terrain and obstacle data; editorial amendments.	12408	None	
Annex 13	nil					
Annex 16 / I	8	24 Nov 2005	1. Ambient noise correction procedure including definitions for “background noise”, ambient noise” and “broadband noise”; 2. Allowable wind speed limits during testing; applicability language clarification including temporary changes in type design and provisions to allow re-certification of Chapter 5 aeroplanes to Chapter 4; 3. Rotorcraft –related technical issues; 4. New Attachments G and H containing guidelines for the administration of noise certification documentation and guidelines for obtaining helicopter noise data for land	12403	None None None None	No action required.

APPENDIX C SUMMARY OF AMENDMENTS TO ICAO ANNEXES & MANUALS

ICAO Document	Amdt #	Applicable	Nature	Attachment Reference	IS-BAO Impact	IS-BAO Ref
			use planning purposes respectively.			
Annex 16 / II	5	24 Nov 2005	1. Increase in stringency of NOx emissions Standards.	12403	None	No action required.
Annex 17	N/A					
Annex 18	8	24 Nov 2005	1. Refinement of 9.6.1 to make it clear that the presence of dangerous goods needs to be reported only in the case of a serious incident in which dangerous goods were likely to have been involved.	12401	Possible	Current 14.8 already covers.
PANS ATM	4	24 Nov 2005	1. Definitions; meteorological information; special procedures for in-flight contingencies in oceanic airspace; reduced runway separation minima; air-ground communications failure procedures; phraseologies for use on and in the vicinity of the aerodrome.	SL AN 13/2.1-05/51	None But ascertain whether reminder is apropos re use of True Mach when MNT separation applied.	Revised AMC 7.0 section 2.10.
PANS OPS / I	14*	23 Nov 2006	Editorial only	SL AN 11/19-05/69	None	No action required.
PANS OPS / II	13*	23 Nov 2006	Editorial only	ditto	None	No action required.

* Not formally approved – approval expected mid 2006.

Advance copy distributed in English only and for info only.

Appendix C – Summary of Amendments to ICAO Annexes and Manuals

Briefing Note Re Annex 6 Part I Amendment 29

BRIEFING NOTE RE ANNEX 6 PART I AMENDMENT 29

Subject amendment (applicable to international commercial operations) includes, inter alia, provisions and guidance on three significant issues:

1. Single pilot operations under IFR or at night (4.9, 6.22 and 9.4.5)
2. Operations of single-engine turbine-powered aeroplanes at night and/or in IMC (5.4, Appendix 3 and Attachment 1)
3. Electronic navigation data management (7.4).

Purpose

To assess these amendments to ascertain whether they warrant revision of the IS-BAO from the standpoint of:

- relevance to corporate operations best practices, or
- to ensure that the IS-BAO does not contain provisions that may conflict with requirements for commercial operations.

Discussion

Single Pilot Operations Under IFR or at Night

A recently released Supplement to the IS-BAO (Single pilot VLJ and TAA Operations) and associated Generic Single Pilot Operations Manual (GSPOM) addresses the totality of such operations. Annex 6 Part I Amendment 29 is confined to single pilot commercial operations under IFR or at night.

The IS-BAO Supplement was not intended to address commercial operations. However, Safety Management Systems section 3.2.1.d requires operators to have “*systems for identifying applicable regulations, standards, exemptions and guidelines and demonstrating compliance with them*”. As such, this provision provides the required linkage to the rules that a State must develop to address this issue.

Neither the IS-BAO nor the Supplement prescribe the minimum crew complement for commercial operations other than to require in 4.2.1 that “*the minimum aircraft crew shall consist of the number of qualified flight crew as specified in the aircraft flight authority*”.

Amendment 29 includes ‘additional’ aeroplane equipment requirements as follows;
“6.22

.....

- a) a serviceable autopilot that has at least altitude hold and heading select modes;
- b) a headset with a boom microphone or equivalent;
- c) means of displaying charts that enables them to be readable in all ambient light conditions.”

Such additional requirements are considered to have merit in general for single pilot operations. The IS-BAO Supplement Chapter 8 records that ‘No special considerations have been noted in this Chapter’.

This is worthy of review.

Amendment 29 also includes (RP 9.4.5 new) experience, recency and training recommendations for the pilot-in-command.

Whilst there may be merit in including these provisions in the GSPOM, the IS-BAO has addressed such matters at a macro level only and has not been prescriptive in this regard.

When applicable (24 Nov 2005) Amendment 29 will require that the State of the Operator approve the operation by a single pilot of an aeroplane under the IFR or at night.

For consideration whether or not this approval requirement for international commercial operations should be noted in the IS-BAO under Chapter 6.

Appendix C – Summary of Amendments to ICAO Annexes and Manuals

Operations of Single-Engine Turbine-Powered Aeroplanes at Night and/or in IMC

This subject is currently addressed in the IS-BAO.

Experience to date with the IS-BAO would indicate that the existing standard is adequate in this respect and appropriate for corporate as well as owner-operated operations. A case may exist for providing additional guidance to operators conducting those categories of operations based on Annex Part 1 Appendix 3 (new), which could (in extenso or abridged) be included as a new AMC. Such an AMC, if comprising Appendix 3 in extensor, would also serve to ensure that commercial operations aeroplanes are encompassed by the IS-BAO.

Electronic Navigation Data Management

This subject is currently addressed in 8.11.3 of the IS-BAO with regard to the data bases of ground proximity warning systems with predictive terrain hazard warning.

In recognition of the fact that the use by business aircraft of electronic navigation data bases is ubiquitous, irrespective of the nature of the operation, and that ensuring the integrity of such data bases is fundamental to flight safety, it is considered advisable that an operator establish and maintain “procedures for ensuring that the process applied and the products delivered have net acceptable standards of integrity and that the products are compatible with the intended function of the equipment that will use them” and that the operator ‘s procedures ensure the timely distribution and insertion of current and unaltered electronic navigation data to all aircraft that require it”.

It is proposed that an additional sub-paragraph (8.2.3) be added under 8.2 as follows;

“8.2.3 The operator establish and maintain procedures for ensuring that the process applied and the products delivered have net acceptable standards of integrity and that the products are compatible with the intended function of the equipment that will use them. The procedures shall additionally ensure the timely distribution and insertion of current and unaltered electronic navigation data to all aircraft that require it”.

Appendix D – Summary of Amendments to IS-BAO, APM and GCOMS

Section	Issue	Amendment Action
Foreword	The NBAA Legal Counsel recommended that the disclaimer be larger.	Heading added and type font increased to New Time Roman 12 bold.
1.3 Registration	This section currently states “ <i>To be registered the flight department must arrange for a third party audit by an IBAC accredited auditor.</i> ” It has been noted that the terminology may be confusing.	Revised to read “...audit by an accredited IS-BAO auditor.”
	It has been recommended that operators who have reached a specified level of maturity should be granted a longer registration validity period.	Added provision for a three year registration validity period for operators who have successfully undergone a Stage Two or Three audit and demonstrated an effective safety management system.
2.7 Implementation Considerations	Last year a separate document on implementation considerations was included on the IS-BAO CD. It has been suggested that this information be incorporated directly into the IS-BAO document.	Added new section 2.7.
3.2 Safety Management Systems	It was noted by several operators that in large corporations it is very difficult to have the CEO sign off on the Safety Policy and it may be more practical to allow for it to be signed by the Accountable Executive.	Accountable Executive added to section 3.2.1.a.
	Training in the operator’s SMS is an important component of the SMS.	Added SMS training to section 3.2.1.e
	The header of Section 3.2.1 requires the operator to “establish and maintain a safety management system, procedures and documentation that are appropriate to the size and complexity of the operation...” The documentation requirement is then duplicated in 3.2.1.m. It has been recommended that this duplication be deleted.	Deleted section 3.2.1.m.
	An auditor has suggested that SMS will only work if risk managment, assessment and mitigation techniques are fully integrated into every employees daily work tasks. Recommends that 3.2.1 be expanded to reflect that requirement.	Information added to AMC 3.2 and a referenced note was added in section 3.2.1.h.
	An auditor recommends that internal audits be completed at least every six months.	Internal audit program considerations added to AMC 3.2 section 2.7. Recommended that that each IS-BAO element be addressed at least one each year.
3.3 Freedom of Choice	The BMW Audit Report noted that given the role of the Aviation Department within the company where it is their responsibility to ensure the safety of employees on airlines, charter aircraft and corporate aircraft this provision appears to be inappropriate.	The recommended practice was reviewed and changed to a Note.

Appendix D – Summary of Amendments to IS-BAO, APM and GCOMS

Section	Issue	Amendment Action
4.1.1 Personnel Requirements	It has been suggested that where there are more than one operating base that the management personnel requirements for the sub-bases be specified.	Provision 4.1.2 added to address the issue.
4.2.2 PIC Duties	An auditor recommends that the airworthiness of the aircraft and aircraft documents be added.	Added to 4.2.2.
5.0 Training	It has been recommended that “Upset Training” be addressed.	Added to 5.1.3.e.
5.1 3.b Cabin crew member training	Safety procedures training is required but the contents of this training are not specified.	The contents of safety procedures training are addressed in AMC 5.1 section 21 but not as clearly as appropriate. Section 21 was revised to be more explicit on cabin crew member training.
	When the training requirements were modified in 2004 the first aid training was left as an annual requirement. Most first aid certifications are valid for a t least two years. Accordingly, it has been recommended that requirement for fist aid training be revised to every two years.	Revised first aid training requirement for initial and every two years thereafter.
	An amendment to ICAO Annex 2 requires that aircraft marshalls be trained.	Marshaller training added to section 5.1.3.
5.2 Crew Resource/Human Factors Management	It has been recommended that CRM be made a standard rather than a recommended practice.	CRM training changed to a standard.
5.6 Training Records	It has been recommended that electronic records be encouraged and that they include procedures to make systems verifiable include only specifically designated people with write access to designated databases, segmented and password protected databases, company computer security audits and availability of source documentation for specified periods of time.	Added a recommended practice suggesting that electronic records may be most effective and that operators should consider procedures to protect their integrity and make them verifiable.
6.1 Standard Operating Procedures	An auditor recommends that the content of the SOP that is contained in AMC 6.1 be moved into the Standards.	The issue has been discussed with several subject matter experts. It was concluded that given the range of SOP philosophies and experience, it would be overly prescriptive to specify in the standard the detail that is contained in the AMC, and the performance based nature of the current 6.1.1 is more appropriate.
	The IS-BAO Single Pilot Supplement recommends SOP for single pilot operations.	Note added to 6.1.1.
	It was recommended that a provision be included requiring the operator to have a system to ensure that flight crews follow the SOP.	Provision added to 6.1.2.

Appendix D – Summary of Amendments to IS-BAO, APM and GCOMS

Section	Issue	Amendment Action
6.2.1 Flight Planning Requirements	An auditor recommends that this provision be combined with 4.2.2 PIC Duties.	Not accepted. The provisions in 6.2.1 are linked to the remainder of 6.2 and to move them to 4.2.2 would appear to introduce unnecessary complications.
6.2.2 VFR Flight	An auditor has recommended that an AMC be added that addresses VFR flight planning and flight following.	Section 6.3.2.d and a Note were added.
6.3 Operational Control	It has been recommended that 6.3.1.c be expanded to include a requirement for flight following.	Included in the above noted clause and Note.
6.4 Weather Minima	It has been noted that this section as written would appear to not allow for use of below standards take-off minima (600 and 1,200 RVR).	Provision addressed in 6.4.1.
	The recommendation to use ½ mile visibility where there is no instrument procedure or where no take-off minima are specified has generated considerable discussion. In several of these discussions it was agreed that the key element was a risk assessment and the recommendation regarding ½ mile visibility may be misleading.	Removed the recommendation regarding ½ mile visibility and made risk assessment a requirement where there is no instrument procedure or where no take-off minima are specified.
6.6 RNP, MNPS & RVSM	It has been recommended that this provision be expanded to include P-RNAV.	Note added to 6.6
	It is been recommended that the European Mode S requirements be addressed and cross-referenced in the International Ops section.	The recommendation was reviewed. It was concluded that 6.7 addresses such requirements and that this level of detail is not consistent with the performance base standard nature of the IS-BAO.
6.7 Aircraft Operating Requirements	It has been recommended that an AMC be added to expand on this issue.	An explanatory note has been added to 6.7.
6.11 Passenger Safety Briefing	It has been suggested that the Brace Position for sideways facing seats be added.	Added to 6.11.4
	Consider adding something about dealing with intoxicated passengers.	Considered but it is not readily apparent what would be an appropriate provision.
7.2 International Ops	While this section requires crews to be familiar with national and regional procedures, it has been suggested that “international” procedures should be included.	Added to 7.2.
	It has been recommended that the European insurance requirement be added to the to Int'l Ops section.	A Note was added to 7.2.
8.2.2 Comm & Nav Equip't	Revision to 8.6 required change to this provision.	Added provision regarding nav unit redundancy.

Appendix D – Summary of Amendments to IS-BAO, APM and GCOMS

Section	Issue	Amendment Action
8.3 Operational Information and Documentation	The section identifies FAA guidance material on Electronic Flight Bags but not European references.	Reference to JAA Temporary Guidance Leaflet added.
8.5 Emergency Equipment	This section currently requires Personal Breathing Equipment (PBE) for all aircraft. Bulletin 2004-1 was issued in Dec. 2004 revising the provision to a recommended practice for pressurized aircraft.	Amend the provision to a recommended practice for pressurized aircraft as per the Bulletin.
	It has been recommended that a recommendation be included that the location of aircraft emergency equipment be placarded.	Recommendation 8.5.3 added.
8.6 Flights over Water	This provision is unnecessarily prescriptive and has caused confusion.	Simplified to reflect the requirements of Annex 6 Part II. Revision also created the requirement to amend 8.2.2.
8.7 Flight Over Remote Land Areas	The information on areas that have been designated as “an area where search and rescue would be especially difficult” is not readily available. It has been suggested that it be augmented with an AMC.	A note was added suggesting that assistance is available from survival equipment suppliers.
8.12 ACAS II	ICAO Annex 6 Part II amendment 24 modifies the requirement to ACAS II.	Section 8.12 modified to reflect new requirements.
8.15 Minimum Equipment List	It has been suggested that MELs be mandatory for all turbine-powered aircraft or at least turbo-jet aircraft.	Currently some civil aviation authorities do not approve MELs for non-commercial aircraft. However, there are several developments underway that may change this situation. Accordingly, it has been concluded that it would be advisable to not make any change at this time and review the situation again next year.
9.1 Maintenance	It has been suggested that the aircraft maintenance requirements should refer to the requirements of the State of Registry rather than the manufacturer’s requirements.	While Annex 6 Part II refers to maintenance programs acceptable to the State of Registry FAR 43 and the maintenance rules of most States, accept the manufactures maintenance program and make provisions for other programs approved by the state of registry. The text as written provides for this, therefore, it would appear that no revision is required.
	It has been noted that the use of only properly calibrated tools is not mentioned.	Added to 9.1.3.h.
	It has been suggested that provisions relating to tool control be added to either the standards or AMC.	Added to AMC 9.1
9.1.3.b – d Elementary Work	It has been suggested that this could be simplified by a statement such as “ <i>Elementary work shall be accomplished in accordance with personnel, procedures and materials approved (accepted?) by the certifying authority or state of registry</i> ”.	As written the manufacture’s recommended procedures are automatically accepted and others need to be identified. This would appear to be in accordance with FAR 43 and the rules of most other civil aviation authorities.

Appendix D – Summary of Amendments to IS-BAO, APM and GCOMS

Section	Issue	Amendment Action
9.5 Maintenance Personnel Training and Regency	An auditor has recommended that the training specified in 9.5.5 be a standard rather than a recommended practice and has suggested that it read: <i>“Each mechanic shall have received initial and recurrent training every three years in an aircraft’s systems and maintenance procedures before that person is authorized to approve an aircraft for return to service after maintenance has been performed.”</i>	Section 9.5.3 requires that training programs include <i>“initial and recurrent training appropriate to the aircraft group, type or system for which a maintenance release is to be signed”</i> and 9.5.5 recommends that the recurrent training be every two years. While it is recognized that more specific requirements may be desirable by some, this performance standard in conjunction with the operator’s SMS, would appear to be in keeping with the general philosophy of the IS-BAO.
	It has been noted that there is no requirement in the IS-BAO for training in the operator’s maintenance procedures.	Revise 9.5.3 to include training in the operator’s maintenance procedures.
11.0 Emergency Response Plan	Section 11.4.a requires that the Emergency Response Plan contain “procedures for the flight crew to notify ATS and local police authorities of the accident...” It was noted that Annex 6 Part 2 requires that the pilot-in-command notify the appropriate authority of any accident and notifying air traffic services is only a method of doing that.	Revise section to require the Emergency Response Plan to include “procedures for the flight crew to notify the appropriate authority in the State where the accident occurred...”
14 Dangerous Goods	It has been recommend that we split the chapter into two parts – one that addresses the more prevalent situation were the operator does not have a dangerous good standards and a second section for situations where the operator does have a Dangerous Goods authority.	Chapter 14 was divided into two parts. 14.1 deals with considerations for all operators and 14.2 specifically for the transportation of dangerous goods.
	The US DOT recently issued HAZMAT rules which appear to contain provisions that are more stringent than the ICAO Technical Instructions and the IATA Dangerous Goods Regulations.	Reference has been added to Chapter 14 referencing State regulations.
AMC 3.2. Safety Management Systems	It has been recommended that the Continuous Improvement Opportunity Form that is in the GCOM be integrated into SMS model in the AMC	A reference was added to section 2.5 of AMC 3.2 indicating that an example of the form is contained in the GCOM.
	A number of general comments have been offered on the risk assessment process and hazard identification and tracking.	Several editorial revisions were made to clarify the SMS guidance material.
AMC 7.0 Operations in International Airspace	An amendment was made to PANS ATM on the use of True Mach Number for longitudinal separation.	Revised AMC 7.0 section 2.10.
	An Aeronautical Information Circular was issued on Strategic Lateral Offsets in the NAT Region.	Section 2.8 of AMC 7.0 was revised as per the AMC.
IS-BAO Single Pilot Supplement	Was developed in 2005	The Supplement was added as Appendix A and other appendices were re-numbered.

Appendix D – Summary of Amendments to IS-BAO, APM and GCOMS

Section	Issue	Amendment Action
GCOM Amendments Jan. 1, 2006		
All	It has been recommended that US English be used in the Regular GCOM.	GCOM Regular revised to US English.
All	The revisions to the IS-BAO will require similar amendments to all of the versions of the generic company operations manuals.	All versions of the GCOM will be amended to reflect the revisions made to the IS-BAO.
SPGCOM	Single pilot generic operations manual was developed in 2005.	Was added to the IS-BAO CD

Appendix D – Summary of Amendments to IS-BAO, APM and GCOMS

OTHER ISSUES FOR DISCUSSION

TAWS & ACAS II for VLJs

It has been noted that neither Class A TAWS nor ACAS II is available as an option on any VLJs. The opinion was offered that this advanced safety equipment would very much enhance the safety of VLJ operations and it was suggested that the requirement for such equipment be included in the IS-BAO.

1. Discussion

1.1 GPWS/TWAS

The Current Annex 6 Parts I and II requirements and recommended practices for ground proximity warning systems all relate to aeroplanes with a MCTO in excess of 5,700 kg and authorized to carry more than five passengers. In both cases, a ground proximity warning system with forward looking terrain avoidance function is required for turbine engined aeroplanes with a MCTO in excess of 5,700 kg or authorized to carry more than nine passengers where the C of A was first issued after January 1, 2004 and is required for all such aeroplanes after January 1, 2007. It is recommended for piston engined aeroplanes in the same category and for turbine engined aeroplanes authorized to carry more than five passengers.

1.2 ACAS II

New requirements are included in the 2005 amendment to Annex 6 Part II. They require that turbine engined aeroplanes for which to individual C of A is first issued after January 1, 2005 and have a MCTO in excess of 15,000 kg or are authorized to carry more than 30 passengers, to be equipped with ACASS II. It is recommended for all turbine engined aeroplanes where the C of A is first issued after November 24, 2004 and have a MCTO in excess of 15,000 kg or are authorized to carry more than 20 passengers and for aeroplanes where the C of A is first issued after January 1, 2008 and have a MCTO in excess of 5,700 kg or are authorized to carry more than 19 passengers.

From 1 January 2005, Annex 6 Part I requires that all turbine-engined aeroplanes of a maximum certificated take-off mass in excess of 5 700 kg or are authorized to carry more than 19 passengers be equipped with an airborne collision avoidance system (ACAS II). It is recommended for all aeroplanes.

1.3 Current IS-BAO Requirements

The Requirements as currently proposed in the IS-BAO are:

8.11 GPWS/TAWS

8.11.1 All turbine-engine aeroplanes of a maximum certificated take-off mass in excess of 5 700 kg or authorized to carry more than nine passengers, for which the individual certificate of airworthiness is first issued on or after January 1, 2004, shall be equipped with a ground proximity warning system which has a forward looking terrain avoidance feature.

8.11.2 *It is recommended that all aeroplanes with a maximum certificated take-off mass in excess of 5 700kg be equipped with a ground proximity warning system. It is also recommended that the ground proximity warning system have a forward looking terrain avoidance function. The system should provide warnings of at least the following circumstances:*

1. *excess rate of descent;*
2. *excessive altitude loss after take-off or go around; and*
3. *unsafe terrain clearance.¹*

¹ Recommendation of ICAO Annex 6 - Operation of Aircraft. Part II - International General Aviation – Aeroplanes.

Appendix D – Summary of Amendments to IS-BAO, APM and GCOMS

8.11.3 Operators shall have a process to ensure that the data base for ground proximity warning systems with predicative terrain hazard warning is kept current and pilots are trained in use of the system.

8.12 ACAS II

It is recommended that all aircraft be equipped with an Airborne Collision Avoidance System (ACAS II).

Note - For operations in some airspace it is mandatory that aircraft be equipped with ACAS II.

2. Conclusion

The Annex 6 and IS-BAO requirements will not apply to the VLJ except that ACAS II is recommended for all aeroplanes. As the operator's SMS requires them to identify all hazards and the associated risks inherent in the operation it could be logically concluded that for VLJ and single pilot operations CFT and airborne collisions would be a hazard that should be assessed and if it is found that they are significant, equipment may be part of the mitigation used to reduce the risks to an acceptable level.

Appendix D – Summary of Amendments to IS-BAO, APM and GCOMS

Section	Issue	Amendment Action
IS-BAO Audit Procedures Manual Amendments Jan. 1, 2006		
Various	The Audit Procedures Manual was reviewed by Dennis Arter, Columbia Audit Resources and he recommended numerous revisions to make the Manual more closely reflect ISO 19011:2002 Guidelines for quality and/or environmental management systems auditing.	See following pages.
3.1 Certificate of Registration	It has been recommended that operators who have reached a specified level of maturity should be granted a longer registration validity period.	Added provision for a three year registration validity period for operators who have successfully undergone a Stage Two or Three audit and demonstrated an effective safety management system.
3.5 Auditor Qualifications	It has been suggested that the auditors who have met the new requirement specified in 7.3 have developed a level of experience where their accreditation should be valid for longer than two years.	Included a provision for three year accreditation validity.
7.3 Audit Report Contents	Submission of the completed audit protocols has been required for QA purposes. Experience has shown that once auditors have conducted several audits and have had an audit monitored by the Standards Manager the benefits of such a requirement are limited.	Provision included for auditors who have done 3 audits and undergone a monitoring to not have to submit the completed audit protocols.
Auditor CD	It has been suggested that a "Read Me" file be added to the to Auditor CD to cover issues such the use of the Audit Protocol etc.	Was added

Attachment to Appendix D

Dennis Arter has many years experience as a Quality auditor. He spoke at the 2005 NBAA Maintenance Managers Conference where we discussed the IS-BAO and the Audit Procedures Manual. He agreed to review the Manual and subsequently provide a series of comments and recommendations.

During the Audit Procedures Manual review process Mr. Arter's book *Quality Audits for Improved Performance* and ISO 19011 *Guidelines for Quality and/or Environmental Management Systems Auditing* were reviewed along with the draft ISO standard 17021.2 *Conformity Assessment – Requirements for Bodies Providing Audit and Certification of Management Systems*. Information gathered from that activity was used to make an extensive revision to the IS-BAO Audit Procedures Manual.

Mr. Arter's Remarks and the related amendment actions are presented below.

Date: 17 May 2005

To: Ray Rohr, Int'l Business Aviation Council, 999 University Street, Montreal, PQ H3C 5J9

From: Dennis Arter, Columbia Audit Resources, 6951 W. Grandridge Blvd., Kennewick, WA 99336

RE: IS-BAO Audit Program

When we met in Colorado Springs during the NBAA Maintenance Conference, I promised to review the IS-BAO audit program to generally accepted quality audit practices. I have completed that review.

Conclusions

I find the IS-BAO audit program to be in general compliance to accepted practices within the quality and environmental auditing communities. The biggest area in need of attention concerns the necessity for the auditor to make subjective opinions and overall conclusions during and at the end of the audit assignment. An audit finding should report the disease, not the symptoms. This is one of the distinguishing characteristics of the audit, in that it provides an overall assessment of the strengths and weaknesses of the examined control practices.

Observations	Amendment Action Taken
<p>1. Reference to ISO 17021 (Management System Certification)</p> <p>The program would have increased credibility if you could show how it conforms to the 17021 principles. This is the International Standard used by the ANSI-RAB National Accreditation Program.</p>	<p>1. ISO 17021 is still in the "voting" stage and will not be finalized until the end of 2005. The draft is currently being reviewed to confirm that the IS-BAO complies with the standard.</p>
<p>2. Reference to ISO 17024 (Certification of Persons)</p> <p>The program would have increased credibility if you could show how it conforms to the 17024 principles. This is the International Standard used by RABQSA and the old IATCA (now International Personnel Certification Association).</p>	<p>2. We do not have an auditor certification program. We accredit only those with appropriate experience. ISO 19011 Guidelines for Quality and/or environmental management systems auditing has been reviewed and used extensively in the Audit Procedures manual revision.</p>
<p>3. Audit Observations (APM 1.3)</p> <p>Many audit programs misuse the word "observation". In fact, we eliminated the word from the ISO 19011 joint standard for environmental and quality auditing. In its place, we use "objective evidence." Experience shows that reporting audit observations generally does not work. There is no real force to address them and they tend to focus attention on the less important issues.</p>	<p>3. Section 1.3 and several related sections were revised as per the recommendation so as to bring the IS-BAO in line with ISO 19011.</p>

Attachment to Appendix D

Observations	Amendment Action Taken
<p>4. Audit Conclusions (APM 1.3) The definition is missing, although it is one of the most important parts of the report.</p>	4. Definition added.
<p>5. Non-conformance (APN 1.3) This definition is contrary to ISO 9000:2000. I believe you meant to use the conformity assessment term “nonconformity.” A non-conformance is generally associated with inspection and test, where a go/no-go value is obtained.</p>	5. Terminology revised throughout the document to non-conformity as per ISO 9000:2000.
<p>6. Quality Assurance (APM 1.3) This definition is contrary to ISO 9000:2000. It is much broader than the definition used.</p>	6. Definition revised as per the IS-BAO QA concept and additional explanatory material added.
<p>7. Approval of Registration (APM 3.2) A certificate of Registration may be issued by the Secretariat, upon recommendation by the auditor. Most programs require at least an after-the-fact review and approval by the Board.</p>	7. Text added to clarify the approval process which does in fact follow this recommendation.
<p>8. Reference to ISO 19011:2002 (APM 3.4) Heavy emphasis should be placed on the international rules for auditors, ISO 19011.</p>	8. Done.
<p>9. Auditors in training (APM 3.4) In addition to subject matter experts, the team may have auditors in training.</p>	9. Added.
<p>10. Recognition of other certifications (APM 3.5.1.d) You should allow credit for those possessing ASQ Certified Quality Auditor (CQA) and IIA Certified Internal Auditor (CIA) credentials.</p>	10. Other referenced qualifications were added.
<p>11. Re-qualification of auditors (APM 3.5) While paragraph 3.5.1 discusses qualification of auditors, there is no requirement for re-qualification. Most programs require active participation in the audit process or refresher training to maintain the skills.</p>	11. Currently required. Was emphasized.
<p>12. Audit program QA (APM 3.7) The IIA has some excellent material on how to assure quality of the audit program. These are contained in the IIA <i>Standards for the Professional Practice of Internal Audits</i>. The topic is also covered in ISO 19011:2002.</p>	12. QA section was augmented.
<p>13. No secrets (APM 3.9.2) Although transparency and disclosure are important at the end of the fieldwork, they are even more important during the performance of the data gathering. I have a paragraph on this in my book, <i>Quality Audits for Improved Performance</i>.</p>	13. Section was augmented with material from the referenced book.
<p>14. Timeliness to whom? (APM 3.9.3) Results of the audits will be produced [by the audit team] and delivered [to whom] on a timely basis.</p>	14. Material added to clarify.
<p>15. Depth of the audit (APM 3.9.4) The auditor must change the depth of the investigation as the audit progresses. There are too many unknowns and variables to do otherwise. While it is important to stick to the agreed scope, depth will change. The seventh word in this paragraph (highly) is unnecessary.</p>	15. Section revised as per recommendation.

Attachment to Appendix D

Observations	Amendment Action Taken
<p>16. Four rules for the audit (APM 3.9.6) It wouldn't hurt to refer to the four fundamental rules for the audit here. See my book for details. Again, the word <i>highly</i> is unnecessary.</p>	16. The four fundamental rules of auditing were added.
<p>17. Typo (APM 4.2.2) The word <i>in</i> is used in the (entirely too long) last sentence, where <i>is</i> was meant.</p>	17. Corrections made.
<p>18. Audit Plan (APM 4.4.1) It is common practice for the auditor to include a one-page Audit Plan with the formal notification.</p>	18. Was mentioned but has been written to be more obvious.
<p>19. Opening meeting (APM 4.5.1) Two important items were omitted from the list: communication channels and dispute resolution.</p>	19. Items added.
<p>20. Work paper notations (APM 4.7.1) Significant Issue The requirement to have the auditor note Remarks, Observations, or Findings in the field notes is bad practice. It promotes the "traffic ticket" approach to auditing. Most of the negative facts will eventually support a system deficiency. By themselves, they are symptoms. It is the auditor's duty to uncover the underlying disease. These same comments apply to paragraph 4.8.1 Most audit programs require the auditor to record the specific record, sticker, or part examined in the right column. This is the actual evidence seen to support the yes or no decision.</p>	20. Protocols and material relating to their use were revised.
<p>21. Major and Minor definitions (APM 4.9.2) These definitions are missing in the front.</p>	21. Definitions added.
<p>22. Audit Conclusions (APM 4.11.4) Significant Issue As mentioned above, one of the most important tasks of an auditor is to present the stakeholders with an assessment of the overall effectiveness and suitability of the management system controls. The first place to do this (other than daily briefings) is the closing meeting. The formal report must also contain this information.</p>	22. Related text was revised in several places and the Audit Report Form was revised as per the recommendation.
<p>23. Safety Management System (APM 5.0) This chapter is especially well written. ☺</p>	23. Thanks you.
<p>24. Audit Conclusions (APM 7.1.3) Significant Issue Generalities are to be avoided in objective evidence statements. They are facts. Generalities are required in Finding statements, as they describe the disease. The audit conclusions must also contain generalities.</p>	24. Section has been revised to indicate that conclusions are based on objective evidence that is compared to the requirements and then root cause analysis is conducted to identify the problem not the symptom. The problem is then presented in the findings and in the Audit Conclusions.
<p>25. Improper use of corrective action (APM 7.3.2) Significant Issue Organizations cannot perform corrective action on every identified problem. They will waste resources and always fail. Minor non-conformances (sic) require remedial action, but not corrective action. This principle goes way back to the 1950's and the concept of Material Review Boards for nonconforming supplier parts received.</p>	25. Terminology revised to Remedial Action Plan as per ISO 19011 and the development of Findings based on minor non-conformities was added to the section and in other relevant text in the Manual.

Appendix E – New IS-BAO Policies

Policy xx-xx

Draft of April 10, 2005

Subject: IS-BAO Registration Involving Common Services Provided by Aviation Support Service Companies

Approved: Xxx xx, 2005

Purpose:

This IS-BAO policy has been developed to respond to the broad safety advantages when aviation support services companies provide safety management services to a group of small flight departments through assistance in implementing the IS-BAO 'code of practice'. The policy provides a framework for recognition of arrangements and issue of IS-BAO Registration where an aviation support company provides operational, maintenance, administrative and/or safety support services to a group of individual operators who operate to common programs, systems, procedures and management developed by the support service company.

Discussion:

There are many corporate aviation flight departments that consist of one or two aircraft and a very limited number of people. For a variety of reasons, including lack of time, appropriate experience and/or skills, such situations are often characterized by a lack of mature programs, systems and procedures to effectively manage the operational, maintenance, administrative and safety issues of the flight department. While the IS-BAO was developed in part to address the scale of operation of a small flight department, it is recognized that schemes may from time to time be developed that will complement the safety objective of the IS-BAO without undermining its integrity. The proposal that motivated this policy would see a business aviation support service company provide operational, maintenance, administrative and/or safety management support to a group or groups of individual small flight departments hereafter referred to as the entity.

Policy:

Support Services for Implementing IS-BAO

1. IBAC Member Associations recognize that support service companies may develop common programs for a group of small flight departments where there are limited internal resources and that cost and time benefits, and hence safety value, can be derived by grouping resources.
2. The aviation support service provider must be cognizant that:
 - a. The programs, systems, procedures and manuals used are valid for each individual operator and accurately reflect how that operation is being managed and conducted,
 - b. The safety management system ensures that the hazards and associated risks inherent in each individual operation are identified and reduced to as low a level as reasonably achievable,
 - c. The safety management activities of each operator and the entity, are tracked to ensure that they are appropriate and effective, and
 - d. Changes to programs, systems, procedures and manuals are made when it is determined through the safety management system of an individual operator or the entity or through an audit, that changes are appropriate.
3. It is recognized that the support services company will act as the safety supervisor for all of the flight departments in the entity and will be responsible to the Flight Department Manager /Chief Pilot in each of the flight departments.

Appendix E – New IS-BAO Policies

4. The Support Services General conditions will normally include arrangements for formation by a legal contract that identifies the Accountable Executive for each of the individual flight departments or companies and the support service provider that has been contracted to provide the operational, maintenance, administrative and/or safety support to the entity.

Provision of IS-BAO

1. It is recognized that there are economies of scale for both the flight departments and IBAC Member Associations through use of support services companies' provision of common services. The cost reduction for IBAC derives from the need to communicate with only one safety supervisor for a group of companies rather than with a number of individual flight department representatives. Such safety support service by the Standards Manager was incorporated into the IS-BAO costing structure.
2. In order to ensure that each member of the entity is fully conversant with the IS-BAO and related standards they must be an IS-BAO holder. In recognition that the costs to the IS-BAO program are reduced when common services are provided, a reduction of 30% will be applied to the price of copies of the IS-BAO that are purchased in a bulk quantity of five or more by an aviation support service company.

IS-BAO Registration Audit

1. The support services company may negotiate with an auditing company to provide IS-BAO Registration Audits for the group of flight departments through a packaged program. This provides economies of scale for both the flight departments and the auditing company.
2. IS-BAO Registration Audits must be conducted by an auditor that is independent from all of the parties involved.
3. Registration Audits must be conducted on each member of the entity independently and be conducted to the level required for the auditor to ensure that each member is in conformance with the requirements of the IS-BAO.
4. IS-BAO Registrations will be issued independently to each member of the entity. The registration will reference the support service company, the entity identifier and be dependant on the continued relationship with each of them as specified in the contract between the individual flight department and the support service company.

Draft of Sept 30, 2005

Subject: IS-BAO Registration When a Flight Department is Split into Two or More Separate Entities.

Approved: Xxx xx, 2005

Purpose:

To provide for continuity of IS-BAO Registration where an IS-BAO Registered flight department is split into two or more separate entities.

Discussion

Occasions arise when for business reasons, a company that was structured with subsidiary companies directly under its control decides to split the subsidiaries into independent companies and part of the flight department is split off and assigned to one of the companies. This situation could also occur when the flight department was split into two or more separate organizations for other reasons. In such cases there may be a desire to carry the systems, programs, procedures, manuals, etc. forward to the new flight departments including their IS-BAO registration. However, in such processes logistics and related activities may not be conducive to conducting a registration audit at the time of the separation of the flight department.

Policy

In cases where an IS-BAO Registered flight department is split into two or more separate entities the new entities, upon application attesting that they have met the following conditions, may be issued IS-BAO registration valid to the expiry date of the Registration of the IS-BAO Registered flight department or 12 months, whichever comes first:

1. The new flight departments are continuing to use the same systems, programs, policies and procedures as the IS-BAO registered flight department,
2. They have conducted an initial risk assessment and have developed and implemented a change management program that includes mitigation of the identified risks to an acceptable level,
3. They have purchased their own copy of the IS-BAO, and
4. It is their intention to undergo an IS-BAO Registration Renewal Audit prior to the expiry of the new registration validity period.