IS-BAO™ International Standard for Business Aircraft Operations

IBAC International Business Aviation Council

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IS-BAO Operations Manager
September 18, 2019

TUG Teterboro Users Group

Background check

IS-BAO™

- IS-BAO auditor for over 10 years
- Started flying in Princeton!
- Pilot, CFI/CFII, safety manager:
  - HeliStream (Los Angeles), Temsco (Alaska)
- Founder/Owner/Operator:
  - NorthStar Trekking, Juneau Alaska
- Aviation attorney
  - Aircrash litigation – aviation product liability defense
  - FAA: counsel for Transport Airplane Directorate
- Aviation safety consultant
  - Auditor
  - Training
  - Risk management

"What's IBAC Done for Me Lately?"

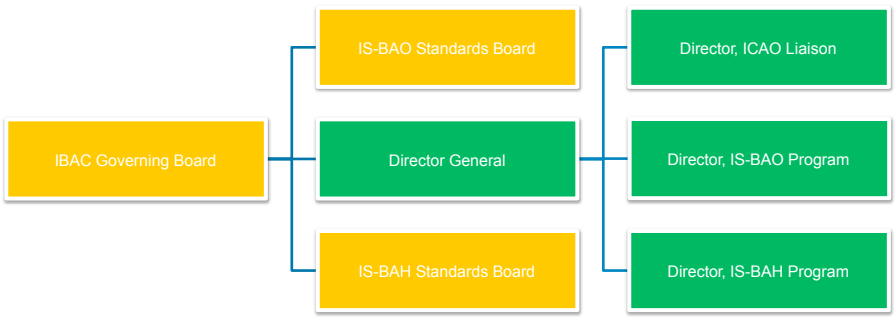
- IBAC Overview
- 2018 IS-BAO Standard – Improvements
- Highlights of the Protocol Changes
- Current Projects (if time)

Introduction to IBAC

- What, When, and Why of IBAC
  - Non-Profit NGO founded in 1981
  - Your ICAO Representative & Advocate
  - To "Enhance the safety, acceptance and economic contribution of business aviation globally."
  - National associations can't have a voice at ICAO ***except IATA & IBAC***

Who: Member Associations

Coordinated Voice of Bus Av



IBAC at ICAO

- IBAC is Business Aviation's voice at ICAO
  - Member Associations shape and relay the voice.
  - Operators are the source of that voice.
- IBAC has a voice at the **SARP** creation level

IBAC Working for You at ICAO

- Cockpit Door on G650ER and Global 7000
- CORSIA impact and Operator tools
  - Carbon Offsetting and Reduction Scheme for International Aviation
- Special Authorizations
- RNP approaches
- SMP Doc 9859 Rev 4
- Ground Handling Task Force
- RVSM and Oxygen improvements
- Industry data share (ASIAS, D4S, AVDEX, ICAO)
- New technology's impact on Business Aviation

IBAC at ICAO

- Aerodrome operations and capacity
- Operations above flight level 600
- Proposed new global aviation safety oversight system (GASOS)
- Global Aviation Safety Plan (GASP)
- Facilitation of data-driven decision-making in support of safety intelligence to support safety risk management
- Aviation cyber resilience

IBAC at ICAO

- Evolution of the Universal Safety Oversight Audit Programme (USOAP) continuous monitoring approach (CMA)
- Improving the performance of the air navigation system through the aviation system block upgrades
- Implementing minimum air navigation services for international civil aviation through the basic building blocks (BBBS) framework
- Integrated CNS and spectrum strategy

IBAC at ICAO

- IBAC coordinates scores of volunteers on various panels and committees

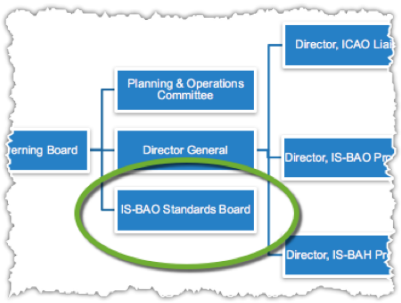
- Do you want to volunteer?
- Director of ICAO Liaison (currently Kurt Edwards) at: kedwards@ibac.org

The IS-BAO

- Initiated by NBAA and EBAA in 2000
- Launched in 2002
- Safety & international compliance assurance
- Created and still maintained by operators, for operators, worldwide
- Performance-based, minimal prescription
- Scalable for effectiveness and safety

The IS-BAO Standards Board

- Comprised of industry *volunteers* and experts.
- Is the decision-making authority for the IS-BAO
- Develops and approves all revisions to IS-BAO. *"Does this add value to an operator?"*
- Annual formal meeting – BACE
  - October 2019 in Las Vegas



Your IS-BAO Standards Board

Name	Position	Member Organization/Operator	Subject Matter Expertise
David Nigri	Chairman	Textron	Flight Operations
Juergen Wiese	Vice Chairman	BMW	Flight Operations
Kurt Edwards	Member	IBAC	Intl. Standards
Keith Washington	Member	NBAA	Flight Operations
Kent Wong	Member	AsBAA - MetroJet	Flight Operations
Pat Dunn	Member	AsBAA - Asia Corporate Jet	Flight Operations
Jens Henning	Member	GAMA	Aircraft Manufacturing
Len Beauchemin	Member	NBAA - Aero Technica	Aircraft Maintenance
Matt Zuccaro	Member	HAI	Rotary-wing Operations
Doug Carr	Member	NBAA	Regulatory/Int. Affairs
Dan Boedigheimer	Member	SME - Air Crew Academy	Training
Hamza Ghouth	Member	MEBAA - Saudia	Flight Operations
Lynette Sims	Member	ABAA - VizionX	Rotory-wing Operations
Joanne Wong	Member	AsBAA - Jet Aviation	SMS
Stan Medved	Member	EBAA - Shell	Flight Operations
Mike Ott	Member	NBAA - Phoenix Air	Flight Operations

Orange = 9 Member Operators

The IS-BAO Programme

- IS-BAO: **performance-based standards**
  - Key to scalability
  - Tells “what” is required
  - Organization determines “how”
  - **Implementation Guide living document for Industry through NBAA/EBAA/SSTS Safety Committees and other SMEs**

The IS-BAO Programme

- IS-BAO as an Alternative Means of Compliance (AMC) with some States
  - Authority to operate predicated on IS-BAO registration, but still voluntary in OTARS Region
  - Memorandum of Cooperation with EASA for Part NCC
  - Used to demonstrate SMS in over 200 EASA TCO Authorizations
  - Working with EASA and France on SAFA inspection consideration for IS-BAO operators
  - Working with Mexican DGAC on new Circular Obligatoria
  - Working with Philippines toward appropriate non commercial regulation and IS-BAO AMC usage

Vision 2020 Listening Tour

Operator/Auditor Focus Group

- Operator/Auditor directed 2018 improvements

Established Operator Focus Group

- Stage 3 Progressive Option
- Operator/Auditor Roundtables

Small Operator Initiative

- Simplified Tools and Manuals
- Pre-scaled concepts

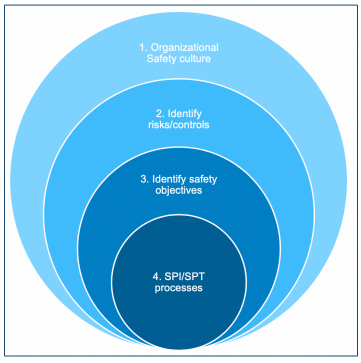
Vision 2020: Tools example

Data tracking built into Protocols can assist your IAP

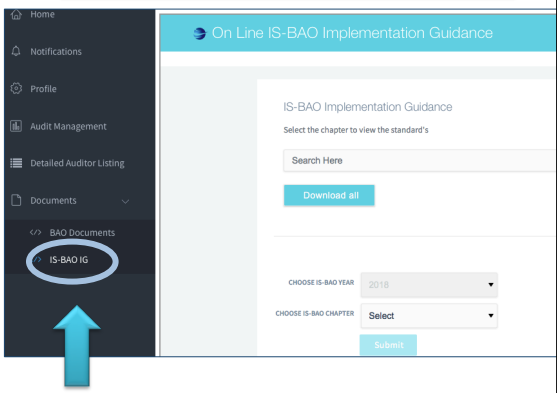
6 Steps to Registration Initiative

SPI/SPT & Implementation Guidance

SPI/SPT Clarification



Operator & Auditor Portals



This is where you will find the Implementation Guidance (IG).
You will be able to search, download, and print.

Highlights of the 2018 IS-BAO Standards Changes

Changes in the 2018 Standard

- The **IS-BAO 2018** Standard's structure is **significantly improved** from previous editions.
- Overview of these **changes** and **orientation** to the **new processes and procedures.**
- The **2018 Standard is now mandatory** for use on audits as of July 1, 2019.
- **Starting July 1, 2019**
  - A representative from the organization is required to attend Fundamentals of IS-BAO workshop within the 48 months preceding the registration audit
  - **NOTE: Required for initial entrants only**
  - Highly recommended for all others

2018 IS-BAO Changes

In order to better **align the IS-BAO and IS-BAH** programme's common core chapter, the 2018 Standard has had the chapters renumbered as follows:

1. Purpose of the Standard
2. Introduction
3. Safety management Systems
4. Emergency Response Plan
5. Security
6. Company Manuals
7. Organization and Personnel Requirements
8. Training and Proficiency
9. Occupational Safety and Health
10. Environmental Management
11. Transportation of Dangerous Goods
12. Fatigue Management
13. Flight Operations
14. Aircraft Equipment Requirements
15. Aircraft Maintenance Requirements

ERP Added

13 Incorporates International ops

13 & 15 restructured

Conducting the SMS Evaluation – APM 5.6

Soundness, Appropriateness and Effectiveness have been changed to Stage 1, Stage 2 and Stage 3.

- When conducting a **Stage 1** evaluation, answer the **Stage 1 (S1) Protocol questions** which are designed to evaluate whether the required processes and procedures are established.
- When conducting a **Stage 2** evaluation, answer the **Stage 1 (S1) and Stage 2 (S2) Protocol questions** which are designed to focus on the evidence that these processes and procedures are effective.
- When conducting a **Stage 3** evaluation, answer the **Stage 1 (S1), Stage 2 (S2) and Stage 3 (S3) Protocol questions** which are designed to address maturity indicators associated with the Standard.

Stage 1, Stage 2 & Stage 3 Protocols

3.1.5	**SMS Documentation**					
	Stage 1 Protocols (applicable to Stage 1, 2 and 3 audits)					
	S There is a SMS manual that includes all items required in IS-BA 3.2.1.e.1. (3.1.5.1) . Note: The SMS manual may be in the form of stand-alone documents or may be integrated with other organizational documents maintained by the organization.	DR				
	S There is a process to regularly review the SMS manual and update it where appropriate. (3.1.5.1) .	DR				
	S There is a process for the development and maintenance of SMS operational records as part of the SMS documentation. (3.1.5.2)	DR				
	Stage 2 Protocols (applicable to Stage 2 and 3 audits)					
	S There is evidence that pertinent parts of the SMS manual are available to personnel according to their role. (3.1.5.1 and 6.2) .	EI				
	S There is documented evidence that the SMS manual is being reviewed and updated as appropriate. (3.1.5.1) .	EI				
	S Records pertaining to all SMS outputs are available. (3.1.5.2) .	EI				
	S The SMS procedures reflect relevant coordination or integration with external customer or subcontractor organizations where applicable. (3.1.5.1.c)	EI				
	Stage 3 Protocols (applicable to Stage 3 audits only)					
	S The SMS documentation demonstrates how the organization identifies opportunities for continuous improvement.	EI				

Evaluating the Safety Management System

A Stage 3 organization is expected to have the following characteristics (APM 5.6.3):

- Widespread **employee commitment** to and **involvement** with improving safety performance, including **visible leadership by top management**;
- A sustained desire for **improved safety performance** through focusing on established **organizational objectives** by **measuring safety indicators** with **targets** over a period of time;
- A consistent effort seeks the **causes of deficiencies**, rather than allocation of blame;
- **Effective communication** of safety information **within and outside the organization**, including safety performance trends;
- A deeply held commitment to the benefits of **continuous evaluation and improvement;**

Evaluating the Safety Management System

Stage 3 organization characteristics (continued)

- Managerial awareness of the issues that adversely impact the organization's safety culture;
- Primary indicators that include safety, that do not focus only on cost or financial targets, and that are actively measured;
- Adequate allocation of financial and other resources for safety management;
- Initiatives to learn from the safety performance of external organizations; and
- Safety performance measures that include those of effectiveness of safety activities and processes, rather than just the results of these activities.

Evaluating the Safety Management System

Stage 3 organization characteristics (continued)

- The ongoing improvement process should include regular evaluation of the safety management activities in relation to established SMS objectives as well as the evaluation of risk controls.

- It also shall include a formal process to identify the causes and implications of substandard performance and eliminate or mitigate such causes.

SMS Stage 3 Evaluation – APM 5.6.3

- To evaluate Stage 3, the auditor uses
  - the Stage 3 (S3) Protocol Questions, along with
  - interviews and observations,
  - to determine the **organization's status** in terms of **safety cultural attributes**.
- It is acceptable to have some Stage 3 Protocol questions assessed as **"No"!**
- **Nonconformities** related to the S3 Protocol questions **will not result in a finding**
  - This is a judgement based upon the holistic cultural assessment of the organization by the auditor and IBAC.

Evidence of Implementation and Document Reference

The **auditor** will provide **evidence of implementation (EI)** and/or a **document reference (DR)** based upon the information in the **Required Element box** in **column E** of the **Chapter 3 Protocols**.

- **DR** indicates that a **document reference** is **required** to be entered in **column G**.
- **EI** indicates that **evidence of implementation** is **required** to be entered in **column H**.

Evidence of Implementation – APM 4.7.3

- The **Evidence of Implementation** should **not** be completed by the **Operator <u>but by the auditor</u>**. Make a note if operator has commented.
- These comments **must include** comments on
  - the **methods** used by the auditor to **determine conformance**,
  - in terms of **implementation**,
  - of the required **policy/process/procedure during the onsite audit.**

4.2 - (A) Information for Rescue Coordination						
4.2.1	**(A)** Does the operator have a process to ensure that updated information on all on-board emergency and survival equipment is available for immediate communication to rescue coordination centres, which includes, as applicable to each aeroplane, at least the items specified in IS-BAO 4.2.1.a, 4.2.1.b and 4.2.1.c?	DR EI	Yes	ERP pg. 44	Interviews with the DoM and Safety Manager, and review of the ERP confirm.

The auditor may **complement** such comments with a **brief description** of the **policy/process/procedure implemented by the organization**, or other **comments** and/or **recommendations** deemed appropriate by the auditor.

4.3.5	Does the organization document lessons learned from the ERP exercises and implement them for improvement of its ERP?	DR EI	Yes	ERP pg. 58	Interviews with the Safety Manger, Director of Aviation, DoO and DoM, and review of ERP exercise and manual revision records revealed that the Operator conducted tabletop exercises and training sessions in 2018 that resulted in significant changes to its ERP Manual. These changes included updates of internal and external contact names and information, and changes to program roles and responsibilities.

Review of Previous Audit Report

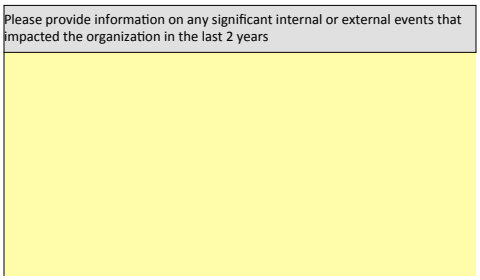
It is highly recommended that the auditor **acquire a copy** of the organization's **previous audit from the operator** and review it prior to the audit.

The auditor is expected to **comment** on the **remediation of findings** from the **previous audit** in the **box provided on the Audit Summary** page of the spreadsheet.

Review of Previous Audit Report	
Previous Audit Report Reviewed Prior to / During the Audit:	
Comments on Remediation of Findings from Previous Audit:	

Operator Summary tab: Significant Events Since Last Audit

- The Auditor is expected to **ask about** and **comment on** any **significant internal or external events** that **impacted the organization** in the **last 2 years**.
- This is a **good** topic to be **addressed in the opening meeting.**
- Could include, among other things, events such as significant **incidents** or **accidents**, **mergers, buy outs, management team changes**, change of **fleet or type of operations**, change of **home base** of operations, etc.



Use of the OTAR Appendix

Auditors conducting audits on organizations that have **aircraft registered with the British Overseas Territories** that are voluntarily utilizing IS-BAO Registration as an **alternate means of compliance** with their **regulatory requirements** have to meet the **requirements imposed** on this type of audit **by the Overseas Territories Aviation Requirements (OTARs)**.

All auditors on the audit team must hold the **SRQ Credential**.

How do you get this?

Contact Auditor Accreditation Manager for the test

https://www.airsafety.aero/Requirements-and-Policy/OTARs.aspx

Operator and **auditor** must also **complete the OTAR Appendix** in the **protocols** found after Chapter 15 in the spreadsheet in the **2018 Protocols**.

Use of the OTAR Appendix

The applicable OTAR Regulations may be viewed by hovering over the hyperlink in the right hand margin of the spreadsheet.

Ref.	Item	Requirement	Req. Elem	Conform (Y/N/NA)	Doc. & Ref. Number	Evidence of Implementation or of Non-Conformities	Pending Assessment
OTAR Operator Appendix - Applicable to operators using the IS-BAO for regulatory compliance with the UK OTARs							
OT 1 General							
OT 1.1		Has the operator established a policy stating that the operator and its personnel shall allow a person authorised by the Governor of the Territory to board the aircraft unless in the opinion of the PIC, it is unsafe to do so?	DR				View OTAR 91.25
OT 1.2	a.	Has the operator established a policy stating that the operator shall produce any documentation relating to aircraft operations and the safety of aircraft in flight when requested to do so by an authorised person?	DR				View OTAR 91.30
	b.	Does that policy also state that the PIC shall produce to an authorised person, within a reasonable time, the required documentation to be carried in flight when requested?	DR				
OT 1.3		Does the operator have a policy and procedures to ensure that, when required for an aircraft registered in the Territory, information for the preparation and execution of a flight; reports; flight crew records; cabin crew records; records for other operational personnel; and, other specified records, shall be stored for the periods prescribed in Appendix 1 to 91.1265?	DR EI				View OTAR 91.1265

Configuring the Protocols

The auditor can configure the Protocols for the operations conducted by the operator including whether or not there are Overseas Territories registered aircraft included in the audit.

- Configuring the Protocols on the Initial Questionnaire will enter N/A automatically for operators that do not have Overseas Territories registered aircraft.
- This also works for automatically entering N/A for operators that don't operate helicopters and other commonly N/A items.

Does the operator perform:		
14	Single-pilot operations?	No
15	International operations?	Yes
16	Operations over international (non-sovereign) airspaces?	Yes
17	Operations above 10,000ft?	Yes
18	Overwater helicopter operations in hostile environment conditions?	No
Does the operator have authority for or otherwise perform/use:		
19	Operations in airspaces where CNS requirements exist (such as PBN, HLA, RVSM, CPDLC or ADS B/C)?	Yes
20	CAT II and/or III operations?	Yes
21	Transportation of Dangerous Goods?	No
22	Extended Diversion Time Operations (EDTO)? Note: EDTO are also referred to as ETOPS in some documents	No
23	Any type of Electronic Flight Bags (EFB)?	Yes
Use of IS-BAO for regulatory compliance		
24	Does the operator have aircraft registered in the OTAR region for which they use the IS-BAO for regulatory compliance with the UK OTAR Regulations ?	No

Note: To clear all applicability configuration, leave all fields above blank and click the hyperlink at cell C41 below.

Configure IS-BAO Protocols according to the answers above

Configuring the Protocols

This is how it looks when you configure the Protocols after indicating that the organization being audited does not have any aircraft registered with the U.K. Overseas Territories.

Ref.	Item	Requirement	Req. Elem	Conform (Y/N/NA)	Doc. & Ref. Number	Evidence of Implementation or of Non-Conformities
OTAR Operator Appendix - Applicable to operators using the IS-BAO for regulatory compliance with the UK OTARs						
OT 1 General						
OT 1.1		Has the operator established a policy stating that the operator and its personnel shall allow a person authorised by the Governor of the Territory to board the aircraft unless in the opinion of the PIC, it is unsafe to do so?	DR	N/A		The operator does not use the IS-BAO for regulatory compliance with the OTARs.
OT 1.2	a.	Has the operator established a policy stating that the operator shall produce any documentation relating to aircraft operations and the safety of aircraft in flight when requested to do so by an authorised person?	DR	N/A		The operator does not use the IS-BAO for regulatory compliance with the OTARs.
	b.	Does that policy also state that the PIC shall produce to an authorised person, within a reasonable time, the required documentation to be carried in flight when requested?	DR	N/A		The operator does not use the IS-BAO for regulatory compliance with the OTARs.
OT 1.3		Does the operator have a policy and procedures to ensure that, when required for an aircraft registered in the Territory, information for the preparation and execution of a flight; reports; flight crew records; cabin crew records; records for other operational personnel; and, other specified records, shall be stored for the periods prescribed in Appendix 1 to 91.1265?	DR EI	N/A		The operator does not use the IS-BAO for regulatory compliance with the OTARs.

IS-BAO™ International Standard for Business Aircraft Operations

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A Sampling of Protocol Improvements

IS-BAO Chapter 4.0

The ERP shall address:

Aircraft accidents and incidents. (4.1.1)

Incidents involving injury to, or serious medical problems suffered by passengers, crew, visitors, or other company personnel. (4.1.3)

4.1.2 The ERP should address:

Utility failures
Natural disasters
Contagious illness outbreak
Bomb threats
Workplace violence

Interagency Aviation Mishap Response Guide and Checklist at the following URL: https://www.doi.gov/aviation/safety/iamrgc. This mishap response plan can be downloaded from that cite and tailored to meet an organization's needs or can be ordered from the warehouse in Boise, ID

IS-BAO Chapter 4.0

4.3 ERP Training and Exercise

4.3.1 – Provide role-specific training

4.3.2 – If resources allow, appoint and train alternates for each key ERP role (recommended practice)

4.3.3 - Conduct an exercise at least annually which:

Includes participation of other organizations that would be involved

Incorporate scenarios to address potential failures in the ERP (e.g. remove key role)

Note: Annual exercise may be conducted as a table-top.

4.3.4 – A full simulation should be conducted at least every 36 months (recommended practice).

4.3.5 – Organization shall document lessons learned from ERP exercises and implement to improve.

8.0: Training and Proficiency

- Standards to help your organization establish robust, formal, and impacting training programs
- Ad hoc vs. formal training
  - Organizational benefits
  - The long-view (strategic training)
- 5 Sections
  - 8.1 Training Programmes
  - 8.2 Crew Resource Management (CRM) Training
  - 8.3 Emergency Procedures Training for Passengers
  - 8.4 Proficiency Certification
  - 8.5 Training and Qualification Records

8.0: Training and Proficiency

- 8.1.4: Training for Personnel Performing Duties in the Cabin
- 8.1.4.1: If flight attendant required by State of Registry
  - Initial and annual aircraft specific cabin systems training
  - Initial and every two years:
    - Emergency procedures training
    - First aid training
    - Surface contamination training
    - Dangerous goods recognition training

8.0: Training and Proficiency

If flight attendants are not required, initial and recurrent training for cabin personnel on (8.1.4.2):

Training	Any duty	Use of any aircraft equip.	Responsible for passenger safety
Authority of PIC	X	X	X
Comms / Sterile cockpit	X	X	X
Aircraft equip. used		X	X
Normal / abnormal procedures		X	X
Emergency procedures			X
First aid			X
Surface contamination			X
Dangerous goods recognition			X

8.0: Training and Proficiency

8.1.4.2d: If cabin personnel are there for passenger convenience **only**, then procedure needs to be developed to inform passengers of this.

8.1.5: Develop appropriate training for other personnel performing duties onboard in support of their duties:

Examples - Loadmasters, medical personnel

8.1.6: Flight Coordinators, Schedulers and Dispatchers

Training appropriate to the scope of their duties

8.0: Training and Proficiency

- 8.2: CRM Training Required for ALL Crew Members
  - Flight Crew
  - Cabin Crew
  - Other Crew
- *8.2.2: HF Training Recommended for*
  - *Schedulers and Dispatchers*
  - *Maintenance Personnel*
  - *All others connected with the operation (Recommended Practice)*
- *8.2.3: Recurrent CRM/HF training should be provided at least every 24 months (Recommended Practice).*
- *8.2.4: Threat and Error Management (Recommended Practice).*
  - *part of training program for aircraft crew*
  - *Making unknown threats known with mitigation through briefings*

12.0: Fatigue Management Program

12.1: Operator shall establish fatigue management programme (FMP) for all personnel involved in the safe operation of the aircraft with the following elements -

- Fatigue management guiding principles;
- Appropriate initial **and recurrent** training;
- Flight and duty time limitations for crew;
- Duty time limitations for other operator personnel involved in the safe operation; and
- Evaluation process to assess effectiveness

SafetyNet Webinars: Fatigue 3-part series

IBAC Learning Events: https://www.ibac.org/is-ba-learning-event-schedule/

IBAC SafetyNet™

NOV
07

Webinar: Fatigue in Corporate Aviation - Part 3 (2019)

by Montreal office Follow

Free

Register

Description

Enhancing Flight Operations using Biomathematical Tools to Address Fatigue Risk

Presented by: Daniel Mollicone, Ph.D. - CEO, Pulsar Informatics

Overview

The presentation will demonstrate how commercially available tools can be used to assess future and historical flight schedules across an organization to:
(1) Identify flights and trips that have increased fatigue risk;
(2) Identify the root causes of increased fatigue risk;
(3) Aid in the selection of fatigue mitigation strategies for your procedures.
(4) Realize ongoing educational impacts through operational usage by your staff and crew.

Date And Time

Thu, November 7, 2019
8:00 AM - 9:30 AM UTC
Add to Calendar

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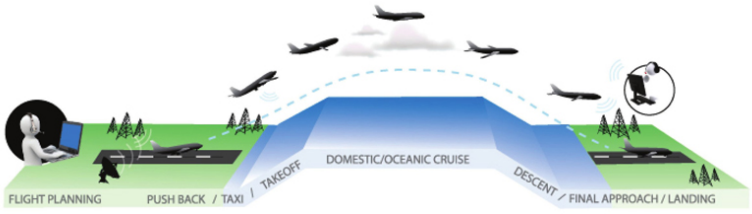


Chapter 13 Flight Operations

Organized in a “Phase of Flight Flow” Order

13.0 Flight Operations

Phase of Flight Flow, sec. 1-7

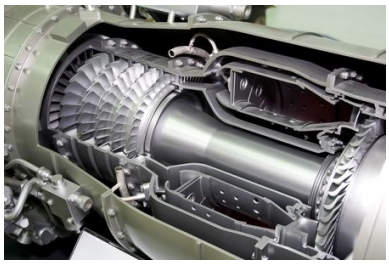
- **13.1 Standard Operating Procedures**
- **13.2 Flight Planning and Pre-Flight**
- **13.3 Ground Operations**
- **13.4 Flight Release and Flight Following**
- **13.5 Weather Minima**
- **13.6 En Route Operations**
- **13.7 Stabilized Approach**
- 13.8 Passengers
- 13.9 Maintenance Check Flights

15.0: Aircraft Maintenance Requirements

15.1 Aircraft Maintenance Control / Aircraft Maintenance Management

15.2 Performance of Aircraft Maintenance Inspections and Tasks

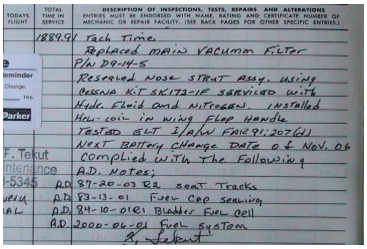
15.3 Contracted Activities

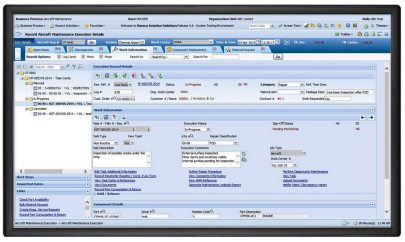


15.0: Aircraft Maintenance

Maintenance Control System vs. Maintenance Inspection Program vs. Maintenance Tracking Program:

- **MX Control System** is the ***method*** of documentation, tracking, scheduling and recording of the performance of maintenance.
- **MX Inspection Program** is the ***schedule*** of maintenance to be performed in order to ensure that the aircraft remains airworthy. This is usually based upon the manufacturer's recommended maintenance program.
- **Maintenance Tracking Program:** computerized software ***tool utilized to track and schedule*** the tasks and inspections required in the maintenance inspection program
  - CAMP; Flight Docs; Traxxall; Ramco; HeliTrack





15.0: Aircraft Maintenance

15.3: Contracted Activities

15.3.1 – Outsourcing Maintenance Control System

15.3.1.1 - Operators have a number of options to conduct maintenance control. They may establish an internal system or even set-up a wholly owned subsidiary for that specific purpose. Alternatively, they may also partially or totally outsource the maintenance control tasks to a third party. This third party could be an approved organization (e.g., a CAMO), an individual, or an organization that does not require a specific approval from the competent authority. In any case, the operator remains accountable for the airworthiness of its aircraft**.**

Regardless of the option chosen, the operator shall establish procedures to ensure adequate oversight of the maintenance control system through its compliance monitoring system.

Progressive Stage 3 (PS3)

- In Beta testing
- Builds in continuous improvement
- Data sharing
- Mentoring

Safety Assessment of Foreign Aircraft (SAFA)

RAMP Programme (SAFA)

The E.U. Ramp Inspection Programme utilizes a computer algorithm to assess the risk of aircraft entering the E.U. and Participating States.

- ✓ Aircraft are flagged for inspection based upon multiple risk factors prior to arrival to include frequency of travel to Europe

IBAC and the French DSAC began coordinated SAFA improvement effort in 2017 in order to:

- ✓ Learn where Business Aviation could improve via SAFA inspection feedback to Industry
- ✓ Assist States with prioritization of which aircraft to inspect, including "consideration" of IS-BAO registered operators that proactively mitigate operational risk.
- ✓ Develop a way to update the SAFA database and inspection algorithm with aircraft registrations that identify IS-BAO operators. Thereby allowing the Authority to focus resources and potentially allow less frequent inspections for IS-BAO operators

RAMP Programme (SAFA)

IS-BAO INFO

TO: IS-BAO Operators
FROM: IS-BAO Programme Director Bennet Walsh
DATE: 25FEB2019
SUBJECT: SAFA Survey

The EU Ramp Inspection Programme utilized by EASA and 48 Participating States (i.e., all EU Member States but also non-EU States such as Canada, Turkey, the UAE, Singapore, etc.) is very different from previous years.

The need to focus resources led to the amendment of the computer algorithm which assesses risk of the aircraft entering Participating States and decides which aircraft will be flagged for inspection, or not, before it lands. From now on, infrequent visitors will potentially be inspected on each visit to Participating States while regular visitors may not be inspected as often as before. While the algorithm is obviously proprietary, and the actual performance of an inspection depends on several factors (e.g., availability of state resources, destination airport, etc.), consideration for inspection may also factor in IS-BAO Stage 2 and 3 registration.

Coordination between the French DSAC and IBAC to establish formal two-way communication regarding Safety Assessment of Foreign Aircraft (SAFA) improvements began in 2017. The intent is twofold: to learn where business aviation could do better during SAFA inspections, and also to assist States in better prioritization of which aircraft to inspect based on the IS-BAO Stage achieved by the operator. Both the centralized SAFA database and the algorithm use the aircraft registration as primary identifier, but currently lack a reliable way to link an aircraft with the appropriate operator. In the absence of this link, IBAC is coordinating this survey for IS-BAO registered operators to voluntarily list their aircraft registration numbers to update the French DSAC database.

IS-BAO registered operators please input your aircraft for consideration here:

Aircraft Registration Survey

Sustainable Aviation Fuel (SAF)

IBAC SAF Activity

Sustainable Aviation Fuel (SAF) Guide published at EBACE2018

Gives operators all they need to know about SAF with supporting website; https://www.futureofsustainablefuel.com/about-sajf

SAF Coalition held 3 events in 2019 to promote, educate and demonstrate the safety of the fuel and its use

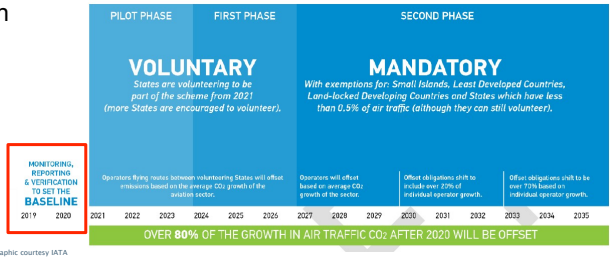
- Van Nuys, California
  - Demonstration event & flights, 3 static aircraft, Technical Panel, 200+ aircraft fuelled with SAF
- TAG Farnborough Airport, UK
  - Aircraft static display, fuel for operators en-route to EBACE, Technical Panel, wide positive press coverage
- EBACE2019
  - 27 of 58 static aircraft flew in on SAF, Technical Panel, wide positive press coverage
- Future events
  - NBAA-BACE
  - More events in the planning stage for 2020

The SAF Coalition is: EBAA, GAMA, IBAC, NATA, NBAA

Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)

Offsetting

- CORSIA, a market based measure, will be a simple offsetting scheme (as opposed to the EU Emissions Trading System, which is "cap and trade")
- The purchase of offsets will be required against growth emissions related to fuel burn above a 2020 baseline in international flying only.
- A baseline for industry emission levels for the industry will be established by ICAO during 2019 & 2020
- Offsets will be required for any emissions growth above the baseline – this will be initially calculated for each operator across the civil aviation



Graphic courtesy IATA

An Emissions Monitoring Plan (EMP) that will detail how you will monitor and report your emissions will be due by all impacted operators to their Administering Authority by 28th February 2019 towards establishing baseline

https://www.icao.int/environmental-protection/CORSIA/Pages/CERT.aspx

Am I Included in CORSIA?

- Starting JAN 2019 all operators must report emissions from **international** flights annually.
- The U.S. is a participating ”volunteer State”.
  - JAN 2019-DEC 2020 reporting only, no offsets.
  - JAN 2021 offsets required
  - CORSIA will replace ETS for International flights for European operators
- Technical exemptions from offsetting requirement:
  - Operators with fewer than 10,000 tonnes of CO_2 emissions in flights covered by the scheme
  - Aircraft of less than 5,700kg/12,500lbs MTOW

Communications on CORSIA

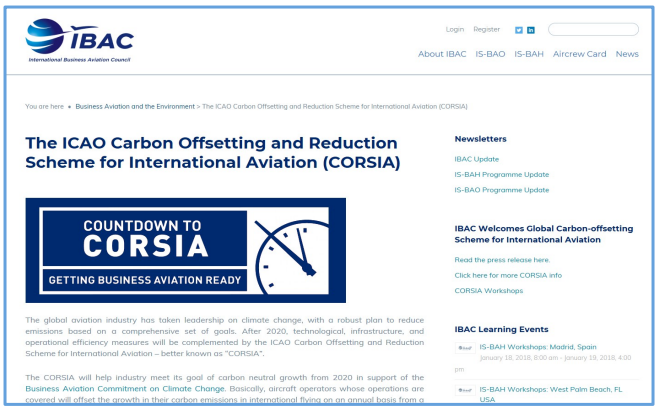
IBAC has developed a ***“Countdown to CORSIA”*** **information card** dedicated to business aviation operators, which will help to prepare operators on what to do between now and 2020

- Available at IBAC attended industry events and published on the IBAC Web site

The Air Transport Action Group (ATAG) has developed **excellent CORSIA related material**

- IBAC and its members have access to this material.
- Excellent Q&A section
- Can be accessed via the IBAC CORSIA Web page.

Countdown to CORSIA Webpage



http://www.ibac.org/business-aviation-and-the-environment/corsia

CORSIA-dedicated email address: corsia@ibac.org. Central mailing for queries and updates – register now!

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