



United ATS QA Implementation in IFPD

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ICAO MID Workshop IFPs Provision & Safety Oversight

Amman, Jordan, 7-9 Dec 2025



UATS Quality Assurance: Consolidated Summary

UATS QA Framework in the FPDM is built upon:

1. A formal QMS with defined SOPs and CAPA
2. A proactive SMS with Mandatory SRAs
3. Rigorous Software Validation Methodology (ICAO Doc 9906 Vol. III)
4. Strict Document Control and Revision Management
5. Competency-based Training QA (ICAO Doc 9906 Vol. II)
6. Data integrity and Quality requirements (ICAO Annex 15/PANS AIM)
7. QA embedded in the full Procedure Design chain

IFPD Quality Assurance Framework



- United ATS established its own processes and procedures in accordance with the ICAO SARPs, PANS and State's (GACA) Regulatory Framework.
 - High-level guidance: ICAO Doc. 10068 *"Manual on the Development of a Regulatory Framework for IFPDS"*
 - Detailed compliance with KSA eBook Volume 8 and GACAR Part 172 *"Instrument Flight Procedure Services"*
 - Guidance: *Quality Assurance Manual for Flight Procedure design* (Doc. 9906) Series
 - "Control" the quality of the processes associated with the construction of IFPs: Doc. 8168, Vol. II PANS OPS.

- United ATS embeds Quality Assurance throughout the entire IFPD lifecycle by leveraging:
 - Dedicated oversight by the Quality & Safety Manager
 - Integrated Management System (IMS)
 - Continuous review and audits.

- United ATS and GACA maintain an excellent collaborative partnership that reinforces the safety and quality with aligning its processes and documentation to meet GACA's requirements on an initial and ongoing basis.



UATS Quality & Safety Policy Framework

United ATS maintains an integrated Quality Management System (QMS) & Safety Management System (SMS) as follows:

Quality Policy Focus

- Ensuring accuracy, consistency, and standardization across all flight procedure designs.
- Maintaining documentation, audit trails, data integrity, and continual improvement.
- Ensuring all personnel follow the FPD Operation Manual and associated Standard Operating Procedures (SOPs).

Safety Policy Focus

- Promoting a proactive safety culture.
- Ensuring risk is managed using Safety Risk Assessments mandatory (SRA): (1) New IFPs, (2) Changes in criteria, (3) Automation tool update, (4) Anomalies/non-compliance occur.
- Embedding safety considerations into every phase of the procedure design lifecycle.



Quality, Health, Safety, and Environmental Policy

UNITED ATS COMMITTED TO EXCELLENCE Version 04 Rev. 00 Date: 01.01.2025	IMS-QHSE Procedures Manual	United for Aviation Technology Services الشركة المتحدة لتكنولوجيا الطيران Chapter 2 Leadership and Policies
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Quality, Safety, and Environmental (QHSE) Policy

United for Aviation Technology Services Company (United ATS)

United ATS is fully committed to delivering exceptional, safe, and reliable aviation services through the effective implementation of an **Integrated Management System (IMS)** in line with **ISO 9001:2015, ISO 45001:2018, and ISO 14001:2015 standards.**

Commitments:

United ATS shall:

1. **Provide effective services** that contribute to a high level of aviation safety through proactive risk identification and mitigation.
2. **Comply with all applicable Laws, Regulations, and Standards**, including but not limited to:
 - ICAO Standards and Recommended Practices (SARPs).
 - Civil Aviation Authority (CAA) Regulations.
 - Commitment to continual improvement of environmental management to enhance environmental performance.
 - Commitment to consultation and participation of workers.
 - Commitment to the protection of the environmental, including prevention of pollution.
 - Relevant national and international publications and documentation.
 - Technical Operations and Aerodrome Requirements.
3. Ensure ongoing **compliance with ISO 9001:2015, ISO 45001:2018, and ISO 14001:2015**, fostering a culture of quality, safety, and environmental stewardship.

Strategic Objectives:


Through the active engagement of leadership and staff, United ATS aims to:


- 1- Build **confidence** among aviation partners, participants, and international clients.
- 2- Achieve **exceptional performance** across operational, financial, and service domains.
- 3- Place **Quality, Safety, and Environmental** performance at the core of its service delivery.
- 4- Ensure **full compliance in internal and external audits** by addressing gaps and adhering to best practices.
- 5- Stay **at the forefront of aviation technologies** and continuously improve aeronautical systems and services.
- 6- Enhance the **Skills, Knowledge, and Competencies** of all personnel through structured training and development programs.
- 7- Deliver **secure, sustainable, and high-quality services** in a timely and efficient manner.
- 8- Ensure a **Safe and Healthy Work Environment**, committed to zero incidents, injuries, and environmental harm.


Responsibility & Communication:

All United ATS personnel are expected to:

- Adhere to the **Company's Quality, Safety, and Environmental Policy**.
- Comply with the **Integrated Management System (IMS)** Documentation, including manuals, procedures, and SOPs.
- Actively support and contribute to the achievement of our strategic goals.

Sig. 
Ashraf Gameel
Accountable Executive



Sig. 
Mahmoud Salema
Quality and Safety Manager

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United ATS IFPD Operation Manual



Kingdom of Saudi Arabia

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United for Aviation Technology Services
الشركة المتحدة لخدمات تكنولوجيا الطيران

United ATS Operation Manual
for
Flight Procedures Design
(FPDM)

Version 04 Revision 00 - October 2025

شركة المتحدة لخدمات
UNITED ATS Co.
س.ت : 1010576526
تكنولوجيا الطيران

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UATS QA Roles & Responsibilities (RACI Matrix)

Role/ Responsibility	IFP Approval	Technical Integrity	Design	Safety Assess	AIS/Survey/ FV support	QMS/SMS Oversight	Audits	Staff Training
IFP Director	A	A	A	A	A	A/R1	A	A
IFP Chief Designer	R1	R1	R1	R1	R1	R1	R1	R1
Quality & Safety Manager	I	C	I	R2	I	R2 (QMS/SMS)	R2	C (follow up the implementation)
Designers	I	R2	R2	C	C	C	C	I
AIS/Survey/FV	I	R2/C	I	C	R2/C/I (depending on stage)	I	I	I

R – Responsible (**R1** = Technical authority/ **R2** = Execution responsibility)
A - Accountable
C - Consulted (SME input required)
I - Informed (Kept updated)



UATS Quality Assurance – Internal Audits

Audit Plan: Applies to all United ATS projects, processes, and Standard Operating Procedures (SOPs) within the IMS, covering audits across both operational and support functions.

Audit Objectives:

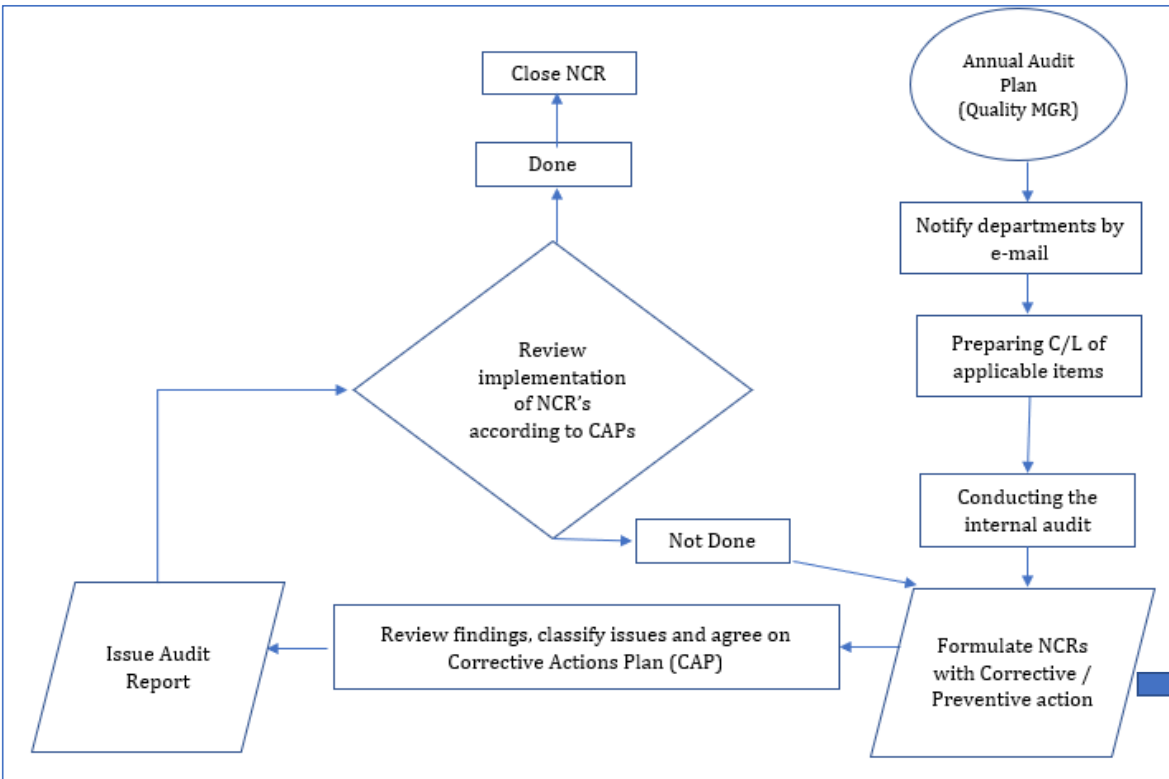
- Verify IMS conformity with ISO 9001:2015, ISO 45001:2018, and ISO 14001:2015 requirements.
- Evaluate the effectiveness of SOPs in achieving QHSE objectives.
- Confirm compliance with GACA regulations and internal policies.
- Identify risks, non-conformities, and opportunities for improvement.
- Ensure effective implementation of corrective and preventive actions (CAPA).

Audit Process (Key Steps)

1. **Program Development:** Annual audit plan set by the Safety & Quality Manager based on risk and regulatory priorities.
2. **Auditor Selection:** Competent, impartial auditors appointed.
3. **Planning:** Define audit scope, criteria, frequency, and methods.
4. **Execution:** Assess process/SOP conformity through interviews, records, and observations.
5. **Reporting:** Document and classify findings.
6. **Corrective Actions:** Implement and verify corrective actions.
7. **Management Review:** Present results for performance evaluation and improvement.



Planning and Implementation Flowchart



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Corrective / Preventive Action
No. (UATS-PI-01-25-KSA)

Date: 25-Aug-25
Activity/Department: Projects Department

Reference: Internal Audit External Audit Client Comment
 Deviation from Project Deviation from Training Analyses of Data Output
 Management Review Other _____

Non-Conformity Description:
In the Jeddah Tower AWL study (Appendixes A, B, and C), the obstacle assessment specialist used a template for a construction tower crane model without updating its specifications. The drawing incorrectly indicated the requirement for medium-intensity lights, despite the study summary and recommendations clearly stating that high-intensity lights were required. Furthermore, the error was not detected due to the absence of technical double-checking, lack of attention from the Projects Department Manager, and the Safety and Quality Manager.

Root Cause:

1. Dependence on a pre-existing model template without proper adjustment to the specific case.
2. Lack of cross-verification among technical specialists, leading to inconsistencies between text recommendations and figures.
3. Inadequate managerial and quality review, as the document was perceived as a draft version.

Quality and Safety Manager
Name: Mahmoud Salama
Sign.:

Corrective Action:

- 1) Revise the AWL study Appendixes A, B, and C, immediately to correct the crane lighting requirement to high-intensity, ensuring alignment across the text, and recommendations.
- 2) Resubmit the updated and corrected Appendixes to the client immediately.

Preventive Action:


- 1) Implement a mandatory double-checking for all obstacle assessment studies before managerial approval, ensuring technical accuracy.
- 2) Develop a technical instruction for the use of templates, mandating that all pre-loaded details must be updated and validated before report finalization.

Coverage Responsible:
Name: Capt. Mohamed Ayman – Projects Manager
Suggested Date of Compliance: 01-Sep-25

UATS Quality Assurance – External Audits



- GACA’s oversight audits United ATS’s quality assurance, helping keep its IFPD services compliant, robust, and continually improving.
- GACA’s oversight audits provide guidance that helps United ATS strengthen the quality and safety of its IFP design services.

 <p>GACA الهيئة العامة للطيران المدني General Authority of Civil Aviation</p>
WORK PLAN FOR SAFETY OVERSIGHT
Objectives of the Safety Oversight Activity
<p>The main objectives of the safety oversight activity are:</p> <ul style="list-style-type: none"> • Assess the effective implementation of GACAR Part 172 and all relevant regulatory requirements, along with the technical and operational documentation, including the UATS Flight Procedure Design Operational Manual. • Conduct an onsite review of IFPs records, IFPs register and quality assurance activities. • Assess the effective implementation of the Data Provision Agreement (DPA) with SANS/AIM. • Review the training follow-up process and the IFP design workflow to ensure compliance. • Conduct an onsite check on automation tools in flight procedure design and validation. • Track and review the status of open findings to ensure corrective actions have been implemented effectively.
Safety Oversight Activity Scope and Areas
<p>The safety oversight activity covers the following areas:</p> <ol style="list-style-type: none"> 1. Design, quality control, validation process, and amendment process of published IFPs. 2. Implementation of Quality Management System (QMS). 3. Implementation and Monitoring of Training Programs. 4. Data Exchange and Data Provision Agreement (DPA) 5. Automation Tools Utilized in the IFP Design Process. 6. Open Findings Review <p>The oversight inspection will be conducted onsite. It will be divided into two phases:</p> <ul style="list-style-type: none"> - The first phase is gathering information and assessing compliance with applicable requirements using an inspection checklist, and - The second phase is collecting and cross-checking evidence against the provided information and checking documents. <p>The inspection team will gather data through interviews, document examinations, observation of activities, and conditions in the IFP design areas. The information obtained through interviews will be verified, and the absence of evidence may indicate non-compliance with mandatory regulatory requirements. If time permits, the closing meeting will be held on-site on the last day of the inspection, unless the documents, evidence, and systems checked require a virtual meeting.</p>



Flight Procedure Design Software Validation

Methodology & Coverage

➤ It is a major QA component (S/W acceptance) and an extensive methodology in alignment with ICAO Doc. 9906, Vol. III.

Validation Methodology:

1. Initial validation before use.
2. Re-validation, whenever:
 - Software is updated.
 - New criteria are introduced.
 - New functionalities are added.

Independent Validation:

- A trained IFPD Validation Team repeats test scenarios independently.
- Developer may provide test datasets, but United ATS remains responsible.

Validation Coverage includes:

- Environment & reference system checks
- WGS-84 geodetic calculations
- Magnetic variation checks
- Terrain data integration
- Aeronautical data integration
- Criteria modeling & calculations
- Layout/graphical checks
- ARINC 424 output validation

Documentation:

All validation results must be:

- Recorded using forms UATS-FPD-F-121 to FPD-F-138
- Kept on United ATS server for minimum 5 years

Accountability:

Chief Designer: Technical responsibility; **IFP Director:** Final approval



S/W Validation Plan, Calculations Sample

UNITED ATS COMMITTED TO AVIATION EXCELLENCE		United for جها الطيران			
Software Validation Predefined Plan					
Date: 10-Apr-22					
Purpose: Re-validation					
Module	Group	Programs	Designer Name: Naeyl Abdel Azz		
			Status	Assessment Reply	
Common	GIS	Geodesic Conversions	Done	Convert from input for drawing in WGS-84	
		Determine a Position	Done		
		Coordinate Reference Systems	Done		
		Horizontal Datum and geographic coordinates	Done		
		Projections	Done		
		Euclidean Geometry	Done		
		WGS84	Done		
		Determine Bearing and Distance	Done		
		Determine an Intersection Point	Done		
		Theoretical Magnetic Variation Determination	Done		
	Database	Data Search and Change	Done		
		Database Export	Done		
		Database Import (AIXM 4.5 & 5.1)	Done		
		Importing Aeronautical Entities	Done		
		Importing Obstacles from CSV file	Done		
	Tools	Generic Tools			
		Scene Management Pan, Zoom and Rt View	Done		
		Object Management	Done		
		Shapefile management	Done		
		Print Function	Done		
		Grid and Geo borders	Done		
		Compass and Magnetic Declination	Done		
		Displaying Digital Terrain Models and Raster Images	Done		
		Clipping Raster Images	Done		

Sample for Circling

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Circling

Procedure and Runway Designation: Circling - RWY 15L

Purpose: Re-validation

> Input data

Input Data	
Category of aircraft	A-D
Aerodrome elevation	2055FT
Temperature	47.5°
Type of wind	Cross wind 25kt
IAS	205kt
THR coordinates	24 50 3 6.60N 046 42 07.34 E
Bank angle	20°

Yes	No	Unknown	Out of scope	Comment

> Output data

Aircraft CAT	A	B	C	D	E
Output data					
TR + W/V (kt)	112.36	169.94	218.26	245.10	282.67
R (C/s)	2.00	2.34	1.82	1.62	1.41
r (NM)	0.70	1.16	1.91	2.41	3.20
S SEG (NM)	0.30	0.40	0.50	0.60	0.70
Radius from THR (NM)	1.70	2.71	4.31	5.41	7.30
Radius from THR (Km)	3.15	5.02	8.00	10.02	13.35

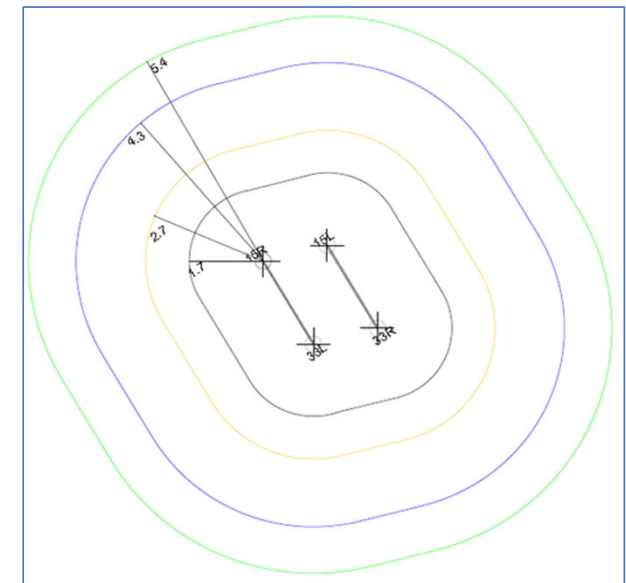
The inconsistency in units between NM and km must be noted in the check.

A/C CAT	IAS	AD+1000ft	K factor	TAS	R rate of turn	r Radius of turn	Straight Segment	R from THR	Bank Angle
A	100	3053	1.073643433	132.3643	3	0.701932123	0.3	1.703864247	20
B	135	3053	1.073643433	169.9419	2.338091857	1.156336329	0.4	2.712672658	25
C	180	3053	1.073643433	218.2558	1.820522774	1.907282731	0.5	4.314565462	VAR
D	205	3053	1.073643433	245.0969	1.621153434	2.405243601	0.6	5.410487202	

Output Data

Turn radius	
Wind velocity	
Radius from threshold	

Page 1 of 2





S/W Validation: PANS OPS Amendment 10 Criteria

1.1. Mitigation Measures

Risk control/mitigation measures should be developed to eliminate the potential hazard or to reduce the probability of the risk or the severity of the consequence if the risk is considered to be tolerable to a level acceptable to GACA.



Type of Activity	Generic Hazard	Specific components of the hazard	Hazard-related consequences	Existing defenses to control risk(s) and risk index	Additional action to reduce risk(s) and resulting risk index	Responsible
Instrument Flight Procedure Design	Deviation from new ICAO amendment 10 criteria for design of flight procedures.	HAZ-01: Design issue of Radius to Fix protection area.	Protection area design issue for PBN to xLS results in wrong obstacle evaluation.	Design manually the protection areas using FPDAM tools. Draw manually the protection areas of side surface using CAD tools and apply the correct methodology. Risk index: 3D Low risk	Extend XX OAS surfaces ATT prior the FAP WP. The side surfaces to continue beyond FAF WP. The primary edge of secondary areas stops at splay of 30° to LOC course. Apply the manual evaluation for Primary and Secondary protection areas. Risk index: 4D Low risk	UATS IFP director, Chief Designer and qualified designer, UATS safety Accountable.
Instrument Flight Procedure Design	Deviation from new ICAO amendment 10 criteria for design of flight procedures.	HAZ-02: Design issue of Missed approach criteria after xLS procedures.	Protection area design issue for PBN to xLS after MA results in wrong obstacle evaluation.	Manual design of the protection areas using FPDAM tools. Manual design using CAD tool and apply the side/flat-surface correct methodology. Risk index: 4D Low risk	Create surfaces using CAD tools to cover the missing portion of protection areas and surface extensions. Apply the manual evaluation for Primary protection areas or Secondary protection areas Risk index: 5D Low risk	UATS IFP director, Chief Designer and qualified designer, UATS safety Accountable.
Instrument Flight Procedure Design	Deviation from new ICAO amendment 10 criteria for design of flight procedures.	HAZ-03: Design issue of GBAS CAT II and III criteria.	GBAS CAT II and III protection areas cannot be evaluated for obstacles.	CAT II Design can be obtained by using ILS CAT. II values and a phantom ILS point. Risk index: 4D Low risk	Manual design using CAD tool for the side and flat-surfaces correct methodology. Risk index: 5D Low risk	UATS IFP director, Chief Designer and qualified designer, UATS safety Accountable.

Issue no.:

24-Nov-24



S/W Validation: EASA Safety Directive 2025-02

- Identifies a software error causing possible incorrect (too low) OCA/H on non-precision approaches.
- Directs NCAs and FPD providers to correct affected flight procedures and stop using the faulty software



Safety Directive
SD No.: 2025-02
Issued: 20 November 2025

Note: This Safety Directive (SD) is issued by EASA, acting in accordance with Art. 76(6)(b) of Regulation (EU) 2018/1139, reacting to an urgent safety problem.

Subject: Flight Procedure Design software used in the calculation of final approach minima for non-precision approaches

Effective Date: 25 November 2025
Supersedure: None

Applicability:
National Competent Authorities (NCAs) responsible for certification and oversight of Flight Procedure Design (FPD) service providers in accordance with Regulation (EU) 2017/373 and/or Air Traffic Services (ATS) providers who contract the services of FPD service providers.

Definitions:
“FPDAM”: Flight Procedure Design and Management (FPDAM) software, used for the Aeronautical Information Management (AIM) task of flight procedure design. This software is designed and provided by IDS AirNav.

OCA/H: Obstacle Clearance Altitude/Height.


SDF: Step Down Fix.

Affected service providers: Those FPD service providers who use the referenced software and those ATS providers who contract the services of an FPD service provider who uses the referenced software.

Reason:
The Dutch Competent Authority, ILT Aviation Authority, issued a safety directive in accordance with ATM/ANS.AR.A.030 of Annex II (Part-ATM/ANS.AR) to Regulation (EU) 2017/373 as an immediate

NPA (SDF in FINAL)	RED SEA AIRPORT	Published OCA	Current C.O location	SDF		Controlling Obst (Final SDF-THR)			Resulting OCA	Procedure ALT @ OBST	Observations
				Position	Altitude	Position	Elevation	MOC			
PUBLISHED	RNP RWY 15L	610'	Missed App	3NM from THLD	1170'	3.3NM from THLD	183.73'	246'	430'	1250'	OCA value of 610' is generated by Tower crane C.O located in MA segment. Hence, no impact.
	RNP RWY 33R	610'	Missed App	3NM from THLD	1170'	1NM from THLD	377.19'	79.15'	460'	540'	OCA value of 610' is generated by Tower crane C.O located in MA segment. Hence, no impact.
	VOR RWY 15L	600'	Final	3NM from THLD	1140'	3.1NM from THLD	398.12'	246'	600'	1174'	OCA value of 600' is safe and the C.O close to SDF is cleared by the descent plan. Hence, no impact.
NPA (FAF)	RED SEA AIRPORT	Published OCA (ft)	Current C.O location	FAF		Controlling Obst			Resulting MOCA	Procedure ALT @ OBST	Observations
				Position	Altitude	Position	Elevation	MOC			
PUBLISHED	RNP RWY 15L	610'	Missed App	5NM from THLD	1800'	5.2NM from THLD	452.41'	175.37'	630'	1848'	There is no impact on the published OCA, as sufficient clearance exists between the procedure altitude and the controlling obstacle + MOC, which can be disregarded as it is higher
	RNP RWY 33R	610'	Missed App	5.6NM from THLD	2000'	5.5NM from THLD	390.12'	246'	640'	1894'	
	VOR RWY 15L	600'	Final	5.7NM from THLD	2000'	5.4NM from THLD	479.55'	246'	730'	1818'	
	VOR RWY 33R	600'	Final	5.6NM from THLD	2000'	5.8NM from THLD	465.88'	231.65'	700'	2075'	
	LOC RWY 15L	570'	Final	5NM from THLD	1800'	4.7NM from THLD	387.14'	246'	640'	1871'	
	LOC RWY 33R	590'	Final	5.6NM from THLD	2000'	5.9NM from THLD	475.72'	246'	730'	2090'	

Quality Assurance – Documentation & Archiving

- United ATS delivers a complete flight procedure design package for the Client’s AIP submission.
- Submitted documentation thru Email & hyperlink to the Client including survey data, charts, maps, obstacles, design drawings, and explanation documents.
- Full IFPD design records — data verification, reports, amendments, validation, justification, promulgation, and maintenance — are retained for (at least) five (5) years after withdrawal.
- All archived design work is kept indefinitely, with unlimited long-term support.
- Electronic design files, charts, and documents are stored in the UATS-IFPD Project backup server 
- Weekly data backups are made to external storage and United ATS SharePoint.
- The qualified designer prepares all documentation; Chief Designer checks and approves it.
- A controlled document identification system is used, following QPM procedures.

- 00- Initiation
- 01- eAIP Package
- 02- Collection and Validation Data
- 03- Conceptual Design
- 04- Design Activities
- 05- Validation Activities
- 06- Stakeholder Endorsement
- 07- Regulator Approval
- 08- Draft Publication Package
- 09- Publication Acceptance
- 10- Published
- 11- IFP Register
- 12- IFP Maintenance
- 13- Supporting Doc

UATS Training Quality Assurance



Goal: Quality Assurance over Training ensures designers meet ICAO Doc 9906 Vol. II competency requirements.

Responsibility: (1) Chief Designer (content accuracy, resource planning) and (2) Q & S Manager (System Compliance)

Training Process

- Training ensures compatibility between QA requirements and trainee competency to meet ICAO quality standards.
- All types of IFPD training are interdependent and considered when planning optimal training paths (in-house: Training Department/ICAO TRAINAIR Plus).
- Course duration is based on a competency-based plan, with long courses split into shorter phases when needed.
- The annual training plan accounts for upcoming certificate renewal, resource growth by onboarding external or internal (development plan), and targeted skill enhancement to support expanding business demands—ranging from seaplane and helicopter visual procedures, HEL PinS and airspace studies for construction and new airport proposals.
- On-the-job training is essential, with its duration depending on initial training performance standards.

UATS Training Quality Assurance



Training Phases

- AB INITIO Training
- Initial Training
- On-Job Training (OJT)
- Advanced Training I.
- On-Job Training – Advanced I
- Advanced Training II
- On-the-Job Training – Advanced II
- Advanced Training III
- Recurrent Training
- Refresher Training (e.g., PANS OPS, V2 Amdt. 10)

ICAO References used in the Training

- Doc. 8168, Procedures for Air Navigation Services Aircraft Operations, Vol I & Vol. II *“Construction of Visual and Instrument Flight Procedures”*;
- Doc. 8697 *“Aeronautical Chart Manual”*;
- Doc. 9365 *“Manual of All-Weather Operations”*;
- Doc. 9613 *“Performance Based Navigation Manual”*;
- Doc. 9905 *“Required Navigation Performance Authorization Required (RNP AR)”*;
- Doc. 9906 *“Quality Assurance Manual for Flight Procedure Design”*, Vol II.



Training Record Methodology

Training records must be:

- Legible/readable, accurate, permanent, traceable
- Standardized (Forms UATS-FPD-F-TR..)
- Stored securely (electronic)
- Hyperlinks to Certificates and CVs to ensure traceability, expiration, etc.

IFPD Training Record

Note: The training record sheet includes links to all PANS-OPS individuals' resumes and their training certifications.

Name (Last, First, MI)	Date of Hiring KSA	Post Title	PANS OPS Status (Link to Res/Exam/Qual)	AB Initial/Initial PANS OPS		PANS OPS OIT		PANS OPS RECURRENT 1		Expiry Date (Link to Training Plan)	PANS OPS RECURRENT 2		Expiry Date (Link to Training Plan)	PANS OPS RECURRENT 3		Expiry Date (Link to Training Plan)			
Sergei Ivanov	01 Apr 24	IFP Chief Designer	Chief Designer	Initial For OTC Navigation	7 Nov 97					ICAO	15 Aug 24	14 Aug 27	United ATS	02 Oct 24	1 Oct 27				
Harold Hannon	01 Aug 22	Qualified Designer	Qualified Designer	EPC Training Academy	10 Jan 95	23 Jan 95													
Harold Hannon	01 Aug 22	Qualified Designer	Qualified Designer	EPC Training Academy	10 Jan 95	11 Feb 95	EPC	20 Apr 19	03 Jan 19	United ATS 2	01 Aug 22	03 Aug 22	2 Aug 25	ICAO	15 Aug 24	14 Aug 27	United ATS	02 Oct 24	1 Oct 27
Harold Hannon	04 Dec 21	AIR Manager	Qualified Designer	EPC Deutsche Flugsicherung	17 Nov 97	20 Nov 97													
Abdulkhamed Mughy	01 May 13	Qualified Designer	Qualified Designer	United ATS 1	23 Jan 18	5 Feb 18	United ATS 1	7 Mar 21	21 Jan 21	United ATS 2	25 Feb 21	25 Feb 21	24 Feb 24	ICAO	15 Aug 24	14 Aug 27	United ATS	02 Oct 24	1 Oct 27
Abdulla Hammad	01 May 13	Qualified Designer	Qualified Designer	United ATS 1	23 Jan 18	5 Feb 18	United ATS 2	7 Mar 21	21 Jan 21	United ATS 3	25 Feb 21	25 Feb 21	24 Feb 24	ICAO	15 Aug 24	14 Aug 27	United ATS	02 Oct 24	1 Oct 27
Yusef Mohammed Almasri	01 Jan 24	Qualified Designer	Qualified Designer	EPC	18 Oct 11														
Yusef Mohammed Almasri	01 Jan 24	Qualified Designer	Qualified Designer	EPC	21 Jan 10														
Yusef Mohammed Almasri	01 Jan 24	Qualified Designer	Qualified Designer	EPC	26 Nov 09														
Yusef Mohammed Almasri	01 Jan 24	Qualified Designer	Qualified Designer	EPC	18 Oct 13														
Yusef Mohammed Almasri	01 Jan 24	Qualified Designer	Qualified Designer	EPC	27 Jan 15	29 Jan 15	EPC	27 Jan 15	29 Jan 15	EPC	27 Jan 15	29 Jan 15	28 Jan 18	ICAO	15 Aug 24	14 Aug 27	United ATS	02 Oct 24	1 Oct 27
Yusef Mohammed Almasri	01 Jan 24	Qualified Designer	Qualified Designer	EPC	31 Dec 19	26 Dec 19	EPC	31 Dec 19	26 Dec 19	EPC	31 Dec 19	26 Dec 19	23 Dec 22	ICAO	15 Aug 24	14 Aug 27	United ATS	02 Oct 24	1 Oct 27
Yusef Mohammed Almasri	01 Jan 24	Qualified Designer	Qualified Designer	EPC	01 Feb 12	01 Dec 16	EPC	01 Feb 12	01 Dec 16	EPC	01 Feb 12	01 Dec 16	1 Dec 19	ICAO	15 Aug 24	14 Aug 27	United ATS	02 Oct 24	1 Oct 27

Excel Sheet

Note: The training record sheet includes links to all PANS-OPS individuals' resumes and their training certifications.



Training Record: IFPD Annual Plan (example)

UNITED ATS COMMITTED TO AVIATION EXCELLENCE														United for Aviation Technology Services الشركة المتحدة لخدمات تكنولوجيا الطيران	
PANS-OPS Team Annual Training Plan															
Year <u>2025</u>															
Course Title	Attendees Name	Training Authority	January	February	March	April	May	June	July	August	September	October	November	December	
GeoTTAN Software Training	Hamid Hamouni	United ATS													
	Abdalla Elsayed														
	Abdelhameed Magdy														
	Nayel Abdelaziz														
	Douha Diaa														
New GV tools package	Nayel Abdelaziz	United ATS													
Advanced PANS OPS II & III (Baro VNAV) and OJT	Abdalla Elsayed	United ATS													
	Abdelhameed Magdy														
	Osman Mostafa														
	Yasir Mohamed														
Advanced PANS I & II (Conv SID/STAR/IAPs) and OJT	Hamid Hamouni	United ATS													
Recurrent HEL PinS	Hamid Hamouni	United ATS													
	Osman Mostafa														
	Yasir Mohamed														
	Abdalla Elsayed														
CAD Tool Training	Abdelhameed Magdy	United ATS													
	Nayel Abdelaziz														
	Osman Mostafa														
	Yasir Mohamed														
	Douha Diaa														
	Ala' Ahmed														
	Abdel-Rahman Salhen														
	Malik Alghamdi														
	Refresher HEL PinS		Sorin-Dan Omitiu												
Safety Management System Training	Hamid Hamouni	United ATS													
	Abdalla Elsayed														
	Abdelhameed Magdy														
	Nayel Abdelaziz														
	Osman Mostafa														
	Yasir Mohamed														
	Douha Diaa														
	Ala' Ahmed														
	Abdel-Rahman Salhen														
Malik Alghamdi															
Initial PANS OPS	Abdel-Rahman Salhen	United ATS													
PANS-OPS OJT	Malik Alghamdi	United ATS													
	Douha Diaa														
	Ala' Ahmed														
	Advanced training for PANS OPS v2, Amdt. 10 "GeoTTAN Tool"		Osman Mostafa	CGX AERO											
	Yasir Mohamed														

Prepared by
[Signature]
Quality and Safety Manager

Reviewed by
[Signature]
IFP Chief Designer

Approval by
[Signature]
IFPD Director

UATS-IFPD-F-TR PL

Annual Plan Completion Rate: **81%**

UATS Training Quality Assurance



Example of Recurrent Training situation



Amendment 10

Amendment 10 of Doc 8168

to Doc 81

Objective: Recur
ame

Immediate Objectives

Condition: In the

❖ By the end of the course the trainee will be familiarized with Amdt. 10

Attendance: Qu

❖ Understand and Determine the differences to the current published criteria.

Scope: Updates of

Criteria: Based on



Data Integrity and Quality Requirements

- Before data enters the design process:
 - Must be validated against ICAO data quality requirements
 - If incomplete or low-quality → must be replaced or verified
 - Possible validation methods:
 - Comparison with control points
 - Buffers & tolerances
 - Survey confirmations
 - Cross-checking with certified data sources

UATS: The agreement sets UATS's role as Data Originator in supplying and maintaining accurate aeronautical and procedure data for SANS.


SANS: The agreement defines SANS's responsibility to manage, validate, and publish the data provided by UATS.



SANS: The agreement defines SANS's responsibility to manage, validate, and publish the data provided by UATS.

SANS Provided Services:

- In case of UATS IFP project, following data categories are delivered upon request:
 - Aerodrome Data
 - Airspace Data
 - Special Use Airspace
 - ATS Routes
 - Nav Aids
 - Obstacle Data
- Compliance with PANS AIM Aeronautical Data Set quality attributes
- AIXM format



AIM/ ATS United

Data Provision Agreement (DPA)

Between

SANS-AIM

&

United ATS

Edition	:	1.0
Date	:	January 2025
Status	:	Approved
Class	:	SANS/AIM

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UATS: The agreement sets UATS's role as Data Originator in supplying & maintaining accurate aeronautical and IFP data for SANS.

UATS Provided Services:

- ATS and IFPs data package (new or updated)
- Compliance with PANS AIM Aeronautical Data Set quality attributes
- All data submitted as AIXM files
- Draft Charts are quality checked and confirmed for publication.



Design: Obstacle & Terrain Cross-Analysis

- Obstacle clearance review is mandatory during GV and must be performed by an authorized designer not involved in the original design.
- GV verifies that controlling obstacles and all obstacles influencing the design are correctly identified, highlighted, and documented.
- In the Terrain & Obstacle context, GV package include:
 - Detailed obstacle & terrain mapping (plan view with obstacles, contours, and final approach obstacle evaluation template).
 - Minimum altitudes per segment derived from map studies and obstacle data.
- Pre-Flight Validation (part of GV) ensures:
 - Correct obstacle identification and evaluation.
 - Proper relationship between IFP design, terrain, obstacles, and segment MOCA.
- **KSA Vegetation Case Study:** To evaluate the application of vertical & horizontal tolerances in alignment with ICAO requirements.

4.1.3.8 Based on the **Case Study: Vertical Accuracy/Vegetation Tolerance to be Applied during IFP Design** conducted by United ATS and Best Survey Practices utilized by the Company, the following Vertical Buffers associated with the Terrain & Obstacle Digital Data will be added to the surveyed height as follows:



Type of Object	Vertical Buffer (m)
DTM	Survey Accuracy, but not less than 3m
DEM	Survey Accuracy, but not less than 3m
DSM	Survey Accuracy, but not less than 5m
SRTM	Survey Accuracy, but not less than 16m
Identified Vegetation Area 1 & 2 as part of DEM or DSM (compact area)	Penetration level + reported Survey Accuracy
Identified Vegetation Area 1 & 2 as obstacle (single tree, hedge, or small polygons technique – refer to paragraph 8.7)	Reported Survey Accuracy
Obstacles Area 1	Reported Survey Accuracy (see Note 1)
Obstacles Area 2 (including 2a, 2b, 2c, 2d, T/O flight path area & OLS)	Reported Survey Accuracy (see Note 1)
Obstacles Area 3	Reported Survey Accuracy (see Note 1)
Obstacles Area 4	Reported Survey Accuracy (see Note 1)



Quality Assurance – IFPD Development Process

Assignment, Work Order, Statement

<p>UNITED ATS COMMITTED TO AVIATION EXCELLENCE</p> <p>DESIGN AND DEVELOPMENT</p> <p>ORDER NUMBER: OERS-IFPD-2025-01 ORDER DATE: 20-Feb-25</p> <p>PROJECT NAME: IFPs Design Maintenance 2025 for Red Sea International Airport</p> <p>REQUIRED ACTION</p> <table border="1"> <thead> <tr> <th>Task Description</th> </tr> </thead> <tbody> <tr> <td>Complete maintenance work of OERS IFPs package based on</td> </tr> </tbody> </table> <p>ADDITIONAL COMMENTS</p> <p>The work will be collaborative between the two IFPD qualified experts. The expected date above is for finalization of the design itself (coordinate GV activity and draft Charts, respectively).</p> <p>Assigned BY: Sorin Dan Onitiu PRIORITY:</p> <p>LIST ALL INDIVIDUALS RESPONSIBLE FOR REVIEWING / PROOFING</p> <table border="1"> <tr> <td>Capt. Nayel Essa</td> <td>GV</td> </tr> <tr> <td>Mr. Yasser Mohamed</td> <td>Co</td> </tr> <tr> <td>Capt. Nayel Essa</td> <td>Co</td> </tr> </table> <p>WORK AUTHORIZED BY: Sorin Dan Onitiu</p> <p>DELIVERY SCHEDULE</p> <table border="1"> <thead> <tr> <th>WORK DESCRIPTION</th> <th>DATE DELIVERED</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> </tbody> </table> <p>WORK COMPLETED BY: DATE DELIVERED:</p> <p>Form Code: UATS-PPD-F-108 Ver. 03 Rev. 04 Dat</p>	Task Description	Complete maintenance work of OERS IFPs package based on	Capt. Nayel Essa	GV	Mr. Yasser Mohamed	Co	Capt. Nayel Essa	Co	WORK DESCRIPTION	DATE DELIVERED			<p>UNITED ATS COMMITTED TO AVIATION EXCELLENCE United for Aviation Technology Services شركة المتحدة لخدمات تكنولوجيا الطيران</p> <p>Date: 20-Feb-25</p> <p>Subject: Authorization and Delegation Letter</p> <p>Role: Maintenance IFPs 2025</p> <p>Project Name: Red Sea International Airport (OERS)</p> <p>Dear Mr. Hamid,</p> <p>I am writing to officially authorize and delegate you to perform maintenance work at Red Sea International Airport (OERS) according to UATS standards.</p> <p>For the overall task, you will be teaming with Mr. Abdelhameed Magdy.</p> <p>Many thanks for your constant commitment and I wish to see further improvements in this area.</p> <p>Sincerely,</p> <p>Sorin Dan Onitiu <i>[Signature]</i> IFPD Chief Designer</p> <p>United ATS</p> <p>Registered in KSA, Al Malqa District, Riyadh, office 102 Tel.: +966(0)1140681 email: info@unitedsa.com</p>	<p>UNITED ATS COMMITTED TO AVIATION EXCELLENCE United for Aviation Technology Services شركة المتحدة لخدمات تكنولوجيا الطيران</p> <p>IFPs Statement for Qualified Designers</p> <p>Date: 18-Nov-25</p> <p>Re: Compliance with GACAR Part 172 Appendix A II - Written Statement for Qualified Designers:</p> <p>I Sorin Dan Onitiu, in my capacity as the Chief Designer at United for Aviation Technology Services (United ATS), am writing to fulfill the requirements stipulated in GACAR Part 172 Appendix A II (d) regarding the provision of a written statement for our qualified designer, Mr. Abdelhameed Magdy.</p> <p>In accordance with the aforementioned regulation, I hereby provide the necessary information for Mr. Abdelhameed Magdy, who is engaged in the IFPs design of Mukamalah Airports (9 Airports) to validate the following types of procedures:</p> <table border="0"> <tr> <td>1- Pump Station 6 Airport (OEPF) types of Procedures:</td> <td>o RNP RWY 35</td> </tr> <tr> <td>o RNP RWY 17</td> <td></td> </tr> <tr> <td>2- Pump Station 10 Airport (OEPF) types of Procedures:</td> <td>o RNP RWY 36</td> </tr> <tr> <td>o RNP RWY 18</td> <td></td> </tr> <tr> <td>3- Shaibah Airport (OESB) types of Procedures:</td> <td>o RNP1 SID RWY 27</td> </tr> <tr> <td>o RNP RWY 09</td> <td>o RNP1 STAR RWY 09</td> </tr> <tr> <td>o RNP RWY 27</td> <td>o RNP1 STAR RWY 27</td> </tr> <tr> <td>o RNP1 SID RWY 09</td> <td></td> </tr> <tr> <td>4- Ras Tanura Airport (OERT) types of Procedures:</td> <td>o RNP RWY 33</td> </tr> <tr> <td>o RNP RWY 15</td> <td></td> </tr> <tr> <td>5- Ras Tanajib Airport (OETN) types of Procedures:</td> <td>o RNP1 SID RWY 33</td> </tr> <tr> <td>o RNP RWY 15</td> <td>o RNP1 STAR RWY 15</td> </tr> <tr> <td>o RNP RWY 33</td> <td>o RNP1 STAR RWY 33</td> </tr> <tr> <td>o RNP1 SID RWY 15</td> <td></td> </tr> <tr> <td>6- Harad Airport (OEHR) types of Procedures:</td> <td>o RNP RWY 34</td> </tr> <tr> <td>o RNP RWY 16</td> <td></td> </tr> <tr> <td>7- Al Hawtah Airport (OEHW) types of Procedures:</td> <td>o RNP RWY 33</td> </tr> <tr> <td>o RNP RWY 15</td> <td></td> </tr> <tr> <td>8- Pump Station 3 Airport (OEPK) types of Procedures:</td> <td>o RNP RWY 32</td> </tr> <tr> <td>o RNP RWY 14</td> <td></td> </tr> <tr> <td>9- Khurais Airport (OEKN) types of Procedures:</td> <td>o RNP RWY 34</td> </tr> <tr> <td>o RNP RWY 16</td> <td></td> </tr> </table> <p>These are the specific types of procedures for which Mr. Abdelhameed is approved to validate. Additionally, there are no limitations or supervision requirements applicable to Mr. Abdelhameed in his capacity as a validator, and he is not approved to supervise other design staff at this time.</p> <p>I have reviewed Mr. Abdelhameed's qualifications and confirm that he is a qualified designer as per the requirements outlined in GACAR Part 172 Appendix A II.</p> <p>This written statement is provided to you in compliance with the regulations, and I am available for any further inquiries or documentation that may be required to ensure compliance with GACAR Part 172.</p> <p>Sorin Dan Onitiu <i>[Signature]</i> IFPD Chief Designer</p> <p>Registered in KSA, Al Malqa District, Riyadh, Anas Ibn Malek St. 2992 Business Park, office 102 Tel.: +966(0)114068141, +966(0)540308855 and +966(0)545805452</p>	1- Pump Station 6 Airport (OEPF) types of Procedures:	o RNP RWY 35	o RNP RWY 17		2- Pump Station 10 Airport (OEPF) types of Procedures:	o RNP RWY 36	o RNP RWY 18		3- Shaibah Airport (OESB) types of Procedures:	o RNP1 SID RWY 27	o RNP RWY 09	o RNP1 STAR RWY 09	o RNP RWY 27	o RNP1 STAR RWY 27	o RNP1 SID RWY 09		4- Ras Tanura Airport (OERT) types of Procedures:	o RNP RWY 33	o RNP RWY 15		5- Ras Tanajib Airport (OETN) types of Procedures:	o RNP1 SID RWY 33	o RNP RWY 15	o RNP1 STAR RWY 15	o RNP RWY 33	o RNP1 STAR RWY 33	o RNP1 SID RWY 15		6- Harad Airport (OEHR) types of Procedures:	o RNP RWY 34	o RNP RWY 16		7- Al Hawtah Airport (OEHW) types of Procedures:	o RNP RWY 33	o RNP RWY 15		8- Pump Station 3 Airport (OEPK) types of Procedures:	o RNP RWY 32	o RNP RWY 14		9- Khurais Airport (OEKN) types of Procedures:	o RNP RWY 34	o RNP RWY 16		<p>UNITED ATS COMMITTED TO AVIATION EXCELLENCE United for Aviation Technology Services شركة المتحدة لخدمات تكنولوجيا الطيران</p> <p>(United ATS) Statement</p> <p>Mr. Abdelhameed Magdy's technical background has been reviewed, and you have successfully passed the assessment by the Chief Designer. This assessment has been reviewed in accordance with the requirements and you are eligible to continue as a qualified Procedure Designer and are eligible to design the following procedures:</p> <ol style="list-style-type: none"> APV/Baro VNAV Approach Procedure HEL RNP Approach Base turn (reversal) Racetrack (reversal) MSA (Conventional & RNAV). Conventional / RNAV / RNP Holding Procedures. VOR/DME with holding overhead procedure. <p>United ATS is committed to excellence in procedure design and look forward to your continued partnership.</p>
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Quality Assurance – IFPD Development Process

Concept Design: Aircraft Noise Mitigations (Sample at OERS)

To reduce the aircraft noise impact at Red Sea airport, UATS implements the following IFPs:

- RNP APCHs.
- RNP transitions to ILS.
- Conventional APCHs.

With application of:

- Speed limitations.
- Turns restriction.
- Circling restriction.

Omnidirectional Departures: Restricted earlier turns

OMNI 1A RWY 15L

Climb on the runway heading at or above 1000 ft then on track climbing to Enroute safety altitude/MSA.

Restrictions

No turns before DER are allowed. No right turns are allowed until passing 1000 ft.





Quality Assurance – IFPD Development Process

Ground Validation: UATS Flight Simulator

- Ground Validation is mandatory for every IFP, is conducted prior to any flight validation and performed by a designer independent of the original design, using the IFP Ground Validation Report.
- Ensures correct use of PANS-OPS criteria, data accuracy, coding integrity, and conformance with stakeholder expectations.
- **UATS In-house flight simulator** is forming an integral part of the validation process:
 - Import aerodrome and navigation data, prepare ARINC 424 coding, and load data into UATS FMS simulator.
 - Introduce IFP scenario in the internal simulator with a qualified Instructor Pilot to replicate operational execution.
 - Evaluate: Waypoint positions, P/Ts, course accuracy, altitude/speed constraints, segment transitions, turn anticipation, flight path predictability, PBN system performance using test database (when applicable).
 - Verify navaid coverage, aerodrome infrastructure requirements, obstacle clearance, and coding correctness.
 - Identify and document any deviations, with mitigations defined and applied before progressing to flight validation.
 - Evaluation of flyability in context of terrain and obstacle environment, especially for challenging areas.
- Validation results are documented as quality records and may trigger redesign and rechecking.

Quality Assurance – IFPD Development Process



Ground Validation: UATS Flight Simulator

Flight Simulation Report (Red Sea - ILS or LOC 33R)

Flight Simulation Report (Red Sea - ILS or LOC 33R)

Flight Simulation Path (Red Sea - ILS or LOC 33R)

FLIGHT SIMULATION EVALUATION CHECKLIST FIXED WING-IFP NON-RNAV

Date: 12-Feb-24

Validation Type: New Amended Procedure Airport: OERS
 Organisation: GACA Runway: 33R
 Procedure Title: ILS to LOC RWY 33R Evaluator's Name: Capt. Khaled Osman
 Location: HANAK PPR Specification: ILS

Item	Satisfactory		Comments
	Yes	No	
1. Flight inspection Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Provide simulator documentation			
a. FMS software User Manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. United ATS Right Tracker Tools User Manual.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Assessed faster and/or slower than charted.			
a. Descent Gradient	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. Climb Gradient	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
c. Check Altitudes Restrictions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4. Assessed Procedure			
a. Sequence of fixes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. Transition Route Identifier	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
c. Rec. Nav aids	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
d. Fix ident	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
e. Course Angle	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
f. Turn	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
g. Altitude Limit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
h. Speed Limit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
i. Distance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
j. Bearing and distance fix to fix	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
k. Role of the Fix	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Item	Satisfactory		Comments
	Yes	No	
d. Distance to runway at decision altitude/height or minimum descent altitude/height that is likely to be applied by operators.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
e. Evaluate the ability to execute a landing with normal maneuvering	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
f. Evaluate the proposed charting for correctness, clarity and ease of interpretation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
g. Evaluate TAWS warnings	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
h. Speed Restrictions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
i. Note the maximum bank angle achieved during any RF segments	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

8. Human Factors assessment

a. Cockpit Workload	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. Evaluate the IFP complexity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
c. Evaluate the ability to execute a landing with normal maneuvering.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
d. Any unique requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Remarks: NIL

Procedure: Pass Fail

Evaluator's Signature: *Khaled*





Quality Assurance – IFPD Development Process

Ground Validation: Calculation Routines

➤ United ATS has developed dedicated calculation routines that systematically document all ground-validation checks performed during the procedure design process enhancing accuracy, repeatability, and the overall quality assurance.

Descent Gradient (NPA PBN APCH) Review			
<i>ILS Y RWY 15L</i>			
FROM Waypoint	TO Waypoint	Distance (NM)	Published Distance
KULKI (IAF)	RS115	9.30	9.3
RS115	RS195	10.02	10.0
RS195	DEMBI (IAF)	6.00	6.0
DEMBI (IAF)	RS012	5.01	5.0
RS012	RS011 (IF)	5.01	5.0
RS011 (IF)	LUDUR (FAP)	5.03	5.0
LUDUR (FAP)	THR RWY 15L	5.05	5.0
ORGIM (IAF)	TUGRU	23.31	23.3
TUGRU	RS011 (IF)	8.44	8.4
THR RWY 15	RS880	8.02	8.0
RS880	RS515	10.28	10.3
RS515	OBSEG (MAHF)	13.35	13.3
OBSEG (MAHF)	RS790	10.02	10.0

EVIDENCE

[Calculation / Document](#)

UNITED ATS
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United for Aviation Technology Services
الشركة المتحدة لخدمات تكنولوجيا الطيران

HANAK / Red Sea Intl (OERS)

ILS Y RWY 15L

- KULKI (IAF) to RS115

Distance and Bearing Calculator

Enter the WGS-84 coordinates in Degrees, Minutes, and Seconds (DMS) to calculate the distance and bearing.

Point of Origin			Point of Destination				
Latitude	25	48	14.0	Latitude	25	50	10.0
Longitude	037	18	45.0	Longitude	037	08	45.0

Calculate

Results
Distance: 9.30 NM
Initial Bearing: 282.64°

- RS115 to RS195

Distance and Bearing Calculator

Enter the WGS-84 coordinates in Degrees, Minutes, and Seconds (DMS) to calculate the distance and bearing.

Point of Origin			Point of Destination				
Latitude	25	50	10.0	Latitude	25	58	52.4
Longitude	037	04	45.0	Longitude	036	58	55.3

Calculate

Results
Distance: 10.02 NM
Initial Bearing: 328.97°

Registered in KSA, Al Quba District, Riyadh, Anas Ibn Malek St. 2952 Business Park, office102

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United for Aviation Technology Services
الشركة المتحدة لخدمات تكنولوجيا الطيران

- RS195 to DEMBI (IAF)

Distance and Bearing Calculator

Enter the WGS-84 coordinates in Degrees, Minutes, and Seconds (DMS) to calculate the distance and bearing.

Point of Origin			Point of Destination				
Latitude	25	58	52.4	Latitude	25	55	45.1
Longitude	036	58	58.2	Longitude	036	53	14.7

Calculate

Results
Distance: 6.00 NM
Initial Bearing: 238.64°

- DEMBI (IAF) to RS012

Distance and Bearing Calculator

Enter the WGS-84 coordinates in Degrees, Minutes, and Seconds (DMS) to calculate the distance and bearing.

Point of Origin			Point of Destination				
Latitude	25	55	45.1	Latitude	25	51	23.8
Longitude	036	53	14.7	Longitude	036	56	03.2

Calculate

Results
Distance: 5.01 NM
Initial Bearing: 148.80°

Registered in KSA, Al Quba District, Riyadh, Anas Ibn Malek St. 2952 Business Park



Quality Assurance – IFPD Development Process

Maintenance: Consolidated Summary of the Process

- United ATS maintains all custodial IFPs whenever data, PANS OPS criteria/regulatory changes, MV, stakeholder inputs, errors, or ≤5-year cycle require updates.
- Each IFP has an assigned qualified designer who monitors it continuously, checks AIRAC differences, records discrepancies, and validates all relevant data before updating.
- Updated work files and reports are stored on the IFPD server, with all actions logged in the IFP Register and shared with AIM (SANS).
- SRAs are performed for any issues, with critical safety errors immediately reported to GACA and AIM/NOF for action.
- Ground validation is required for all updates; flight validation is done when required by GACAR 172, followed by coordination with GACA/AIM (SANS) for publication.





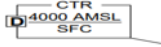
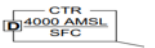
Quality Assurance – IFPD Development Process

Maintenance: Post Publication review

- Designers must review each custodian IFP every AIRAC cycle, identify any differences from the submitted versions, and record all discrepancies.

- Post-publication activities aim to:
 - (1) detect errors in the published procedure,
 - (2) identify any issues arising during publication.

- In the event of post-publication errors (#1 above), United ATS must report them, assess the safety impact, implement corrective actions, and issue any required NOTAM or AIP updates.

RNP RWY 20R		
ID	UATS Version for Publication	Published Version (SANS)
1		The obstacle that affects the IF was removed
2		CTR and related information box was removed
RNP RWY 20L		
ID	UATS Version for Publication	Published Version (SANS)
1	SN101-SN096 segment length is 6.0NM in tabular data	SN101-SN096 segment length is 6.6NM in tabular data
2	MAX IAS 230 kt in MISSED APPROACH text	Changed to be MAX IAS 210 kt.in MISSED APPROACH text
3		CTR CTR information box is removed
RNP RWY 02L		
ID	UATS Version for Publication	Published Version (SANS)
1		CTR and related information box was removed
RNP RWY 02R		
ID	UATS Version for Publication	Published Version (SANS)



Maintenance: Annual & 5-year Plans

UATS Maintenance Plan for IFP Design

Date: 01-Jan-25

Airport Name: Red Sea International Airport / RSI-OERS

Ser.	Procedure Name	2025	
		1 st QRT	2 nd QRT
1	RNP APCH 15L		
2	RNP APCH 33R		
3	OMNI DEP RWY 15L		
4	OMNI DEP RWY 33R		
5	ILS Y RWY 15L		
6	ILS Y RWY 33R		
7	ILS or LOC Z RWY 15L		
8	ILS or LOC Z RWY 33R		
9	VOR Rwy 15L		
10	VOR Rwy 33R		

UATS Five Year Plan for IFP Design

Date: 01-Jan-25

Airport Name: Red Sea International Airport / RSI-OERS

Year: 2025-2029

Ser.	Procedure Name	2025				2026				2027				2028				2029				
		1 st QRT	2 nd QRT	3 rd QRT	4 th QRT	1 st QRT	2 nd QRT	3 rd QRT	4 th QRT	1 st QRT	2 nd QRT	3 rd QRT	4 th QRT	1 st QRT	2 nd QRT	3 rd QRT	4 th QRT	1 st QRT	2 nd QRT	3 rd QRT	4 th QRT	
1	RNP APCH 15L																					
2	RNP APCH 33R																					
3	OMNI DEP RWY 15L																					
4	OMNI DEP RWY 33R																					
5	ILS Y RWY 15L																					
6	ILS Y RWY 33R																					
7	ILS or LOC Z RWY 15L																					
8	ILS or LOC Z RWY 33R																					
9	VOR Rwy 15L																					
10	VOR Rwy 33R																					
11	SID Conv (VOR)																					
12	STAR Conv (VOR)																					

IFPD Scheduled Maintenance

IFPD Scheduled Maintenance

Initial IFPD

Obstacle Assessment Resurvey

Actual

IFP Chief Designer

Sorin-Dan Onitiu

Signature

IFP Chief Designer

Signature

IFP Director

Signature

Quality Assurance – IFPD Development Process



Regulatory Environment: Monitoring Obstacles Restrictions & Removal

Under GACA Part 172, UATS—as the Terminal IFP custodian—must provide Aerodrome Operators with the required data, information, and drawings for the aerodrome area.

Under GACAR Part 139, an Aerodrome Operator must monitor any object or structure that may infringe the OLS and PANS-OPS airspace, respectively associated with the published IFPs.

As a supportive service of UATS, a DPA is formalized & established with the AO of Red Sea International airport (OERS): 

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4. ATTACHEMENTS

Attachment A: List of Files and Features Guidance

1. List of Files

KMZ FILE NAME	DESCRIPTION
ILS Y RWY 15L	RNP to ILS RWY 15L IFP
ILS Y RWY 33R	RNP to ILS RWY 33R IFP
ILS Z or LOC RWY 15L	ILS or LOC RWY 15L IFP
ILS Z or LOC RWY 33R	ILS or LOC RWY 33R IFP
VOR RWY 15L	VOR RWY 15L IFP
VOR RWY 33R	VOR RWY 33R IFP
RNP RWY 15L	RNP RWY 15L IFP
RNP RWY 33R	RNP RWY 33R IFP
OLS	Obstacle Limitation Surfaces

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daa
International

Data Provision Arrangement (DPA)

Between

United for Aviation Technology Services (United ATS), KSA

&

DAA International (DAAi) – Red Sea International Airport

Edition : 1.0
 Date : December 2024
 Status : Approved
 Class : UATS/IFPD

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United for Aviation Technology Services
(United ATS)

Thank You

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