CIVIL AVIATION AUTHORITY OF MALAYSIA

Ensuring Aviation Safety through Rigorous Oversight of Flight Procedure Design in Malaysia

TEAMCAAM Safe Sustainable Skies

Air Navigation Services & Aerodrome Division (ANSA) of CAA Malaysia (CAAM)

The Role of CAAM in Strengthening Aviation Safety

- The Civil Aviation Authority of Malaysia (CAAM):
  - Responsible for ensuring the safety, security, and efficiency of the Malaysian airspace
  - Oversees regulatory frameworks
  - Enforcement of aviation laws
  - Certification of aviation professionals and entities

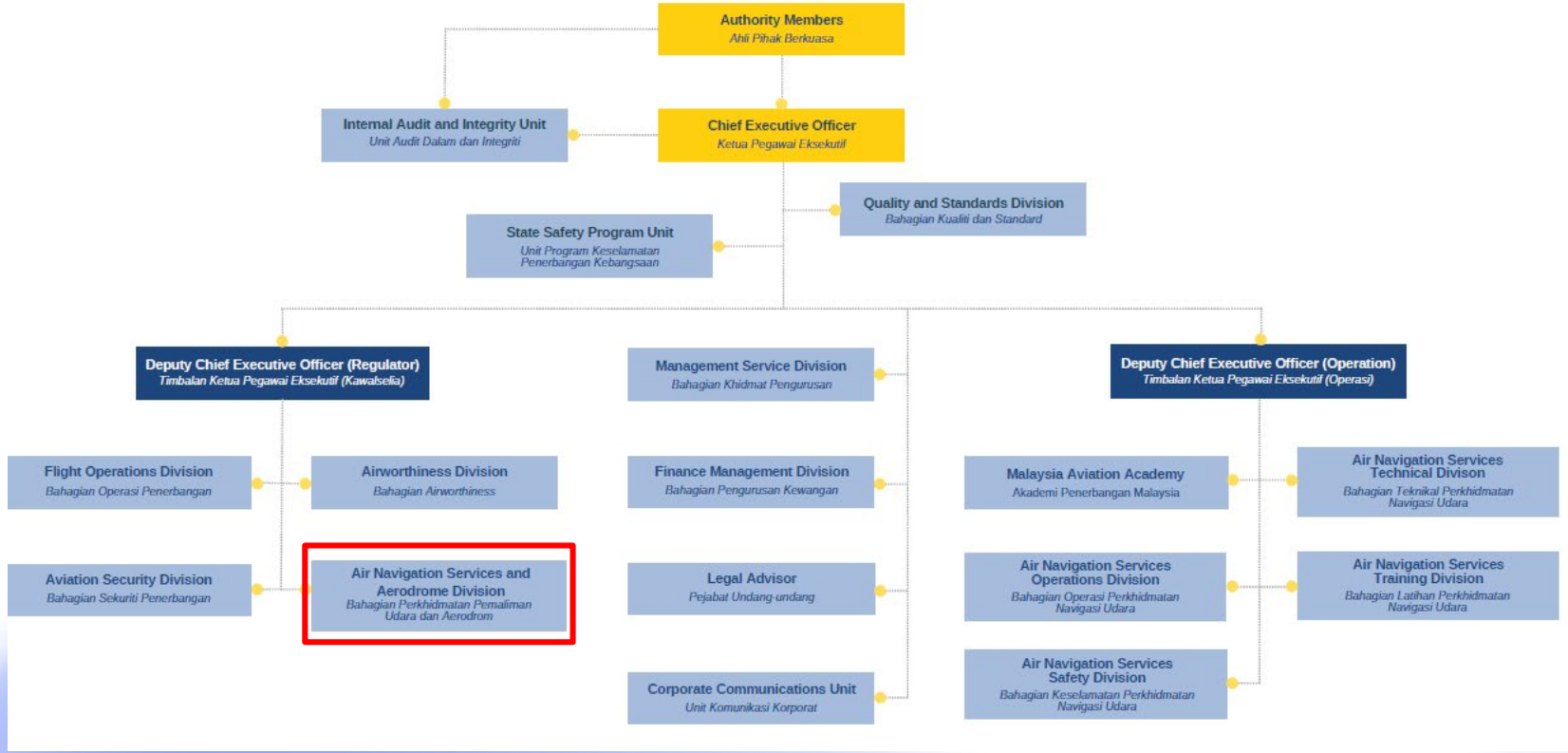
Air Navigation Services & Aerodrome Division (ANSA) of CAA Malaysia (CAAM)

The Role of ANSA in Strengthening Aviation Safety

- The Air Navigation Services and Aerodrome Division (ANSA):
  - Regulatory division within CAAM
  - Specializing in the oversight of ANS and AGA provision
  - Ensures compliance with national and international standards, focusing on safety oversight of:

Flight Procedure Design	*Aeronautical Information Services (AIS)*	*Aeronautical Charts*	*Air Traffic Services*	*Air Traffic Management*
Search and Rescue	*Aviation Meteorology*	*Communication Navigation and Surveillance (CNS)*	*Licensing of Air Traffic Control (ATC PEL)*	*Aerodrome Operations (AGA)*

CAAM Organizational Structure



Importance of Flight Procedure Design

Regulatory Framework

Navigating through Regulations: Ensuring Safe Skies

Regulatory Framework

CIVIL AVIATION REGULATIONS

Aircraft Operations	• Rules governing the operation of aircraft, including flight rules, crew qualifications, and operational procedures
Airworthiness	• Standards and requirements for the maintenance and certification of aircraft to ensure they are safe for flight
Air Traffic Control and Management	• Regulations related to the management of air traffic to ensure safe and orderly flow of aircraft in the sky
Aerodromes and Airports	• Standards for the design, operation, and maintenance of aerodromes and airports
Aviation Security	• Measures and procedures to protect passengers, crew, aircraft, and aviation facilities against unlawful interference
Licensing and Certification	• Requirements for the licensing of pilots, air traffic controllers, maintenance engineers, and the certification of aviation service providers

Regulatory Framework

CIVIL AVIATION REGULATIONS

PART VII AIRCRAFT IN FLIGHT

76. Air navigation services

Any person providing air navigation services under these Regulations shall ensure that such services are provided in accordance with articles 12, 25, 28 or any other relevant article of the Chicago Convention and the notices, circulars, directions and information issued by the Chief Executive Officer.

Regulatory Framework

CIVIL AVIATION REGULATIONS

82. Certificate of approval for instrument flight procedure design service

(1) No organisation shall provide instrument flight procedure design service unless the organisation holds a certificate of approval issued by the Authority.

(2) A person employed by the organisation in subregulation (1) may engage in the design and review of the instrument flight procedures if the person holds a certificate of approval issued by the Authority.

(3) An application for the issuance and renewal of a certificate of approval in subregulations (1) and (2) shall be—

- (a) made to the Authority in the form and manner and accompanied by the documents and information as may be determined by the Chief Executive Officer;
- (b) accompanied by the prescribed fee; and
- (c) in accordance with the requirements by the Chief Executive Officer.

(4) If the Authority is satisfied that the applicant in subregulations (1) and (2) has fulfilled the requirements in subregulation (3), the Authority may issue a certificate of approval to the applicant.

Regulatory Framework

CIVIL AVIATION REGULATIONS

83. Approval of the instrument flight procedure design

(1) Any design of the instrument flight procedure must be designed by the organisation certified under regulation 82.

(2) Any design of the instrument flight procedure from that organisation shall not be published unless that design has been approved by the Chief Executive Officer.

(3) An application for the approval of the instrument flight procedure design in subregulation (1) shall be—

(a) made to the Chief Executive Officer in the form and manner and accompanied by the documents and information as may be determined by the Chief Executive Officer; and

(b) in accordance with the requirements as may be determined by the Chief Executive Officer.

(4) The certified organisation shall be responsible to ensure that the instrument flight procedure design is reviewed periodically in the form and manner as may be determined by the Chief Executive Officer.

Regulatory Framework

CIVIL AVIATION DIRECTIVES (CAD)

- Contains standards and requirements based mainly upon ICAO Annexes SARPs.

- CADs that relevant to Flight Procedure Design are:
  - ❑ CAD 6401 Flight Procedure Design
  - ❑ CAD 11 Air Traffic Services
  - ❑ CAD 4 Aeronautical Charts
  - ❑ CAD 15 Aeronautical Information Services
  - ❑ CAD 5 Units of Measurement
  - ❑ CAD 6 Aircraft Operations
  - ❑ CAD 10 Vol I Aeronautical Telecommunications: Radio Navigational Aids
  - ❑ CAD 14 Vol I Aerodrome Design & Operations
  - ❑ CAD 14 Vol II Heliports
  - ❑ CAD 19 Safety Management

Regulatory Framework

CIVIL AVIATION GUIDANCE MATERIAL (CAGM)

- Contains guidelines for operators to use to demonstrate compliance with the applicable standards and requirements
- Neither mandatory nor regulatory
- When the guidelines are used, standards and requirements are considered to have been met
- CAGMs that relevant to Flight Procedure Design are:
  - ❑ CAGM 6401 5LNC
  - ❑ CAGM 1902 Safety Management System
  - ❑ CAGM 1903 Safety Oversight for Air Navigation Services

Regulatory Framework

ADOPTION OF ICAO ANNEXES & DOCS

ICAO Publications that are used as standards & reference materials:

- ICAO Annex 4 Aeronautical Charts
- ICAO Annex 5 Units of Measurement
- ICAO Annex 6 Aircraft Operations
- ICAO Annex 10 Aeronautical Telecommunications Volume I Radio Navigational Aids
- ICAO Annex 11 Air Traffic Services
- ICAO Annex 14 Vol. I Aerodrome Design & Operations
- ICAO Annex 14 Vol. II Heliports
- ICAO Annex 15 Aeronautical Information Services
- ICAO Annex 19 Safety Management
- ICAO PANS OPS Doc 8168 Aircraft Operations Vol I, II, III
- ICAO Doc 9906 Vol I, II, III, V, VI Quality Assurance Manual for Flight Procedure Design
- ICAO Doc 10068 Manual on the Development of a Regulatory Framework for Instrument Flight Procedure Design Service
- ICAO Doc 9905 RNP-AR Flight Procedure Design
- ICAO Doc 9724 Manual on the Use of the Collision Risk Model (CRM) for ILS Operations
- ICAO Doc 9674 World Geodetic System 1984 (WGS 84) Manual
- ICAO Doc 9613 Performance Based Manual
- ICAO Doc 9371 Template Manual
- ICAO Doc 9368 IFP Construction Manual
- ICAO Doc 9365 All Weather Operation manual
- ICAO Doc 8697 Aeronautical Chart Manual

Collaborative Safety: Roles and Responsibilities

Responsibilities of ANSA as Flight Procedure Design Inspectorate

- Regulatory framework development and enforcement
- Certification and approval authority
- Design approval for publication
- Safety oversight and quality assurance
- Technical and operational advisory
- Incident and accident investigation
- International liaison and compliance
- Stakeholder engagement and communication
- Training and education
- Performance monitoring and continuous improvement

(reference: CAD 6401 Flight Procedure Design)

Requirements as a Flight Procedure Inspector

Qualification

- a qualified **ATS Inspector**; and
- have successfully completed the basic Instrument Flight Procedure Design training

Experience

- Successfully conducted an audit/inspection (OJT) on PANS-OPS under the supervision of an experienced inspector

ATS Inspector requirements

- A qualified ATC with at least five (5) years of working experience
- Undergo basic training in safety oversight audit
- Successfully conducted an audit/inspection on ATS (OJT) under the supervision of an experienced inspector

(reference: Civil Aviation Policy Manual & ANSA Internal Policy Manual)

Responsibilities of a Flight Procedure Inspector

Ensure IFP Compliance	• Review and update IFP provisions to match key documents
Update Audit Tools	• Keep the PANS-OPS audit checklist current
Audit and Inspect	• Conduct audits on Flight Procedure Designs (FPDs) and Flight Procedure Design Organizations (FPDOs)
Report Deficiencies	• Inform ANSA Director of any issues or non-compliance found
Action Recommendations	• Suggest deadlines for corrective actions to address deficiencies

(reference: ANSA Internal Policy Manual)

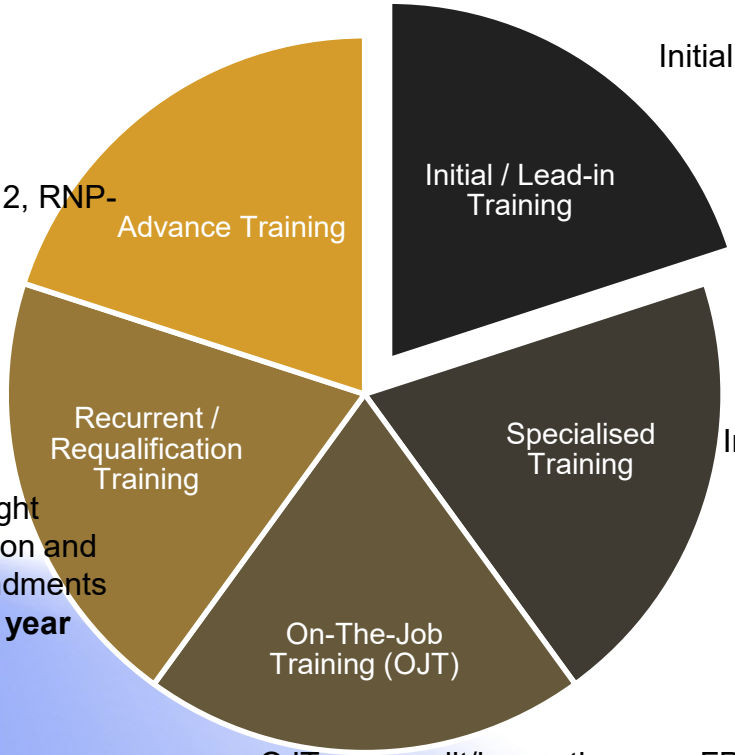
Responsibilities of a Flight Procedure Inspector *(continued)*

Monitor Corrections	• Follow up on corrective actions to assess their effectiveness
Enforcement Communication	• Notify ANSA Director if deficiencies are not corrected on time, with further action recommendations
Documentation	• Prepare detailed audit and inspection reports
Approve Designs	• Oversee the IFP design approval process, ensuring compliance with standards
Provide Feedback on ICAO Changes	• Offer comments on drafts or amendments to ICAO standards and criteria

(reference: ANSA Internal Policy Manual)

Training Requirements for Inspector

CATEGORIES OF TRAINING FOR INSPECTOR



Initial training for new inspectors (lead-in) - **once**

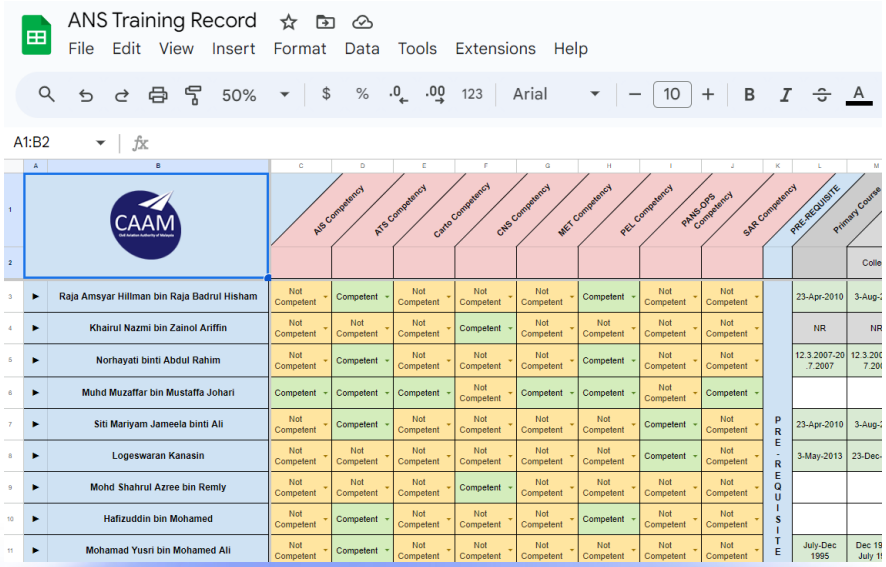
Instrument Flight Procedure Design Basic Course - **once**

OJT on audit/inspection on FPDO under the supervision of an experienced inspector who qualified as trainer - **once**

Main design criteria of FPD, oversight requirements, ANS-related legislation and regulatory requirements, any amendments and/or new requirements – **once a year**

Flight Procedure Design Module 2, RNP-AR– **once**

Training Records



ANS Training Record

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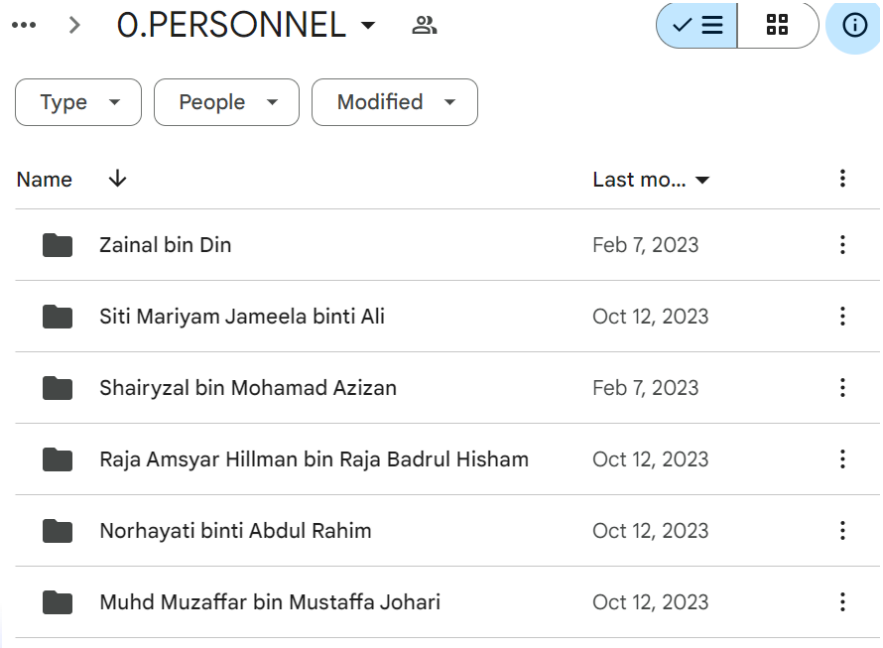
	ANS Competency	ATS Competency	Cargo Competency	CNS Competency	MET Competency	PEL Competency	PANS-OPS Competency	SAR Competency	PRE-REQUISITE	Primary Course
Raja Amsyar Hillman bin Raja Badrul Hisham	Not Competent	Competent	Not Competent	Not Competent	Not Competent	Competent	Not Competent	Not Competent		23-Apr-2010
Khairul Nazmi bin Zainol Ariffin	Not Competent	Not Competent	Not Competent	Competent	Not Competent	Not Competent	Not Competent	Not Competent		NR
Norhayati binti Abdul Rahim	Not Competent	Competent	Not Competent	Not Competent	Not Competent	Competent	Not Competent	Not Competent		12.3.2007-20 7.2007
Muhd Muzaffar bin Mustaffa Johari	Competent	Competent	Competent	Not Competent	Competent	Competent	Not Competent	Competent		
Siti Mariyam Jameela binti Ali	Not Competent	Competent	Not Competent	Not Competent	Not Competent	Not Competent	Competent	Not Competent		23-Apr-2010
Logeswaran Kanasin	Not Competent	Not Competent	Not Competent	Not Competent	Not Competent	Not Competent	Competent	Not Competent		3-May-2013
Mohd Shahrul Azree bin Remiy	Not Competent	Not Competent	Not Competent	Competent	Not Competent	Not Competent	Not Competent	Not Competent		
Hafizuddin bin Mohamed	Not Competent	Competent	Not Competent	Not Competent	Not Competent	Competent	Not Competent	Not Competent		
Mohamad Yusri bin Mohamed Ali	Not Competent	Competent	Not Competent	Not Competent	Not Competent	Not Competent	Not Competent	Not Competent		July-Dec 1995

PRE-REQUISITE



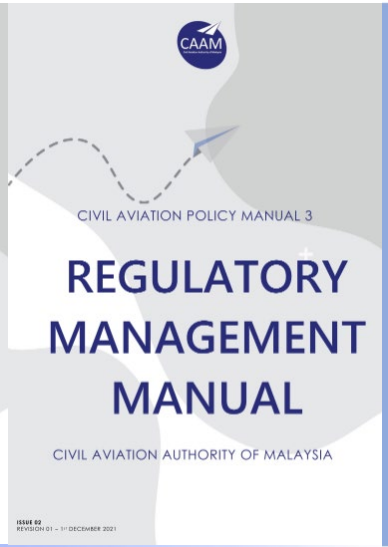
0.PERSONNEL

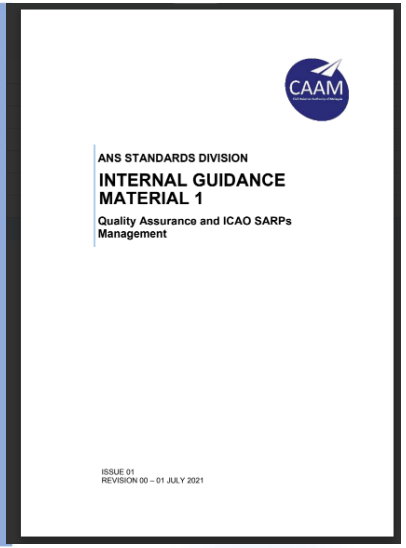
Type People Modified

Name	Last mo...
Zainal bin Din	Feb 7, 2023
Siti Mariyam Jameela binti Ali	Oct 12, 2023
Shairyzal bin Mohamad Azizan	Feb 7, 2023
Raja Amsyar Hillman bin Raja Badrul Hisham	Oct 12, 2023
Norhayati binti Abdul Rahim	Oct 12, 2023
Muhd Muzaffar bin Mustaffa Johari	Oct 12, 2023

Tools for Audit & Inspection

1) CIVIL AVIATION DIRECTIVES (CAD)
2) CIVIL AVIATION GUIDANCE MATERIAL (CAGM)
3) CIVIL AVIATION POLICY MANUAL (CAPM)
4) ANSA'S INTERNAL POLICY MANUAL (ANSA IPM)
5) ANSA'S INTERNAL GUIDANCE MATERIAL (ANSA IGM)





Tools for Audit & Inspection

6) ANSA'S COMPLIANCE QUESTIONNAIRES (CQ)

- Developed based on Malaysia Civil Aviation Regulations, ICAO's SARPs and Civil Aviation Directives
- Digital platform utilization: Google Sheets and Google Drive
- Revolutionizing audits: From paperwork to digital
- Standardizing the audit process for consistency
- Structured checklist format for enhanced compliance monitoring
- Reflecting CAAM's commitment to innovative regulation and oversight

Tools for Audit & Inspection

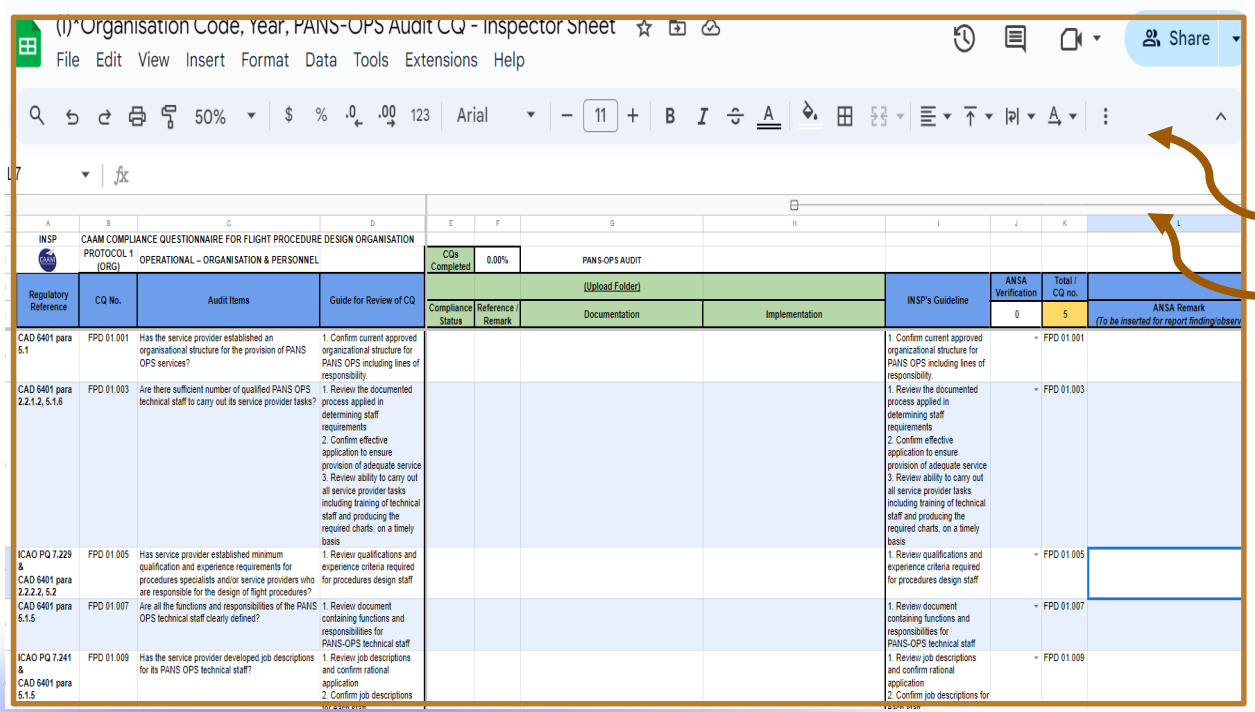
6) ANSA'S COMPLIANCE QUESTIONNAIRES (CQ) *(continued)*

Inspector CQ

Operator CQ

Tools for Audit & Inspection

6) ANSA'S COMPLIANCE QUESTIONNAIRES (CQ) *(continued)*



(I)*Organisation Code, Year, PANS-OPS Audit CQ - Inspector Sheet

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INSP	CAAM COMPLIANCE QUESTIONNAIRE FOR FLIGHT PROCEDURE DESIGN ORGANISATION											
	PROTOCOL 1 (ORG)	OPERATIONAL – ORGANISATION & PERSONNEL		CQs Completed	0.00%	PANS-OPS AUDIT						
Regulatory Reference	CQ No.	Audit Items	Guide for Review of CQ	(Upload Folder) Compliance Status	Reference / Remark	Documentation	Implementation	INSP's Guideline	ANSA Verification 0	Total / CQ no. 5	ANSA Remark (To be inserted for report finding/observ	
CAD 6401 para 5.1	FPD 01.001	Has the service provider established an organisational structure for the provision of PANS OPS services?	1. Confirm current approved organizational structure for PANS OPS including lines of responsibility.					1. Confirm current approved organizational structure for PANS OPS including lines of responsibility.		FPD 01.001		
CAD 6401 para 2.2.1.2, 5.1.6	FPD 01.003	Are there sufficient number of qualified PANS OPS technical staff to carry out its service provider tasks?	1. Review the documented process applied in determining staff requirements 2. Confirm effective application to ensure provision of adequate service 3. Review ability to carry out all service provider tasks including training of technical staff and producing the required charts, on a timely basis					1. Review the documented process applied in determining staff requirements 2. Confirm effective application to ensure provision of adequate service 3. Review ability to carry out all service provider tasks including training of technical staff and producing the required charts, on a timely basis		FPD 01.003		
ICAO PQ 7.229 & CAD 6401 para 2.2.2.2, 5.2	FPD 01.005	Has service provider established minimum qualification and experience requirements for procedures specialists and/or service providers who are responsible for the design of flight procedures?	1. Review qualifications and experience criteria required for procedures design staff					1. Review qualifications and experience criteria required for procedures design staff		FPD 01.005		
CAD 6401 para 5.1.5	FPD 01.007	Are all the functions and responsibilities of the PANS OPS technical staff clearly defined?	1. Review document containing functions and responsibilities for PANS-OPS technical staff					1. Review document containing functions and responsibilities for PANS-OPS technical staff		FPD 01.007		
ICAO PQ 7.241 & CAD 6401 para 5.1.5	FPD 01.009	Has the service provider developed job descriptions for its PANS OPS technical staff?	1. Review job descriptions and confirm rational application 2. Confirm job descriptions					1. Review job descriptions and confirm rational application 2. Confirm job descriptions for		FPD 01.009		

Functions of CQs:

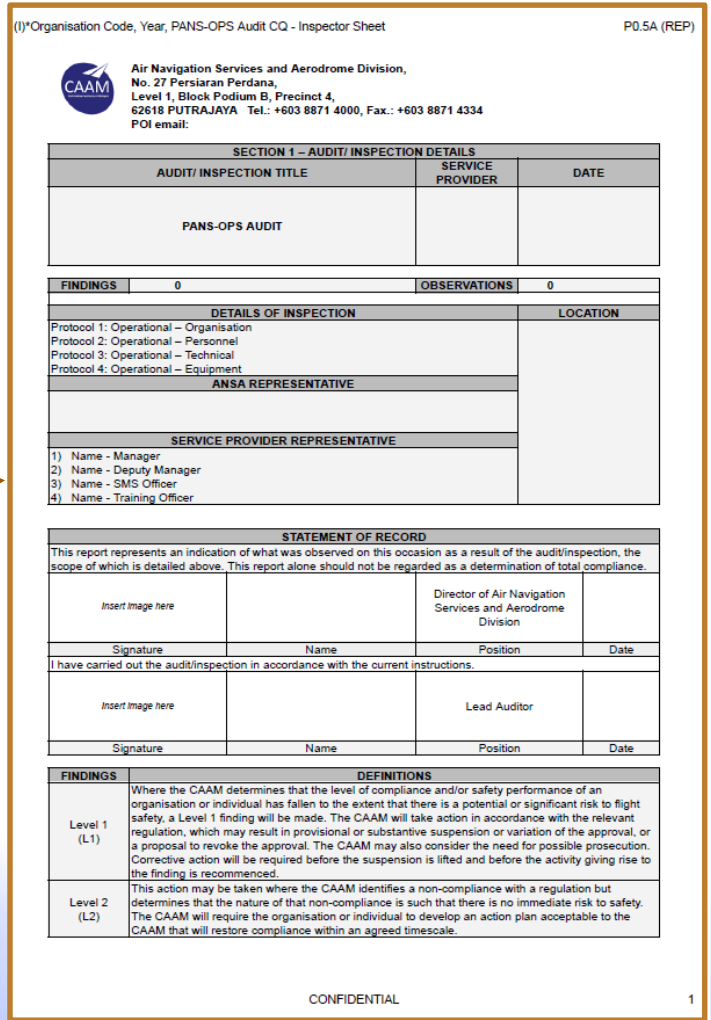
- **Pre-audit questionnaires** for preparedness
- **On-site verification checklist** for thorough inspection
- **Audit & inspection report** for detailed documentation
- **Corrective action tracker** to monitor compliance

Tools for Audit & Inspection

6) ANSA'S COMPLIANCE QUESTIONNAIRES (CQ) *(continued)*

Functions of CQs:

- **Pre-audit questionnaires** for preparedness
- **On-site verification checklist** for thorough inspection
- **Audit & inspection report** for detailed documentation
- **Corrective action tracker** to monitor compliance



(I)*Organisation Code, Year, PANS-OPS Audit CQ - Inspector Sheet P0.5A (REP)

Air Navigation Services and Aerodrome Division,
No. 27 Persiaran Perdana,
Level 1, Block Podium B, Precinct 4,
62618 PUTRAJAYA Tel.: +603 8871 4000, Fax.: +603 8871 4334
POI email:

SECTION 1 – AUDIT/ INSPECTION DETAILS		
AUDIT/ INSPECTION TITLE	SERVICE PROVIDER	DATE
PANS-OPS AUDIT		

FINDINGS	0	OBSERVATIONS	0

DETAILS OF INSPECTION	LOCATION
Protocol 1: Operational – Organisation Protocol 2: Operational – Personnel Protocol 3: Operational – Technical Protocol 4: Operational – Equipment	
ANSA REPRESENTATIVE	
SERVICE PROVIDER REPRESENTATIVE	
1) Name - Manager 2) Name - Deputy Manager 3) Name - SMS Officer 4) Name - Training Officer	

STATEMENT OF RECORD

This report represents an indication of what was observed on this occasion as a result of the audit/inspection, the scope of which is detailed above. This report alone should not be regarded as a determination of total compliance.

Insert Image here		Director of Air Navigation Services and Aerodrome Division	
Signature	Name	Position	Date

I have carried out the audit/inspection in accordance with the current instructions.

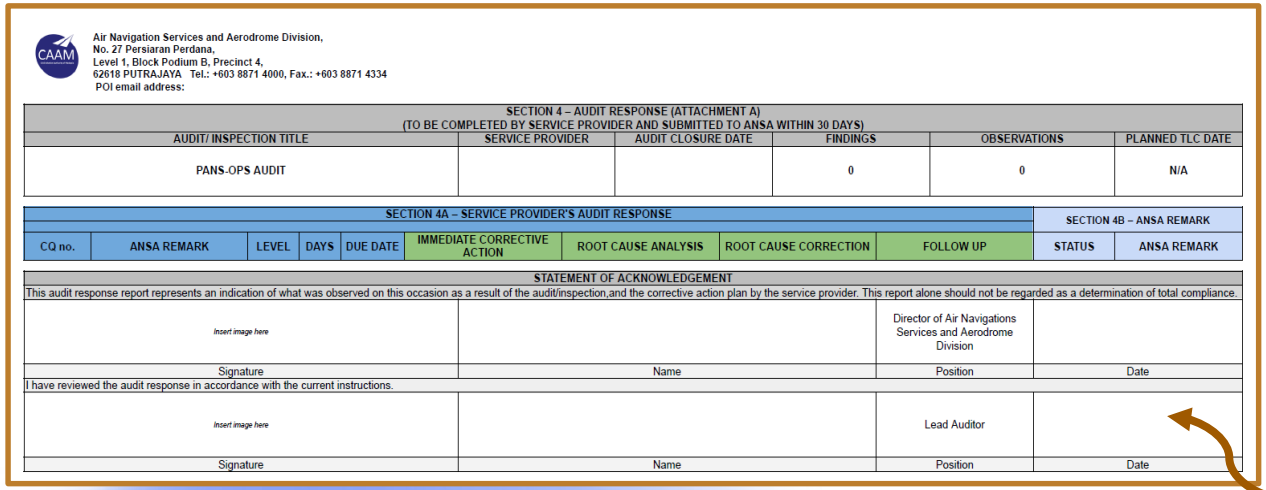
Insert Image here		Lead Auditor	
Signature	Name	Position	Date

FINDINGS	DEFINITIONS
Level 1 (L1)	Where the CAAM determines that the level of compliance and/or safety performance of an organisation or individual has fallen to the extent that there is a potential or significant risk to flight safety, a Level 1 finding will be made. The CAAM will take action in accordance with the relevant regulation, which may result in provisional or substantive suspension or variation of the approval, or a proposal to revoke the approval. The CAAM may also consider the need for possible prosecution. Corrective action will be required before the suspension is lifted and before the activity giving rise to the finding is recommenced.
Level 2 (L2)	This action may be taken where the CAAM identifies a non-compliance with a regulation but determines that the nature of that non-compliance is such that there is no immediate risk to safety. The CAAM will require the organisation or individual to develop an action plan acceptable to the CAAM that will restore compliance within an agreed timescale.

CONFIDENTIAL 1

Tools for Audit & Inspection

6) ANSA'S COMPLIANCE QUESTIONNAIRES (CQ) *(continued)*



Air Navigation Services and Aerodrome Division,
No. 27 Persiaran Perdana,
Level 1, Block Podium B, Precinct 4,
62618 PUTRAJAYA Tel.: +603 8871 4000, Fax.: +603 8871 4334
POI email address:

SECTION 4 – AUDIT RESPONSE (ATTACHMENT A) (TO BE COMPLETED BY SERVICE PROVIDER AND SUBMITTED TO ANSA WITHIN 30 DAYS)					
AUDIT/ INSPECTION TITLE	SERVICE PROVIDER	AUDIT CLOSURE DATE	FINDINGS	OBSERVATIONS	PLANNED TLC DATE
PANS-OPS AUDIT			0	0	N/A

SECTION 4A – SERVICE PROVIDER'S AUDIT RESPONSE									SECTION 4B – ANSA REMARK	
CQ no.	ANSA REMARK	LEVEL	DAYS	DUE DATE	IMMEDIATE CORRECTIVE ACTION	ROOT CAUSE ANALYSIS	ROOT CAUSE CORRECTION	FOLLOW UP	STATUS	ANSA REMARK

STATEMENT OF ACKNOWLEDGEMENT			
This audit response report represents an indication of what was observed on this occasion as a result of the audit/inspection,and the corrective action plan by the service provider. This report alone should not be regarded as a determination of total compliance.			
Insert image here		Director of Air Navigations Services and Aerodrome Division	
Signature	Name	Position	Date
I have reviewed the audit response in accordance with the current instructions.			
Insert image here		Lead Auditor	
Signature	Name	Position	Date

Functions of CQs:

- **Pre-audit questionnaires** for preparedness
- **On-site verification checklist** for thorough inspection
- **Audit & inspection report** for detailed documentation
- **Corrective action tracker** to monitor compliance

Tools for Audit & Inspection

6) ANSA'S COMPLIANCE QUESTIONNAIRES (CQ) *(continued)*

Inspector CQ (sample)

Operator CQ (sample)

Tools for Audit & Inspection

7) FLIGHT PROCEDURE DESIGN ORGANIZATION OPERATION MANUAL CHECKLIST

- The FPDO shall:
  - Develop an operation;
  - Keep the operation manual in accessible form;
  - Ensure operation manual is readily available to all FPDs;
  - Amend the operation manual whenever necessary;
  - Submit a copy of the most current operation manual to ANSA.

(reference: CAD 6401)

15.2 Appendix 2 - Content of Operation Manual

The following is a sample of the contents of an operations manual for a FPDO. The operations manual should be customised to the unique qualities of each organisation.

PART / Chapter	Contents	Reference
PART I. Administrative		
Chapter 1. Responsibility for revision of the operations manual	• Describe ➢ Under whom the operations manual is established ➢ Who is responsible for the technical contents • Version control	
PART II. General and Organisation		
Chapter 1. General	• Purpose of the operations manual • Precedence of the operations manual • Scope of the operations manual • Functions to be performed by the service provider	
Chapter 2. Roles and responsibilities	• Describe the roles and responsibilities of the department, section and/or position (Descriptions for each department, section and/or position follow.)	
Chapter 3. Staffing requirement	• Describe the staffing requirements such as: ➢ number of personnel per procedure, or ➢ number of procedures which can be designed by a designer (The statement does not have to be quantitative; a statement such as "a sufficient number of qualified staff is required…" may be acceptable.) • Define the hierarchy – e.g. supervisor, chief designer, senior designer, designer, trainee designer (depending on each organisation)	
Chapter 4. Training and qualification	• Provisions concerning training and qualification of personnel • Appointment of special position (e.g. chief or supervisor) • Describe types of training and their contents, duration, interval (frequency)	
Chapter 5. Facility and resources	• Define the facilities and resources to be utilised to perform the task such as: ➢ building, office, table, and other equipment ➢ software and design tool ➢ aircraft and on-board equipment	
Chapter 6. Agreements with other organisations	• Define the procedures and/or rules to establish agreements with other organisations, including procurement of service and/or goods (Reference to another document is acceptable)	

Tools for Audit & Inspection

7) FLIGHT PROCEDURE DESIGN ORGANIZATION OPERATION MANUAL CHECKLIST *(continued)*

Operation Manual Checklist

Tools for Audit & Inspection

7) FLIGHT PROCEDURE DESIGN ORGANIZATION OPERATION MANUAL CHECKLIST *(continued)*

4. **Operation Manual** review:

4.1 Based on CAD 6401 para 15.2:

PART / Chapter	Contents	Remarks
PART I. Administrative		
Chapter 1. Responsibility for revision of the operations manual	• Describe ➢ Under whom the operations manual is established ➢ Who is responsible for the technical contents • Version control	- Not signed by Accountable Executive - Did not specify who is responsible for the technical contents (which position/ staff)
PART II. General and Organisation		
Chapter 1. General	• Purpose of the operations manual • Precedence of the operations manual • Scope of the operations manual • Functions to be performed by the service provider	
Chapter 2. Roles and responsibilities	• Describe the roles and responsibilities of the department, section and/or position (Descriptions for each department, section and/or position follow)	- This chapter is named as organization chart in their OM - Only organization chart is available; roles and responsibilities are not specified
Chapter 3. Staffing requirement	• Describe the staffing requirements such as: ➢ number of personnel per procedure, or ➢ number of procedures which can be designed by a designer • Define the hierarchy – e.g. supervisor, chief designer, senior designer, designer, trainee designer (depending on each organisation)	
Chapter 4. Training and qualification	• Provisions concerning training and qualification of personnel • Appointment of special position (e.g. chief or supervisor) • Describe types of training and their contents, duration, interval (frequency)	- Known as chapter 5. - There are no details about recurrent training and its contents for their AFPD (e.g. syllabus)
Chapter 5. Facility and resources	• Define the facilities and resources to be utilised to perform the task such as: ➢ building, office, table, and other equipment ➢ software and design tool ➢ aircraft and on-board equipment	- Known as chapter 8. - There is no mention about availability of scanner, printer, storage areas for design records, and also details of reference facility/ library
		- ASSB mentioned that their designer will use AutoCAD for procedure design, but there is no guidance or procedures and processes on the usage, as well as the evidence that the technical staff is competent to use AutoCAD.
ter 6. ments with organisations	• Define the procedures and/or rules to establish agreements with other organisations, including procurement of service and/or goods	- Known as chapter 9 - Please detailed out this chapter if there is need to use FPDAM software available at other establishment, and the agreement between the organisations.
ter 7. liance	• Define the processes to comply with regulations and verification • Describe how to demonstrate the compliance	
ter 8. itional ctions	• Define the methodology to provide operational instructions to staff members such as: ➢ circular ➢ information bulletin ➢ amendment to existing document	
ter 9. ces to be led	• Define the services (and/or product) to be provided by the organisation such as: ➢ (initial) design ➢ continuous maintenance ➢ periodic review ➢ documentation process ➢ validation process • Define the types of flight validation to be provided by the organisation such as: ➢ validation of newly designed flight procedures ➢ periodic validation (with its interval for each type of flight procedure) ➢ validation upon amendment of flight procedures ➢ other validation conducted for special needs • Describe the criteria needed to determine the necessity of these types of service • Describe the criteria needed to determine the necessity of simulator evaluation	

PART III. Flight procedure design process		
r 1. process	• Define the process to be followed	- There is a mention of "**steps 4.11 to 4.12**" in Pg. 47 Para 1.4.1 where the numbering is incorrect and shall be corrected.
r 2. tion of data/ tion	• Define ➢ types of data/information required for the design of instrument flight procedures ➢ how to acquire such data/information ➢ from whom/where to acquire such data/information	
r 3. ation with lders	• Identify stakeholders • Describe ➢ on which matters consultation with stakeholders is needed ➢ with whom ➢ when ➢ how	
r 4. mental ration	• Describe what should be considered in the design or flight procedures	
r 5. entation	• Describe ➢ how to record the activities ➢ how to maintain documents • Define the period of maintenance of records	
r 6.	• Provide the format (template) for design documents to record: ➢ rationale for the design ➢ controlling obstacle ➢ summary of calculation process • Provide the format (template) for flight validation report	- ASSB should include a template report as reference (design document)

Chapter 7. Validation		
	• Describe: ➢ who validates the procedures ➢ how the procedures are validated • Define the process to be followed • Define the items (charts, aeronautical data, obstacle, flyability, Navaid/lighting) to be validated for each type of validation • Define tolerance • Define the type of result (pass, pass on condition, fail) ➢ what are the actions to be taken for failed procedure	
	• Define the types of material to be submitted to AIS (depending on the protocol with AIS) • Define the timing of submission	
l Quality		
	• Define how to be involved in the SMS (e.g. the SMS of an entire ANSP) • Provide a reference to the organisation's quality manual • Provide a statement on the resolution of safety/quality-related issues	
	• Describe how to manage the oversight	- To include compliance to Safety Regulatory activities conducted by ANSA, and how to address any findings/ observation (processes, timeframe etc). - Certification renewal processes (who should initiate, timeframe, documentation, might also refer to CAD etc)

Table 2: Operation Manual Summary

Sample of Operational Manual Checklist

Tools for Audit & Inspection

8) FLIGHT PROCEDURE DESIGN APPROVAL CHECKLIST

CIVIL AVIATION AUTHORITY OF MALAYSIA
AIR NAVIGATION SERVICES AERODROME
FLIGHT PROCEDURE AND PUBLICATION UNIT
FLIGHT PROCEDURE DESIGN APPROVAL CHECKLIST

FPD Approval Checklist							
Inspector Name				Date			
New / Revised Procedure				Submitted Date to ANSA			
Procedures	❑ STAR:			❑ Approach:			
	❑ SID:			❑ En-Route:			
FPDO Name		FPD Name		Second FPD Name (Validation)		Remarks	

	1. Are the FPDO & FPD certified? ❑ Y ❑ N ❑ N/A Remarks:
	2. Does the data survey agency submitted the qualification document for the survey of aerodrome and obstacle data? ❑ Y ❑ N ❑ N/A Remarks:
	3. Has the data been accepted or approved by the relevant authority? ❑ Y ❑ N ❑ N/A Remarks:
	4. Are the stakeholders consulted about the conceptual design of IFPs? ❑ Y ❑ N ❑ N/A Remarks:

[Flight Procedure Design Approval Checklist]

TEAMCAAM Safe Sustainable Skies

Certification of Flight Procedure Design Organization (FPDO) & Flight Procedure Designer (FPD)

- **FPDOs must be certified** by CAAM.
- Applications for certification or renewal must follow **Regulation 82 of CAR**.
- Submission requirements:
  - Application forms from the CAAM website.
  - A detailed exposition covering:
    - Organizational structure
    - Facilities and equipment
    - Staffing levels
    - Training programs for technical staff
    - IFP design work processes
    - Quality management system for maintaining professional standards
  - A proposed operation manual for the FPDO that includes:
    - Detailed design work processes and procedures
    - A quality manual
    - A list and job descriptions of key personnel
    - A compliance checklist signed by an authorized person

-

(reference: CAD 6401)

Requirements as Flight Procedure Design Organization (FPDO)

- FPDO must ensure all designs and advice comply with:
  - ICAO Doc 8168 Vol. II
  - ICAO Doc 9905
  - Other applicable standards

- Employ **at least two Flight Procedure Designers** (FPDs).

- Implement a verification process where another FPD, not involved in the original design, checks and verifies each IFP design.

- Provide and maintain necessary facilities for IFP design work, including:
  - Equipment suitable for design, verification, flight validation, and maintenance of IFPs.
  - Access to current aeronautical data, land contour data, and obstacle data for IFP design, verification, validation, and maintenance.
  - Easy access to relevant technical standards, practices, instructions, and any other necessary documentation for IFP design and maintenance.

(reference: CAD 6401)

Requirements as Flight Procedure Designer (FPD)

- FPDs must apply through a CAAM-certified FPDO.

- Evidence required with application:
  - Completion of Basic PANS-OPS courses.
  - Demonstration of competency in flight procedure design.
  - Continuous competency development through training and supervised on-the-job training (OJT)
  - Recent IFP design work
  - Aviation experience. Alternatively, a minimum of three years of PANS-OPS design training as an "apprenticeship" can substitute for direct aviation experience.
  - References from previous initiators/employers detailing the designer's experience and competencies.

(reference: CAD 6401)

FPDO & FPD Certification Process

1) Initiation

Flight Procedure Design Organisation	CAAM
Submit: a. application form & exposition b. operation manual, administrative handbook for flight procedure designer, quality manual, list of personnel and job description, facilities, equipment and records c. checklist of documents submitted	a. Review exposition and related documents b. Notify FPDO for audit with proposed dates
Follow audit process – Decision on approval	

(reference: CAD 6401)

FPDO & FPD Certification Process

2) Audit Process

Flight Procedure Design Organisation	CAAM
Pre-Audit	
Agree on audit dates	Prepare audit plan and programme
Prepare evidence for each PQ, for example a folder every PQ containing all related evidences	Pre-audit preparation by audit team
On-Site Audit	
Provide overview information on audit scope	Conduct open meeting
a. Provide evidence for each PQ b. Provide access to audited facilities, documents or personnel	a. Conduct on-site audit activities b. Draft audit finding
Take note on audit observations and findings	Conduct close meeting
Post Audit	
Prepare corrective actions or implement corrective actions	Prepare interim audit report (follow deadline)
a. Continue prepare or implement corrective actions b. Submit corrective action reports with evidence	a. Receive corrective action reports and evidence b. Prepare and submit final report (follow deadline)
Implement corrective actions in accordance with effective implementation dates	a. Decision on approval b. Take action (if any) in accordance with enforcement procedure

(reference: CAD 6401)

FPDO & FPD Certification Process

3) Renewal Process

Flight Procedure Design Organisation	CAAM
Submit: a. application form & updated exposition b. copy of approval certificate, operation manual, administrative handbook for flight procedure designer, quality manual, list of personnel and job description, facilities, equipment and records c. checklist of documents submitted d. internal audit and corrective actions report	a. Review exposition and other documents b. Notify flight procedure design organisation for audit with proposed dates
Follow audit process – Decision on renewal	

(reference: CAD 6401)

FPDO & FPD Certification Process

4) Variation Process

Flight Procedure Design Organisation	CAAM
Submit: a. application form b. copy of approval certificate, updated copy operation manual, administrative handbook for flight procedure designer, quality manual, list of personnel and job description, facilities, equipment and records c. details of variation	a. Review exposition and other documents b. Notify flight procedure design organisation for audit with proposed dates
Follow audit process – Decision on variation	

(reference: CAD 6401)

FPDO Inspection Process

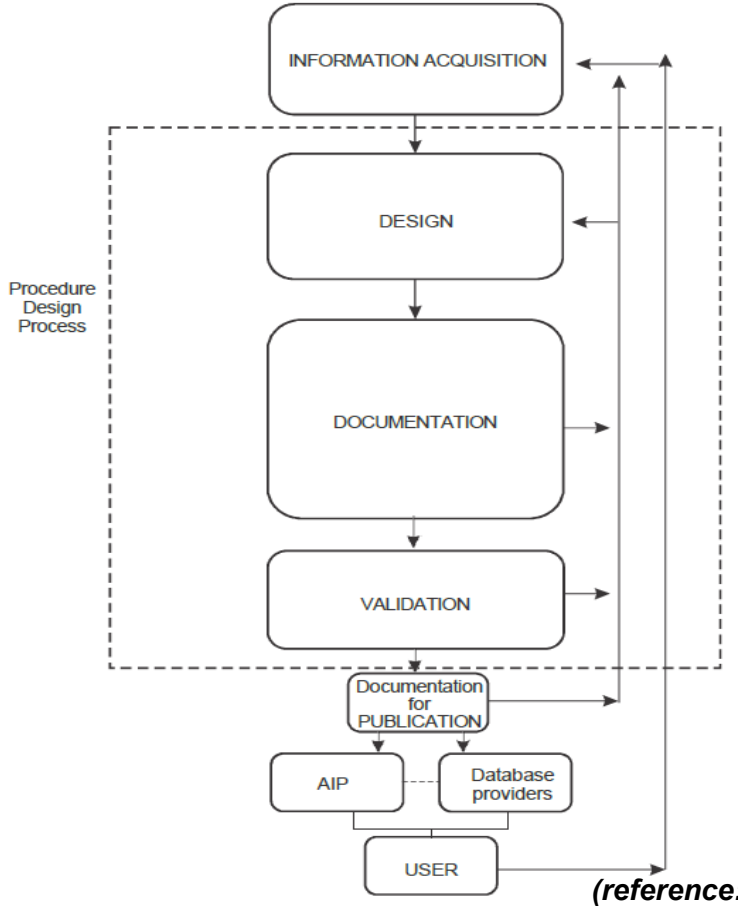
Random Inspection Process (only inspection on certified FPDO)

Flight Procedure Design Organisation	CAAM
On-Site Inspection	
a. Provide access to inspected facilities / documents / personnel b. Take note on inspection observations and findings	a. Conduct on-site inspection activities b. Inform FPDO of any non-compliance c. Set deadlines for corrective actions d. Submit non-compliance report
Post Inspection	
a. Implement corrective actions b. Submit corrective action report	a. Review & verify corrective action report b. Take action (if any) accordance with enforcement procedure

(reference: CAD 6401)

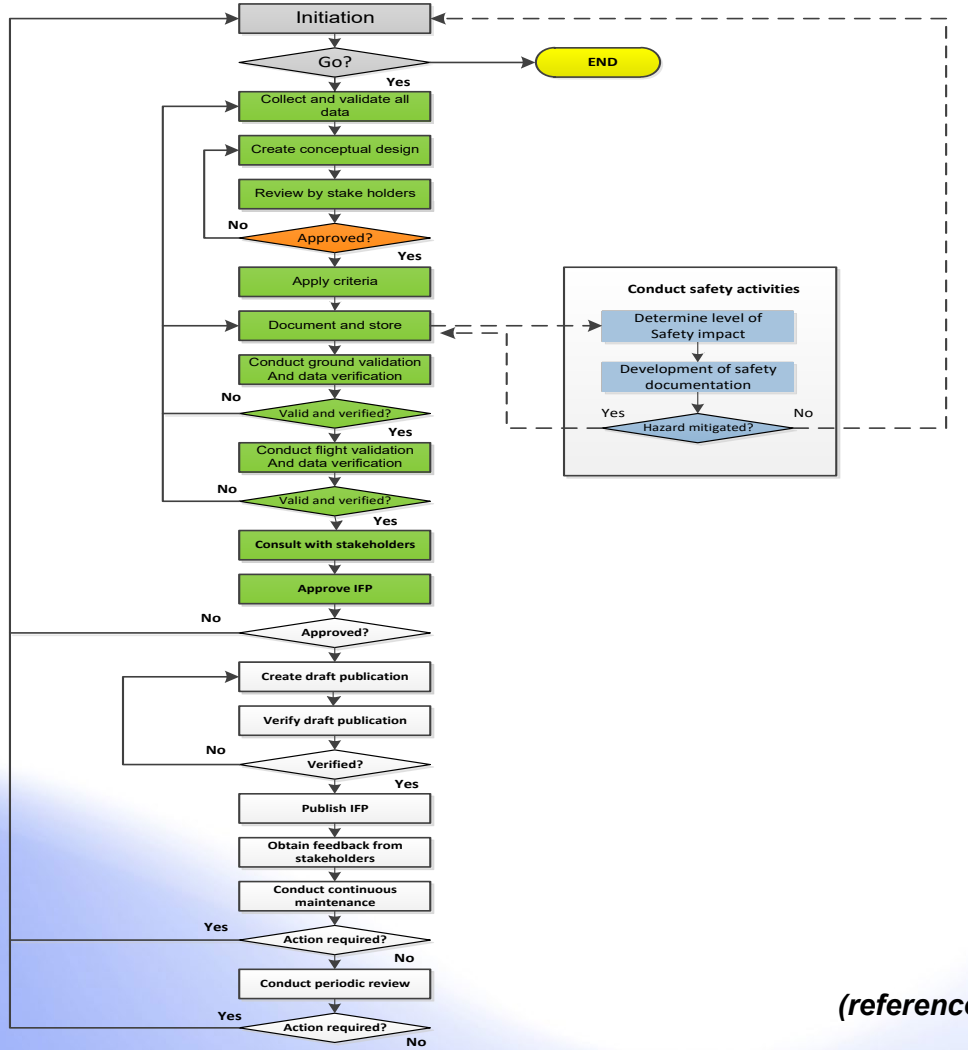
IFP Process

- The Instrument Flight Procedure (IFP) process encompasses the acquisition of data, design and promulgation of procedures. It starts with compilation and verification of the many inputs and ends with ground and/or flight validation of the finished product, and documentation for publication.



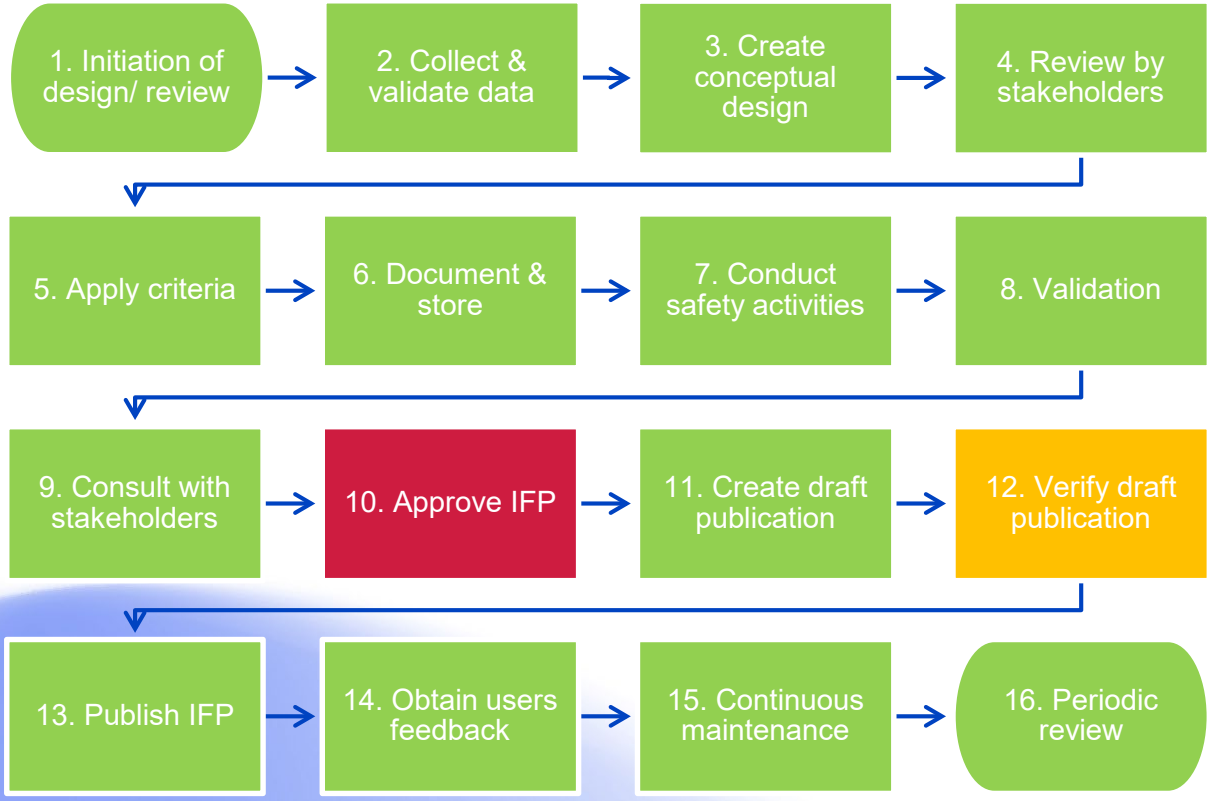
(reference: CAD 6401)

IFP Process Flow



(reference: CAD 6401)

IFP Process Flow



Approval Process of Flight Procedure Design

Who did the design?

- Certified FPD under certified FPDO only
- If foreign FPDO & FPD, must undergo validation of Foreign Designer for certification

IFP design process components

- Inspector to ensure essential components of IFP design process are followed
- Verify **evidences**
- Fill up the Design Approval Checklist

Approval of the design document

- If the submitted IFP design documentation is:
  a. Satisfactory; proceed to CEO's approval
  b. Not satisfactory; to return back the documentation with necessary feedback

(reference: CAD 6401)

Approval Process of Flight Procedure Design

EVIDENCES Required for Design Approval

Process 2	• Collection, validation and approval of data
Process 3	• Conceptual design
Process 4	• Stakeholder's consultation
Process 5	• Application of design criteria and draft design
Process 7	• Any safety risk assessment if required
Process 8	• Ground validation and/or flight validation report
Process 9	• Stakeholder consultation

(reference: CAD 6401)

Approval Process of Flight Procedure Design

EVIDENCES Required for Design Approval *(continued)*

Process 2

- Collection, validation and approval of data

Approval Process of Flight Procedure Design

EVIDENCES Required for Design Approval *(continued)*

Process 2

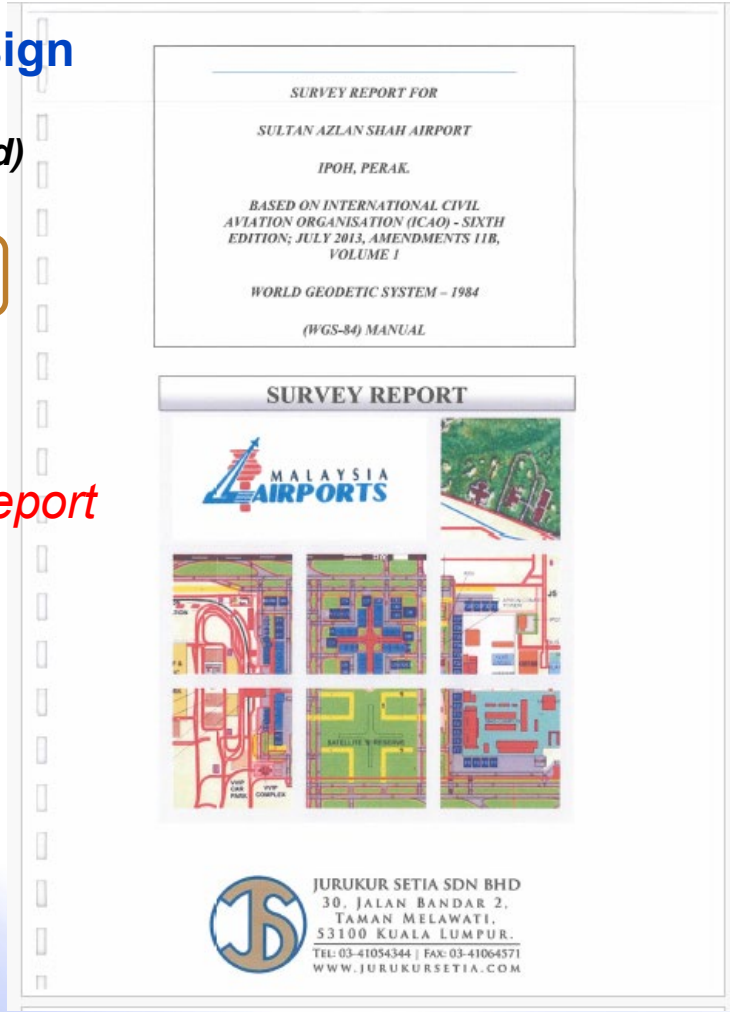
- Collection, validation and approval of data

Sample of Survey Report

Based on this report, I hereby declared and acknowledge that all survey measurements and plans for this project have been carried out and prepared accordingly under my direction and supervision in accordance with the best practice of the industry and as per requirements and scope of works stated by Malaysia Airports Holdings Berhad. The survey work was fully completed on 19th September 2015.

Sr Zulnizam Bin Babjan
MAALS, CUUDM, MRISM
Licensed Land Surveyor
Under Act 458 (Revised 1991)

20 OCT 2015
Date



SURVEY REPORT FOR

SULTAN AZLAN SHAH AIRPORT

IPOH, PERAK.

BASED ON INTERNATIONAL CIVIL AVIATION ORGANISATION (ICAO) - SIXTH EDITION; JULY 2013, AMENDMENTS 11B, VOLUME 1

WORLD GEODETIC SYSTEM – 1984

(WGS-84) MANUAL

SURVEY REPORT

MALAYSIA AIRPORTS

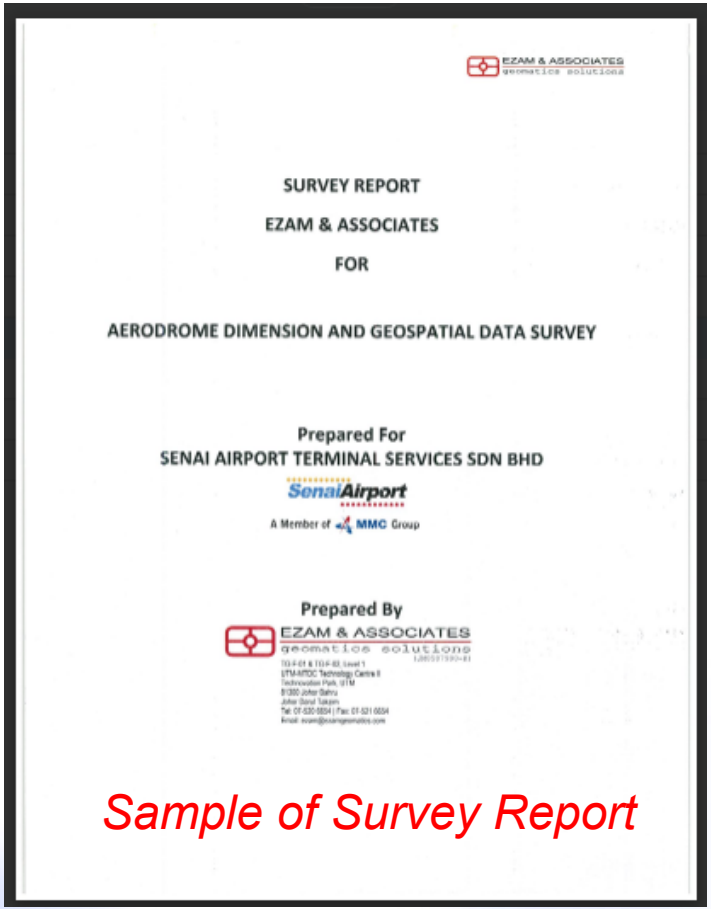
JURUKUR SETIA SDN BHD
30, JALAN BANDAR 2,
TAMAN MELAWATI,
53100 KUALA LUMPUR.
TEL: 03-41054344 | FAX: 03-41064571
WWW.JURUKURSETIA.COM

Approval Process of Flight Procedure Design

EVIDENCES Required for Design Approval *(continued)*

Process 2

- Collection, validation and approval of data


EZAM & ASSOCIATES
geomatics solutions

SURVEY REPORT

EZAM & ASSOCIATES

FOR

AERODROME DIMENSION AND GEOSPATIAL DATA SURVEY

Prepared For

SENAI AIRPORT TERMINAL SERVICES SDN BHD

SenaiAirport

A Member of MMC Group

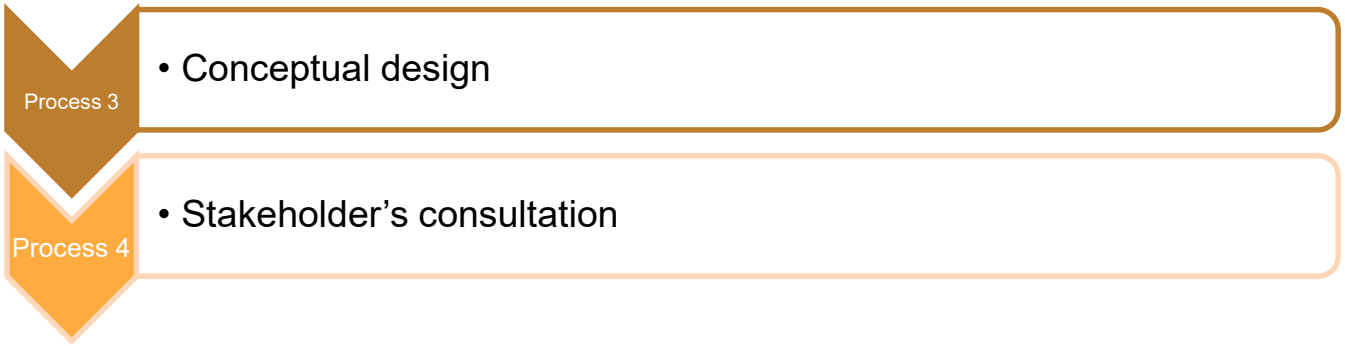
Prepared By

EZAM & ASSOCIATES
geomatics solutions

Sample of Survey Report

Approval Process of Flight Procedure Design

EVIDENCES Required for Design Approval *(continued)*



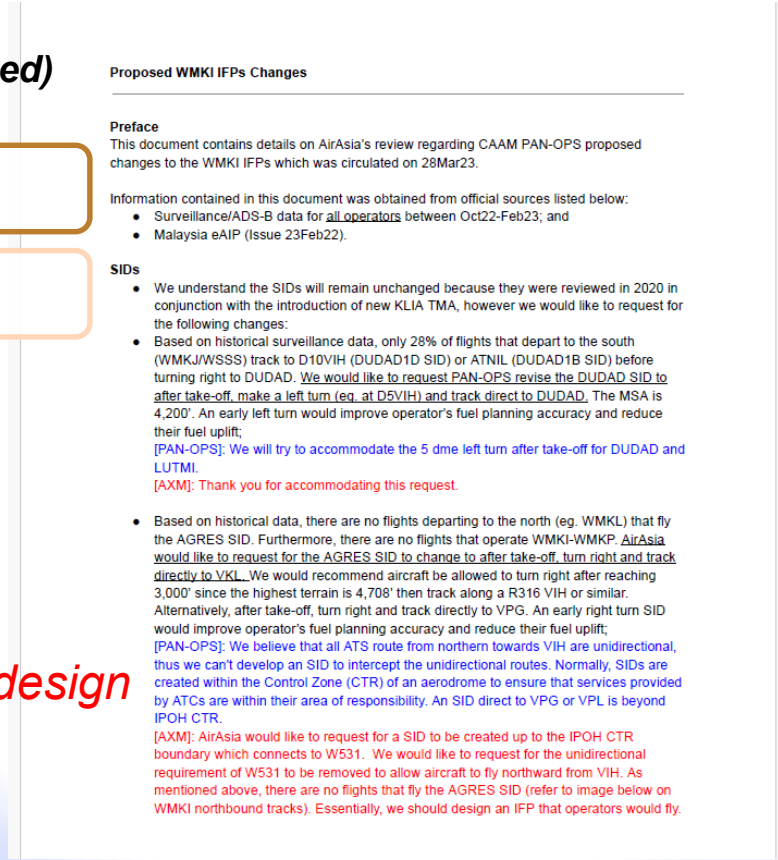
Approval Process of Flight Procedure Design

EVIDENCES Required for Design Approval *(continued)*

Process 3
- Conceptual design

Process 4
- Stakeholder's consultation

Sample of stakeholder engagement for initial design



Proposed WMKI IFPs Changes

Preface
This document contains details on AirAsia's review regarding CAAM PAN-OPS proposed changes to the WMKI IFPs which was circulated on 28Mar23.

Information contained in this document was obtained from official sources listed below:
- Surveillance/ADS-B data for all operators between Oct22-Feb23; and
- Malaysia eAIP (Issue 23Feb22).

SIDs
- We understand the SIDs will remain unchanged because they were reviewed in 2020 in conjunction with the introduction of new KLIA TMA, however we would like to request for the following changes:
- Based on historical surveillance data, only 28% of flights that depart to the south (WMKJ/WSSS) track to D10VIH (DUDAD1D SID) or ATNIL (DUDAD1B SID) before turning right to DUDAD. We would like to request PAN-OPS revise the DUDAD SID to after take-off, make a left turn (eg. at D5VIH) and track direct to DUDAD. The MSA is 4,200'. An early left turn would improve operator's fuel planning accuracy and reduce their fuel uplift;
  [PAN-OPS]: We will try to accommodate the 5 dme left turn after take-off for DUDAD and LUTMI.
  [AXM]: Thank you for accommodating this request.

- Based on historical data, there are no flights departing to the north (eg. WMKL) that fly the AGRES SID. Furthermore, there are no flights that operate WMKI-WMKP. AirAsia would like to request for the AGRES SID to change to after take-off, turn right and track directly to VKL. We would recommend aircraft be allowed to turn right after reaching 3,000' since the highest terrain is 4,708' then track along a R316 VIH or similar. Alternatively, after take-off, turn right and track directly to VPG. An early right turn SID would improve operator's fuel planning accuracy and reduce their fuel uplift;
  [PAN-OPS]: We believe that all ATS route from northern towards VIH are unidirectional, thus we can't develop an SID to intercept the unidirectional routes. Normally, SIDs are created within the Control Zone (CTR) of an aerodrome to ensure that services provided by ATCs are within their area of responsibility. An SID direct to VPG or VPL is beyond IPOH CTR.
  [AXM]: AirAsia would like to request for a SID to be created up to the IPOH CTR boundary which connects to W531. We would like to request for the unidirectional requirement of W531 to be removed to allow aircraft to fly northward from VIH. As mentioned above, there are no flights that fly the AGRES SID (refer to image below on WMKI northbound tracks). Essentially, we should design an IFP that operators would fly.

Approval Process of Flight Procedure Design

EVIDENCES Required for Design Approval *(continued)*

Process 5

- Application of design criteria and draft design

Approval Process of Flight Procedure Design

EVIDENCES Required for Design Approval *(continued)*

Process 5

- Application of design criteria and draft design

Sample of Design Report

Instrument Procedure / Approach Report

1. Criteria	2. Design Process	3. New Or Revised	4. Requested Effective Date
ICAO 8168 Amend. 8 / FPDAM	Automated Design	New	6/9/2016

5. Procedure Identification	6. AD Name	7. ICAO Identifier
I04-5	IPOH / IPOH SULTAN AZLAN SHAH	WMKI
	8. Classification	**9. ARP Elevation**
	Conventional	131.23 ft MSL

10. Aerodrome Reference Point Coordinate				11. THR
DD:MM:SS.SS:	E 101:05:35.00	N 04:34:09.00		Rwy 04
DD:MM.MM:	E 101:05.58	N 04:34.15	WGE	131.23 ft MSL

12. Communications Block

Controlled Airspaces			
Name / Freq			
Hour Of Operation			
Name / Freq			
Hour Of Operation			

13. Plan View Operational Notes	14. Aerodrome Sketch Notes

16. Missed Approach Instruction	18. Missed Approach Climb Gradient								
Direct to VOR VIH. LT On R012 VIH to KI507. LT On R004 VIH to KI364. LT heading 250° to intercept R323 VIH. LT On R323 VIH to KI365 Δ . Cross VIH at or above 418 FT MSL. Cross KI507 at or above 2224 FT MSL. Cross KI364 at or above 2897 FT MSL.	2.50 %								
	GS (Kts)	90	120	140	160	180	200	250	300
	FPM	230	310	360	410	460	510	640	760

17. Reversal Procedure Description	18. RDH	19. GP Angle
	51.37 ft	3.00 °

Approval Process of Flight Procedure Design

EVIDENCES Required for Design Approval *(continued)*

Process 7	• Safety risk assessment as required

Approval Process of Flight Procedure Design

EVIDENCES Required for Design Approval *(continued)*

Process 8

- Ground validation and/or flight validation report

Approval Process of Flight Procedure Design

EVIDENCES Required for Design Approval *(continued)*

Process 8

- Ground validation and/or flight validation report

CAAM	FLIGHT VALIDATION GROUND CHECKLIST APPROACH PROCEDURE	ANS/TEC/ANSUH/ 30120/08

PROCEDURE DETAILS					
Procedure Name		Chart Rev./ Date		Task No.	
Aerodrome		ICAO Identifier		Runway	

Ref.	Check Item	Result	Ref.	Check Item	Result
VERIFY COMMON INFORMATION					
1.1	No AIP/ AIRAC amendments pending.	□ Satisfactory □ Unsatisfactory □ Not Available	1.11	Nearby aerodrome symbols/ abandoned.	□ Satisfactory □ Unsatisfactory □ Not Available
Comments:			*Comments:*		
1.2	Chart designator/ Title.	□ Satisfactory □ Unsatisfactory □ Not Available	1.12	Restricted or danger areas.	□ Satisfactory □ Unsatisfactory □ Not Available
Comments:			*Comments:*		
1.3	SID/ STAR/ Approach identifier, aircraft category.	□ Satisfactory □ Unsatisfactory □ Not Available	1.13	Transition altitude/ level.	□ Satisfactory □ Unsatisfactory □ Not Available
Comments:			*Comments:*		
1.4	ICAO/ APATC-1/ TERPS.	□ Satisfactory □ Unsatisfactory □ Not Available	1.14	MSA/ SSA/ TAA value and reference fix.	□ Satisfactory □ Unsatisfactory □ Not Available
Comments:			*Comments:*		
1.5	Publication/ effective date/ version number.	□ Satisfactory □ Unsatisfactory □ Not Available	1.15	Chart scale/ not to scale/ 10 NM ring.	□ Satisfactory □ Unsatisfactory □ Not Available
Comments:			*Comments:*		
1.6	Airfield and/or threshold elevations.	□ Satisfactory □ Unsatisfactory □ Not Available	1.16	Position and height relief lines.	□ Satisfactory □ Unsatisfactory □ Not Available
Comments:			*Comments:*		
1.7	ATC Frequencies.	□ Satisfactory □ Unsatisfactory	1.17	Contour/ terrain relief lines.	□ Satisfactory □ Unsatisfactory

Sample of Ground Validation Checklist by FPDO

Approval Process of Flight Procedure Design

EVIDENCES Required for Design Approval *(continued)*

Process 8

- Ground validation and/or flight validation report

CAAM	VALIDATION REPORT CHECKLIST	ANS/TEC/ANSUH/ 30120/XX

CAAM	FLIGHT EVALUATION CHECKLIST	ANS/TEC/ANSUH/ 30120/XX

FLIGHT EVALUATION CHECKLIST — FIXED WING

REPORT HEADER

Date: 02 Nov 2023	Validation type (new/amended procedure): New
Organization: Layang Layang Aerospace Sdn Bhd	
Procedure title: ILS Z or, RNP Y 04, VOR Z 04 (VOR DME ARC)	
Location: Lapangan Terbang Sultan Azlan Shah, Ipoh	
Airport: WMKI	Runway: 04
Evaluator's name/telephone no.: Capt Irwin Menzes 016-2196080	
PBN navigation specification:	

PLANNING

	COMPLETED
Check that all the necessary items from the IFP package are available, including: graphics, text, maps, submission form	✓
Check that the necessary flight validation forms are available	✓
Check that the aircraft and avionics are appropriate for the IFP being evaluated	✓
Does the procedure require use of autopilot or flight director?	✓

PREFLIGHT

	COMPLETED
Review preflight validation assessment	✓
Review simulator evaluation assessment (if applicable)	✓
Obstacle assessment planning; areas of concern; ability to identify and fly lateral limits of obstacle assessment area (if required)	✓
Verify source of IFP data for aircraft FMS (electronic or manual creation)	✓
Evaluate navigation system status at time of flight (NOTAM, RAIM, outages)	✓
Weather requirements	✓
Night evaluation requirement (if applicable)	NA
Required navigation (NAVAID) support (if applicable)	✓
Combination of multiple IFP evaluations	✓
Estimated flight time	✓
Coordination (as required) with ATS, procedure designer, airport authority	✓
Necessary equipment and media for electronic record of validation flight	NA

GENERAL

	SATISFACTORY YES	NO
IFP graphic (chart) is complete and correct	✓	
Check for interference; document all details related to detected RFI	✓	
Satisfactory radio communication	✓	
Required radar coverage is satisfactory	✓	
Verify proper runway markings, lighting and VASIS	✓	
Altimeter sources	✓	
Extra consideration given to non-surveyed areas	✓	
For approach procedures with circling minima, verify controlling obstacle for each circling category	✓	

1

Rev 00 - 01/11/2023

ECKLIST — FIXED WING
HEADER
Validation type (new/amended procedure): New
Runway: 04
LIGHT
COMPLETED
✓
archives NA
NA
✓
ARKS
the provided charts and were deemed satisfactory
FAIL

Sample of Flight Validation Report

Approval Process of Flight Procedure Design

EVIDENCES Required for Design Approval *(continued)*

Process 8

- Stakeholder consultation

Approval Process of Flight Procedure Design

EVIDENCES Required for Design Approval *(continued)*

Process 9

- Stakeholder consultation

Sample of Meeting Invitation

Ruj. Kami : CAAM.BTPNU.500-8/5/6 (3)
Tarikh : 10 Ogos 2022

Pengurus
Pihak Berkuasa Penerbangan Awam Malaysia
Menara Kawalan Trafik Udara
Lapangan Terbang Sultan Abdul Aziz Shah
47200 Subang
SELANGOR
(u.p.: Encik Edie bin Amir)

Tuan,

SESI TAKLIMAT PROSEDUR PENERBANGAN LAPANGAN TERBANG SULTAN ABDUL AZIZ SHAH (LTSAAS), SUBANG

Dengan segala hormatnya saya merujuk kepada perkara di atas.

2. Adalah dimaklumkan bahawa Unit PANS-OPS & PBN, Bahagian Teknikal Perkhidmatan Navigasi Udara CAAM akan mengadakan satu taklimat bagi menerangkan perubahan prosedur penerbangan bagi Lapangan Terbang Sultan Abdul Aziz Shah (LTSAAS), Subang. Taklimat tersebut akan diadakan seperti ketetapan berikut:

Tarikh : 18 Ogos 2022 (Khamis)
Tempat : Bilik Latihan 1, West Wing Terminal North, KLATCC, Sepang
Masa : 9.30 pagi

3. Dua pegawai yang akan hadir untuk memberi taklimat adalah seperti berikut:

i) Hamizun bin Jenal (FPDO)
ii) Mohd Syahril Azmir bin Remli (FPDO)

4. Semua pegawai dan penolong pegawai kawalan trafik udara yang bertugas di LTSAAS, Subang dijemput hadir ke sesi taklimat tersebut bagi meningkatkan kefahaman. Kerjasama daripada pihak tuan amat dihargai.

Sekian, terima kasih.

"WAWASAN KEMAKMURAN BERSAMA 2030"
"BERKHIDMAT UNTUK NEGARA"

Saya yang menjalankan amanah,

(KHAIRUL A'AMALI BIN ISMAIL)
Pengarah
b.p. Bahagian Teknikal Perkhidmatan Navigasi Udara
Pihak Berkuasa Penerbangan Awam Malaysia

Pihak Berkuasa Penerbangan Awam Malaysia *(Civil Aviation Authority of Malaysia)*
Bahagian Teknikal Perkhidmatan Navigasi Udara (BTPNU), Kompleks Pusat Kawalan Trafik Udara Kuala Lumpur (KLATCC),
Aras 1&2, West Wing Terminal North, Jalan CTA 3 (KLIA), Lapangan Terbang Antarabangsa Kuala Lumpur, 64000 KLIA, Sepang, Selangor
| 6-03-8529 1202 | 6-03-8529 1210 | http://www.caam.gov.my

Approval Process of Flight Procedure Design

EVIDENCES Required for Design Approval *(continued)*

Process 9

- Stakeholder consultation

Sample of Meeting Minutes

BAHAGIAN TEKNIKAL PERKHIDMATAN NAVIGASI UDARA (BTPNU)

PIHAK BERKUASA PENERBANGAN AWAM MALAYSIA

MINIT MESYUARAT RINGKAS

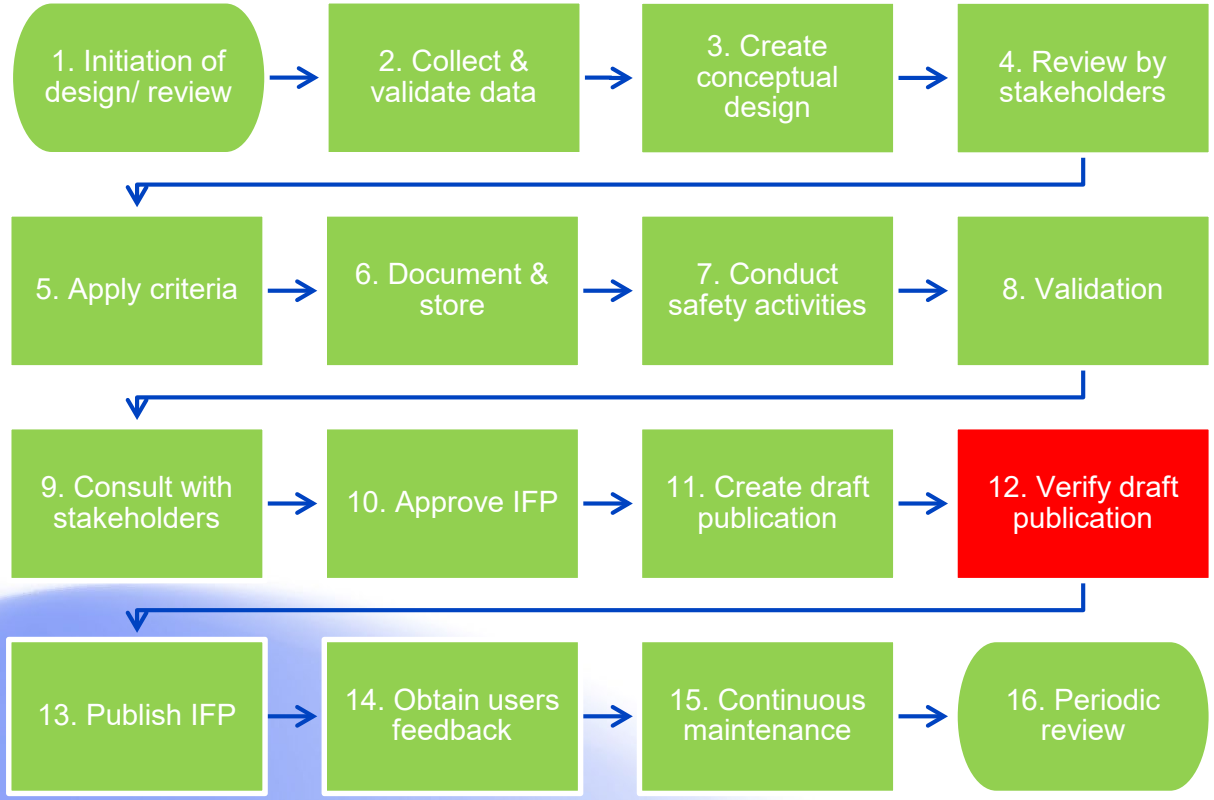
TAJUK MESYUARAT	: TAKLIMAT PENGGANTIAN PROSIDUR PENERBANGAN BAHARU UNTUK LAPANGAN TERBANG SULTAN ABDUL AZIZ SHAH (WMSA)
TARIKH/HARI	: 18HB OGOS 2022/KHAMIS
LOKASI	: BILIK MESYUARAT SEARCH AND RESCUE, ARAS 1 WEST WING TERMINAL SOUTH, KOMPLEKS PUSAT KAWALAN TRAFIK UDARA KUALA LUMPUR.

Penyertaan Mesuarat:

1.	En. Hamizun Bin Jenal	BTPNU/Pengerusi Mesyuarat
2.	En. Mohd Syahril Azmir Bin Remli	BTPNU
3.	En. Ashmil Bin Abd Ghani	BTPNU
4.	Pn. Siti Mariyam Jameela Binti Ali	BPPUA
5.	En. Zulazri Bin Mohd Ahnuar	BPPUA
6.	En. Edie Mohd Amir	Menara Kawalan Subang
7.	En. Khairul Azhar Bin Rajak	Menara Kawalan Subang
8.	En.Suhaimi Masah	Menara Kawalan Subang
9.	Wan Aznezam Bin Wan Aziz	Menara Kawalan Subang
10.	Raja Norherfik Huzain Bin Raja Ramli	Menara Kawalan Subang
11.	En. Che Zawawi Bin Che Musa	Menara Kawalan Subang
12.	En. Ahmad Syafiq Bin Alias	Menara Kawalan Subang
13.	En. Muhamad Asmadi	Menara Kawalan Subang
14.	En. A. Rizam	Menara Kawalan Subang

1 of 5

Enhancing Flight Procedure Safety Through AIS & Aeronautical Charts



Enhancing Flight Procedure Safety Through AIS & Aeronautical Charts

ANSA's Role in Verification of Publication Draft

Conducting thorough reviews

Engaging with technical experts

Documentation and reporting

Recommendations and feedback

Final approval for publication

Enhancing Flight Procedure Safety Through AIS & Aeronautical Charts

Publication Draft Verification Objectives

Enhancing Flight Procedure Safety Through AIS & Aeronautical Charts

Tools 1: Aeronautical Chart Checklist

- Cross-reference with the approved IFP design to ensure consistency
- Check for clarity, accuracy, and usability
- Review for compliance with established standards

CIVIL AVIATION AUTHORITY OF MALAYSIA
AIR NAVIGATION SERVICES AND AERODROME
FLIGHT PROCEDURE AND PUBLICATION
MALAYSIA AERONAUTICAL CHART SURVEILLANCE CHECKLIST

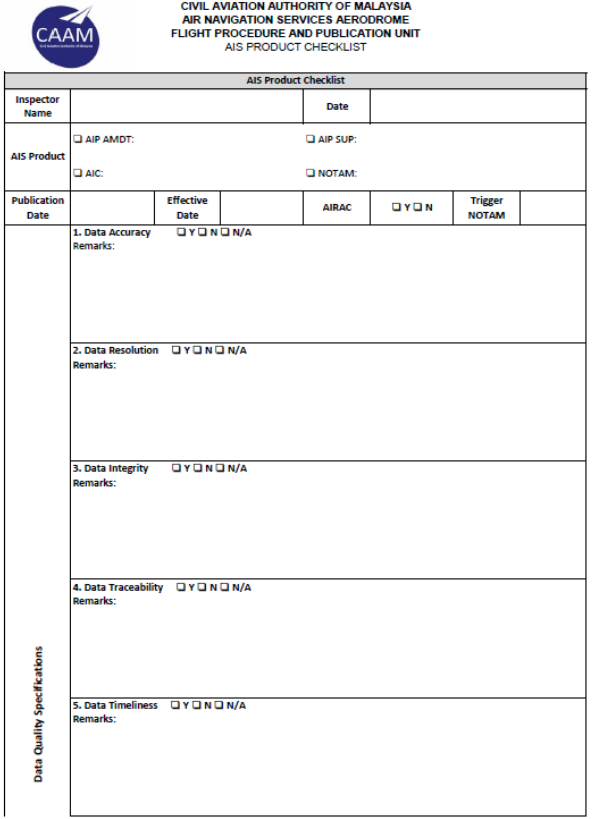
AIS Product	❑ AIP AMDT : _____ ❑ AIP SUP : _____ ❑ AIRAC AIP : _____ ❑ AIRAC SUP : _____		
Aeronautical Chart Inspector Checklist			
Date		Inspector Name	
Chart ID		Status	Notes
Aeronautical Chart	1. Scale & margin	❑ Y ❑ N	
	2. Title and marginal notes	❑ Y ❑ N	
	3. Data amended according to the proposal	❑ Y ❑ N	
	4. Other data not related remain unchanged	❑ Y ❑ N	
	5. Line weight & type	❑ Y ❑ N	
	6. Font style & size	❑ Y ❑ N	
	7. Colours	❑ Y ❑ N	
	8. Symbols	❑ Y ❑ N	
	9. Changes notes included	❑ Y ❑ N	
Tabular Description	1. Data amended according to the proposal	❑ Y ❑ N	
	2. Chart title & tabular description	❑ Y ❑ N	
	3. Tabular arrangement & orientation	❑ Y ❑ N	
	4. Font type & size	❑ Y ❑ N	
	5. Other data not related remain unchanged	❑ Y ❑ N	
	6. Changes notes included	❑ Y ❑ N	
Data Consistency	1. Tabular description consistent with the chart	❑ Y ❑ N	
Remarks		Remarks	
Checked by Date		Verified by Date	

TEAMCAAM Safe Sustainable Skies

Enhancing Flight Procedure Safety Through AIS & Aeronautical Charts

Tools 2: AIS Product Checklist

- Cross-reference with the approved IFP design to ensure consistency
- Check for clarity, accuracy, and usability
- Review for compliance with established standards



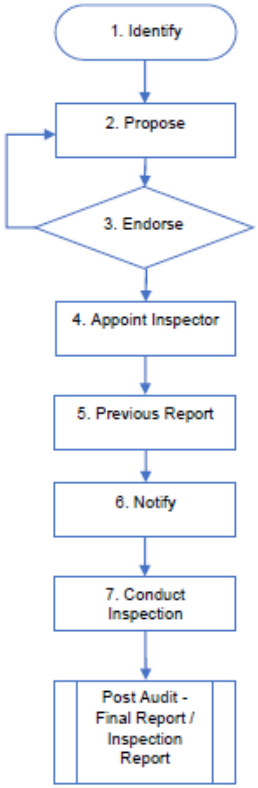
CIVIL AVIATION AUTHORITY OF MALAYSIA
AIR NAVIGATION SERVICES AERODROME
FLIGHT PROCEDURE AND PUBLICATION UNIT
AIS PRODUCT CHECKLIST

AIS Product Checklist							
Inspector Name				Date			
AIS Product	❑ AIP AMDT:			❑ AIP SUP:			
	❑ AIC:			❑ NOTAM:			
Publication Date		Effective Date		AIRAC	❑ Y ❑ N	Trigger NOTAM	
Data Quality Specifications	1. Data Accuracy ❑ Y ❑ N ❑ N/A Remarks:						
	2. Data Resolution ❑ Y ❑ N ❑ N/A Remarks:						
	3. Data Integrity ❑ Y ❑ N ❑ N/A Remarks:						
	4. Data Traceability ❑ Y ❑ N ❑ N/A Remarks:						
	5. Data Timeliness ❑ Y ❑ N ❑ N/A Remarks:						

TEAMCAAM Safe Sustainable Skies

Non-Schedule/ Random Inspection: FPDO

Non-Schedule/ Random Inspection Flow Process (General)



No.	Activities	Actions	Timeline
1	Identify unit to be inspect	HOU	1 day
2	Propose Audit Plan Form (CAAM/ANS/SOA 01)	HOU	
3	Review and Endorse the Non-Schedule/ Random Inspection	Director	1 day
4	Appoint Inspector to conduct the inspection	HOU	1 day
5	Get previous Audit / Inspection Report from Filing Room	Inspector	2 days
6	Notify unit to be inspect via e-mail	Inspector	1 day
7	Conduct Inspection using Non Schedule Inspection Report Form	Inspector	1-3 days

Non-Schedule/ Random Inspection: FPDO

Non-Schedule/ Random Inspection Process (only inspection on certified FPDO)

Flight Procedure Design Organisation	CAAM
On-Site Inspection	
a. Provide access to inspected facilities / documents / personnel b. Take note on inspection observations and findings	a. Conduct on-site inspection activities b. Inform FPDO of any non-compliance c. Set deadlines for corrective actions d. Submit non-compliance report
Post Inspection	
a. Implement corrective actions b. Submit corrective action report	a. Review & verify corrective action report b. Take action (if any) accordance with enforcement procedure

(reference: CAD 6401)

Resolution of Safety Issues

CORRECTIVE ACTION TRACKER (CQ)

Air Navigation Services and Aerodrome Division,
No. 27 Persiaran Perdana,
Level 1, Block Podium B, Precinct 4,
62618 PUTRAJAYA Tel.: +603 8871 4000, Fax.: +603 8871 4334
POI email address:

SECTION 4 – AUDIT RESPONSE (ATTACHMENT A) (TO BE COMPLETED BY SERVICE PROVIDER AND SUBMITTED TO ANSA WITHIN 30 DAYS)					
AUDIT/ INSPECTION TITLE	SERVICE PROVIDER	AUDIT CLOSURE DATE	FINDINGS	OBSERVATIONS	PLANNED TLC DATE
PANS-OPS AUDIT			0	0	N/A

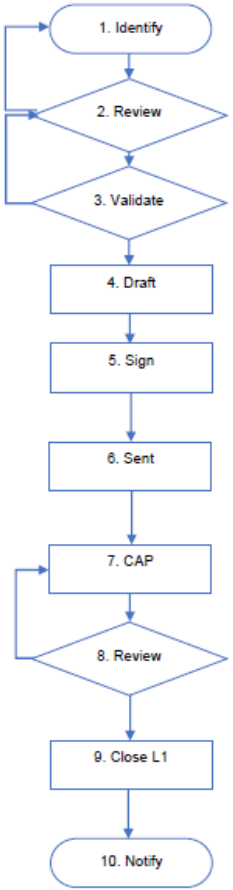
SECTION 4A – SERVICE PROVIDER'S AUDIT RESPONSE									SECTION 4B – ANSA REMARK	
CQ no.	ANSA REMARK	LEVEL	DAYS	DUE DATE	IMMEDIATE CORRECTIVE ACTION	ROOT CAUSE ANALYSIS	ROOT CAUSE CORRECTION	FOLLOW UP	STATUS	ANSA REMARK

STATEMENT OF ACKNOWLEDGEMENT			
This audit response report represents an indication of what was observed on this occasion as a result of the audit/inspection,and the corrective action plan by the service provider. This report alone should not be regarded as a determination of total compliance.			
Insert image here		Director of Air Navigations Services and Aerodrome Division	
Signature	Name	Position	Date
I have reviewed the audit response in accordance with the current instructions.			
Insert image here		Lead Auditor	
Signature	Name	Position	Date

Resolution of Safety Issues

Audit Finding Flow Process

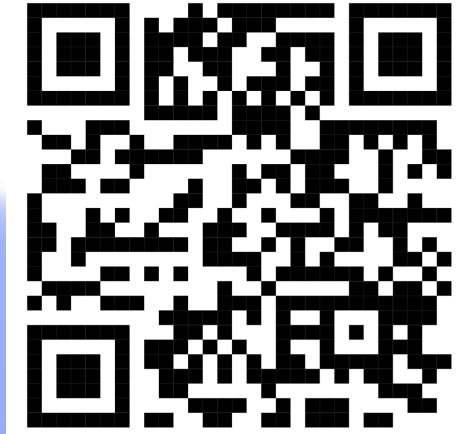
- Level 1 Audit Finding Process



No.	Activities	Actions	Timeline
1	Draft Potential L1 Report	TL	3 days
2	Review L1	HOU	1 day
3	Validate L1	Director	1 day
4	Draft Notification Letter	HOU	1 day
5	Sign the Notification Letter	Director	
6	Sent Notification Letter via e-mail to auditee and c.c. to: 1. CEO 2. DCEO (R) 3. Director/Regional Director	HOU	1 day
7	Prepare CAP / Corrective Action Report. Submit to ANSSD	Auditee	7 days after received L1 report
8	Review CAP / Corrective Action Reports	HOU	1 day
9	Close Out L1 (When L1 CAP has been corrected with evidence of implementation received)	Director	1 day
10	Notify Auditee via e-mail and c.c. to: 1. CEO 2. DCEO (R) 3. Director/Regional Director	Director	1 day

Resolution of Safety Issues

Non-Compliance/Observation Report Form



Attachment 2 CAAM/ANS/SOA 02

AIR NAVIGATION SERVICES STANDARDS DIVISION
NON-COMPLIANCE/OBSERVATION REPORT FORM

(To be filled by ANS Standards for interim report)

Appendix	
Name of Auditee	
Date of Audit	
Name of Auditor / Inspector	
PQ Reference Number	
Audit / Inspection Finding / Observation	
Finding Category	☐ Level 1 ☐ Level 2 ☐ Observation
Verified by *(Director / Deputy Director)*	

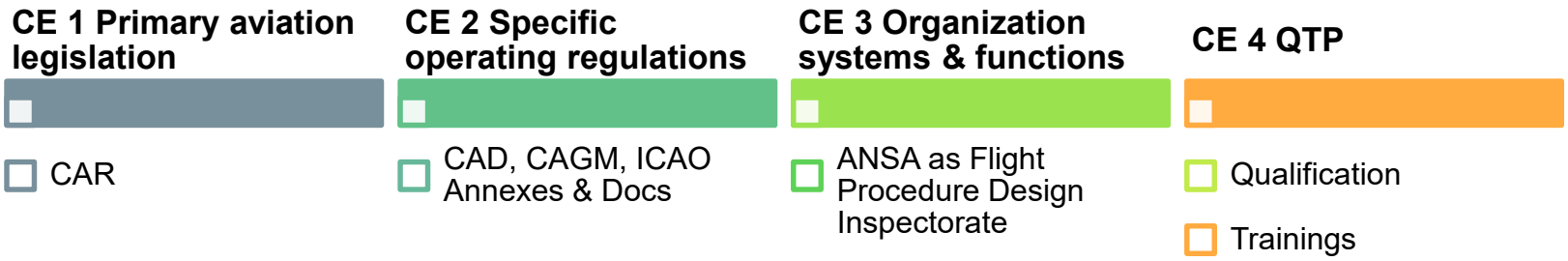
(To be filled by auditee)

Corrective action presented on:		
No.	Corrective Action(s)	Implementation Date
		dd/mm/yyyy
		dd/mm/yyyy
		dd/mm/yyyy
Verified by *(Head of Division / Unit)*		

(To be filled by ANS Standards)

Feedback on CAP	☐ Did not addressed ☐ Partially addressed ☐ Fully addressed
Remark on CAP	
Follow-up Audit / Inspection Date	
Auditor / Inspector	
Follow-up Status	☐ Satisfactory ☐ Not satisfactory
Follow-up audit/inspection remark	
Finding Status	Open / Close
Verified By *(Auditor / Inspector)*	
Approved By *(Director / Deputy Director)*	

Summary of ANSA Regulatory Flow for Flight Procedure Design

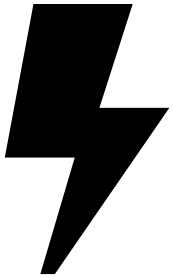


Summary of ANSA Regulatory Flow for Flight Procedure Design
(continued)

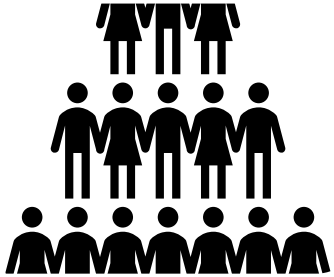
CE 5 Technical guidance & tools	CE 6 certification & approval	CE 7 Continuous surveillance	CE 8 Resolution of safety concerns
Documents	FPDO & FPD certification	Random inspection	CQ (Corrective Action Tracker)
CQ	Design approval	AIP product offsite inspection	L1 Audit Finding flow
Checklists	Draft publication review		Non-compliances Form

Navigating Through Challenges in Flight Procedure Design Oversight

Challenges



Rapid technological changes



Coordination among multiple stakeholders

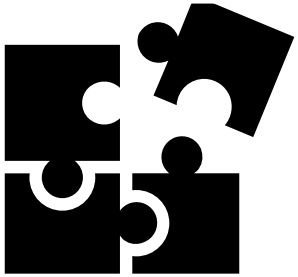
Compliance in varied aerodromes and airspace

Navigating Through Challenges in Flight Procedure Design Oversight

Strategies and Solutions

Adapting regulatory frameworks

Enhancing stakeholder collaboration



Customized oversight approaches

Charting the Future: ANSA's Vision for Flight Procedure Design Oversight

ANSA’s Future Path

- Advanced technologies for oversight (ex: AMS)
- Flight Procedure Design Verification System
- Enhancing collaboration platforms
- Focus on training and development
- Commitment to continuous improvement

CAAM
Civil Aviation Authority of Malaysia

TEAMCAAM Safe Sustainable Skies

Thank You

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CAA_MALAYSIA