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Twenty-First Meeting of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG/21) and Eleventh Meeting of the Regional Aviation Safety Group-Middle East (RASG-MID/11) (Abu Dhabi, UAE, 4 - 8 March 2024)

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GENERAL COMPANY FOR AIRPORTS AND AIR NAVIGATION ADMINISTRATION

Achievements/ Success Stories and Challenges

Outline

- GCANS BECAME GCAAN
- Airspace and ATM enhancements projects
- Contingency Plan.
- ATFM achievement.
- SAR.
- IRAQ Recent CNS Updates.
- AIS.
- ATCOs Training and Local and International LOAs and Documentation.
- GPS Spoofing

GCANS Changed to GCAAN

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After the DECISION of the Iraqi Council of Ministers to link Iraqi airports with GCANS the name of the company became GCAAN (GENERAL COMPANY FOR AIRPORTS AND AIR NAVIGATION ADMINISTRATION) and the company became responsible for providing air navigation services and management for Iraqi airports as well.

Airspace and ATM enhancements projects

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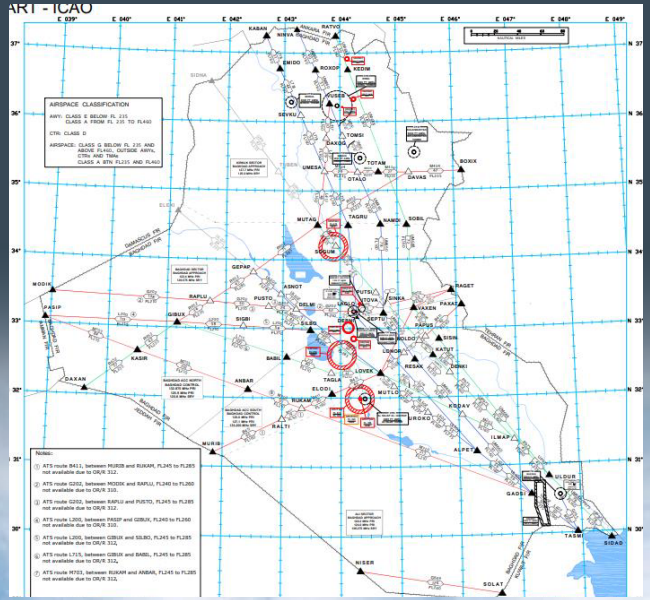
Baghdad FIR consists of two main ACC sectors: North and South sectors.

Baghdad FIR consists of three approach sectors: Kirkuk, Baghdad, and Ali



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Sectorization

-Baghdad Area Control Center (has established high-low sectors in Both north and south, are adjusted four times daily to align with the Predominant traffic

-This sectorization plan is designed to facilitate efficient and safe Traffic flow and all staff were briefed on how to implement it in response to Any un-anticipated increase in traffic.

Reduction of longitudinal separation between ACCs

-GCAAN aims to reduce the longitudinal separation with Ankara ACC to less than 20 NM.

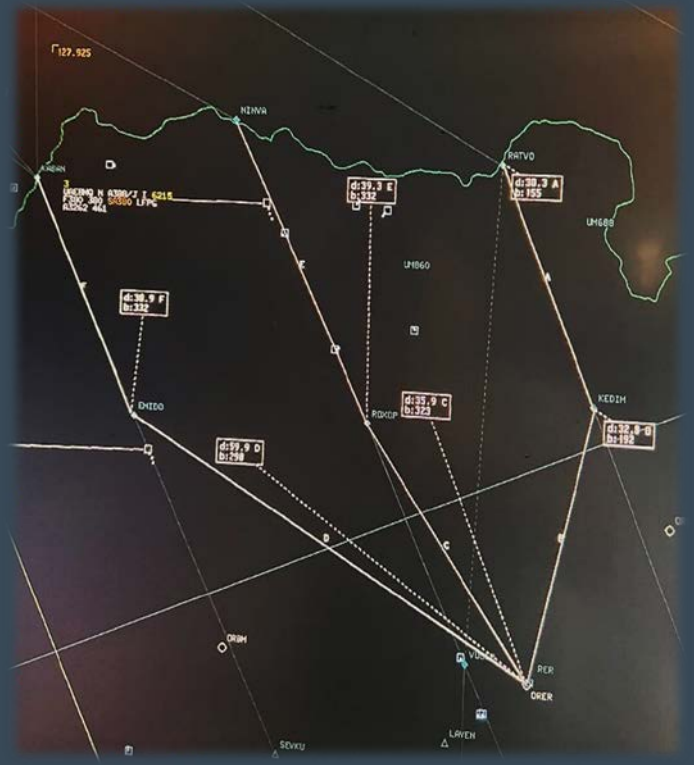
-The Negotiations with Ankara are still in progress to Achieve This objective, which represents an initial step towards facilitating Outbound traffic from Kuwait.

➢ ATM Concerns Related To ANKARA Restrictions And New Routes With Kuwait

- The distance from RATVO to ORER is approximately 63 NM, but aircraft inbound ORER are flying at high levels following the published route RATVO UM688 KEDI M DCT RER may experience a sharp descent.

- Distance from ORER to NI NVA is approximately 75 NM along the published route RER DCT ROXOP UM860 NI NVA, which requires another sharp climb for traffic outbound ORER.

- Distance from ORER to KABAN is approximately 90 NM along the published route RER DCT EMI DO L718 KABAN, which also involves another sharp climb.



➢ ATM Concerns Related To ANKARA Restrictions And New Routes With Kuwait

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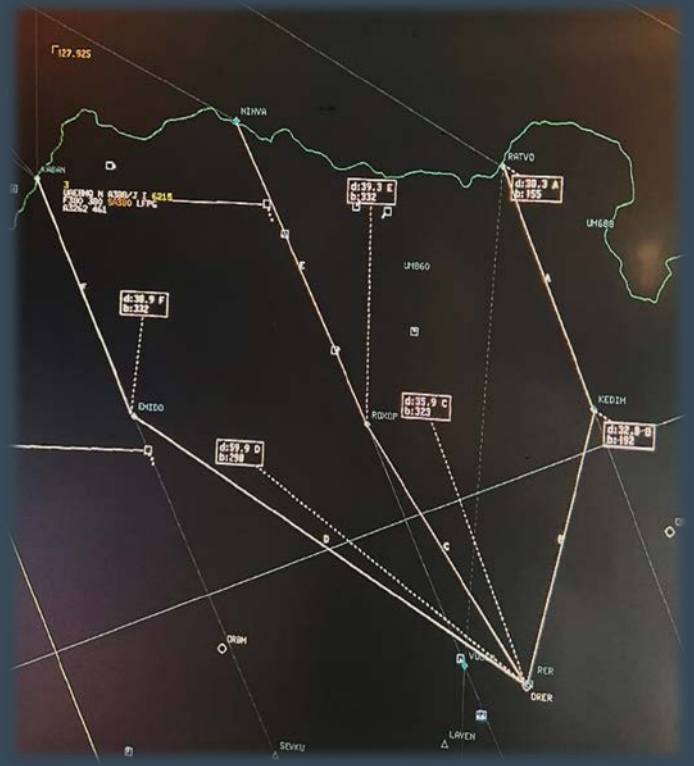
- Ankara has restricted traffic entering or exiting Baghdad FIR.
- Traffic at NINVA or KABAN cannot fly below FL340, while flights at RATVO must be at or higher than FL 330.
- These restrictions pose significant challenges to providing better services in the FIR.
- However, we hope that Ankara will reconsider these restrictions to improve air traffic services in the area.
- Additionally, GCAAN is currently participating with MIDFPP to seek the necessary support and push forward with the proposal to create two new routes in cooperation with Kuwait.



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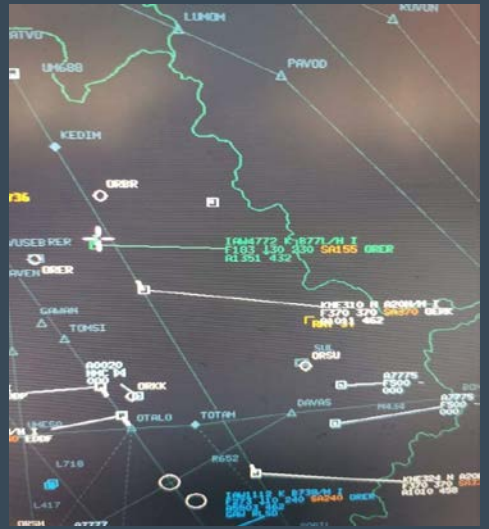
ED BEFORE CURRENT SECTOR
OTKEP
127.925
NINVA
KABAN
RATVO
KEDIM
EMIDO
ROXOP
ORBM
ORTF
VUSEB
RER
SEVKU
ORQW
RWY 36
d:32.6 A
b:331 t:02:53


LUMOM
PAVOD
UM688
KEDIM
ORBR
VUSEB
RER
ORER
TOMSI
ORSU
ORKK
OTALO
TOTAM
DAWAS

127.925
NINVA
KABAN
RATVO
UM688
UM860
EMIDO
ROXOP
VUSEB
SEVKU
LAVEN
RWY 36

➢ Military Areas

- OR/ R602 yellow area has undergone changes, with a reduction of its dimensions and a shift of the northeast point by 14NM towards the southwest.
- The vertical limits, however, remain unchanged.
- The military has provided GCAAN the exact latitude and longitude coordinates for these changes to be applied.

➢ Military Areas

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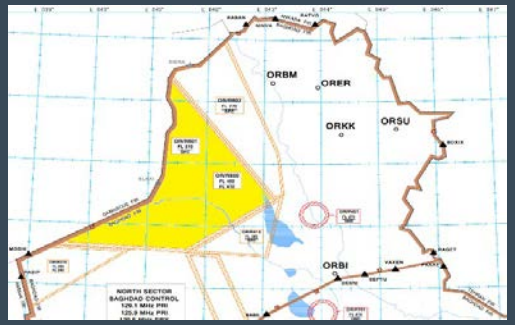
- OR/ R600, OR/ R602, OR/ R414 AND OR/ R309 AREAS.
  - GCAAN ATM successfully negotiated with the military to decrease the vertical limits and dimensions of military areas OR/ R600, OR/ R602, OR/ R414, and OR/ R309 to increase airspace efficiency.
  - These changes will be published in I RAQ AI P once the military signs the final draft.



  - OR/ R600
    - Upper levels: - RED 1 no changes. OR/ R600 (FL410-460): Retain, but now require 24 hours of advanced coordination with ATC to use.
    - Lower levels: - RED 2 vertical limits decreased from FL310 to FL300.

➢ Military Areas

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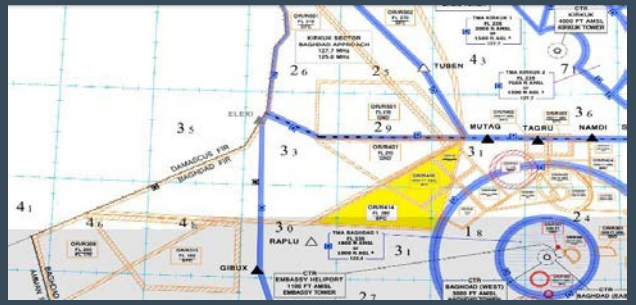
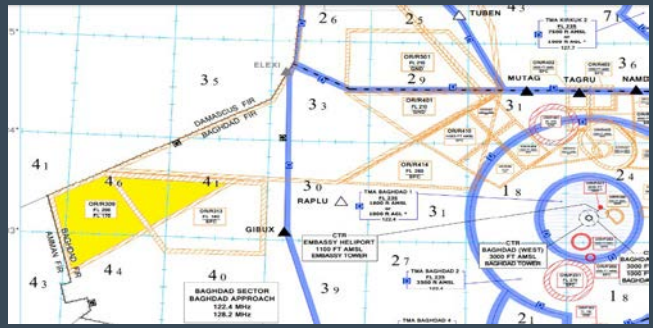
- OR/ R414 ARCHER: The dimensions of OR/ R414 ARCHER have been reduced with northeast point shifting 5 NM towards the southwest.

However, still, no changes to the vertical limits.



- OR/ R309 TOPCAT LOW -lower levels Vertical limits decreased from FL170-200 to FL160-190.



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National Contingency Plan, and relevant Letter of Agreements

GCAAN has recently revised its draft of the airspace contingency plan and is currently awaiting evaluation and endorsement from the ICAA. Once the plan has been endorsed, it will be incorporated into the national contingency plan issued by the ICAA. The first section of the plan provides guidelines for disaster management, with an emphasis on prioritizing the safety of individuals and safeguarding property. Developing an emergency response plan is a crucial element of the contingency plan.

1. Emergency Notification System.
2. Evacuation: Establish clear evacuation procedures.
3. Continuity of Operations.
4. Communication with Stakeholders.
5. Notification of Rescue Coordination Centers.

ATFM Achievements

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Reference to the ICAO provisions related to ATFM and in particular the mandate for the determination of ATS capacity and the establishment of ATFM services to contribute to a safe, orderly, and expeditious flow of air traffic and to support ATFM cross-border collaboration.

Iraq was able to

- Build up Sector capacity for the part of AREA CONTROL CENTER as follows;

- Start ATFM daily plan (ADP) and CDM teleconferences.
- Predict the En-route traffic.
- Apply ATFM measures reference to actual traffic.
- Put ATFM role and job description
- Put ATFM training plan and basic course calculations.
- Start the steps to implement the Flexible use of airspace (FUA)
- RVSM Monitoring; IRAQ set all the necessary data related to the Middle East Regional Monitoring Agency (MIDRMA) has been provided as per the outcomes sent earlier by MID Air Navigation Planning and Implementation Regional Group, and monthly data is being shared with MIDRMA as well.

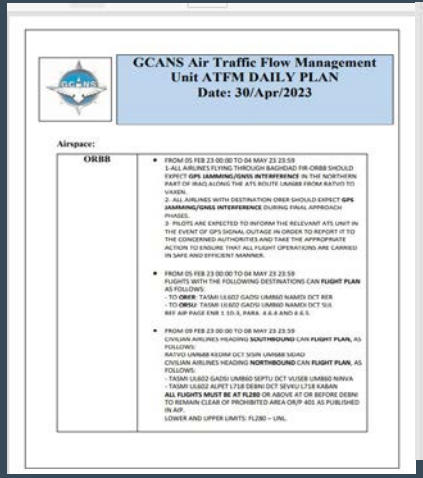
❖ ATFM unit of GCAAN has accomplished several tasks, including

A. Calculating sector capacity: The unit has determined the maximum number of aircraft that can be safely accommodated in each sector of Iraq airspace.

sector	Calculated capacity
North combined	27
South combined	26

❖ATFM unit of GCANS has accomplished several tasks, including

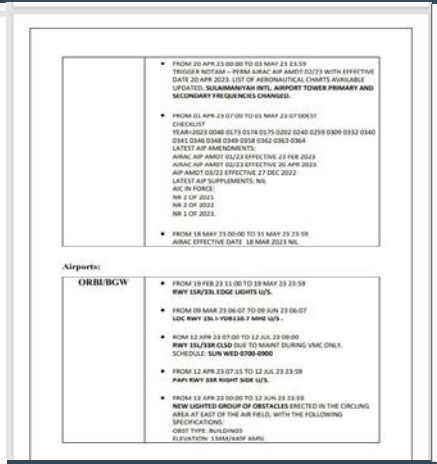
B. Starting the ATFM daily plan (ADP): The unit has developed a daily plan for air traffic flow management (ATFM), which takes into account factors such as airspace updates, airport updates, and expected demand.



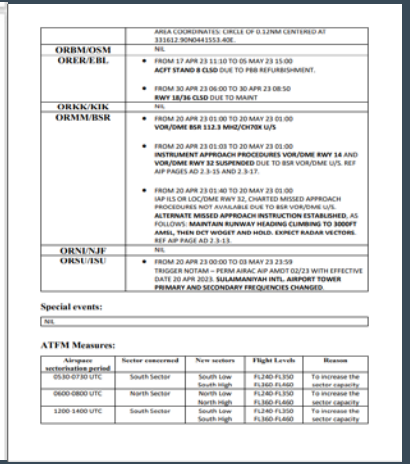
GCANS Air Traffic Flow Management
Unit ATFM DAILY PLAN
Date: 30/Apr/2023

Airspace:

ORBB	• FROM 05 FEB 23 00:00 TO 04 MAY 23 23:59 1-ALL AIRLINES FLYING THROUGH BAGHDAD FIR-ORBB SHOULD EXPECT **GPS JAMMING/GNSS INTERFERENCE** IN THE NORTHERN PART OF IRAQ ALONG THE ATS ROUTE UM688 FROM RATVO TO VAKEN. 2- ALL AIRLINES WITH DESTINATION ORER SHOULD EXPECT **GPS JAMMING/GNSS INTERFERENCE** DURING FINAL APPROACH PHASES. 3- PILOTS ARE EXPECTED TO INFORM THE RELEVANT ATS UNIT IN THE EVENT OF GPS SIGNAL OUTAGE IN ORDER TO REPORT IT TO THE CONCERNED AUTHORITIES AND TAKE THE APPROPRIATE ACTION TO ENSURE THAT ALL FLIGHT OPERATIONS ARE CARRIED IN SAFE AND EFFICIENT MANNER. • FROM 05 FEB 23 00:00 TO 04 MAY 23 23:59 FLIGHTS WITH THE FOLLOWING DESTINATIONS CAN **FLIGHT PLAN** AS FOLLOWS: - TO **ORER**: TASMI UL602 GADSI UM860 NAMDI DCT RER - TO **ORSU**: TASMI UL602 GADSI UM860 NAMDI DCT SUL REF AIP PAGE ENR 1.10.3, PARA. 4.6.4 AND 4.6.5. • FROM 09 FEB 23 00:00 TO 08 MAY 23 23:59 CIVILIAN AIRLINES HEADING **SOUTHBOUND** CAN **FLIGHT PLAN**, AS FOLLOWS: RATVO UM688 KIDRM DCT SISIN UM688 SIDAD CIVILIAN AIRLINES HEADING **NORTHBOUND** CAN **FLIGHT PLAN**, AS FOLLOWS: - TASMI UL602 GADSI UM860 SEPTU DCT VUSEB UM860 NINVA - TASMI UL602 ALPET L718 DEBNI DCT SEVKU L718 KABAN **ALL FLIGHTS MUST BE AT FL280** OR ABOVE AT OR BEFORE DEBNI TO REMAIN CLEAR OF PROHIBITED AREA OIP 401 AS PUBLISHED IN AIP. LOWER AND UPPER LIMITS: FL280 – UNL.



	• FROM 20 APR 23 00:00 TO 03 MAY 23 23:59 TRIGGER NOTAM – PERM AIRAC AIP AMDT 02/23 WITH EFFECTIVE DATE 20 APR 2023. LIST OF AERONAUTICAL CHARTS AVAILABLE UPDATED: **SULAIMANIYAH INTL. AIRPORT TOWER PRIMARY AND SECONDARY FREQUENCIES CHANGED.** • FROM 01 APR 23 07:00 TO 01 MAY 23 07:00EST CHECKLIST YEAR=2023 0048 0173 0174 0175 0202 0240 0259 0309 0332 0340 0341 0346 0348 0349 0358 0362 0363 0364 LATEST AIP AMENDMENTS: AIRAC AIP AMDT 01/23 EFFECTIVE 23 FEB 2023 AIRAC AIP AMDT 02/23 EFFECTIVE 20 APR 2023 AIP AMDT 03/22 EFFECTIVE 27 DEC 2022 LATEST AIP SUPPLEMENTS: NIL AIC IN FORCE: NR 2 OF 2021 NR 2 OF 2022 NR 1 OF 2023. • FROM 18 MAY 23 00:00 TO 31 MAY 23 23:59 AIRAC EFFECTIVE DATE 18 MAR 2023 NIL.
Airports:	
ORBI/BGW	• FROM 19 FEB 23 11:00 TO 19 MAY 23 23:59 **RWY 15R/33L EDGE LIGHTS U/S.** • FROM 09 MAR 23 06:07 TO 09 JUN 23 06:07 **LOC RWY 15L I-YDB110.7 MHZ U/S .** • ROM 12 APR 23 07:00 TO 12 JUL 23 08:00 **RWY 15L/33R CLSD** DUE TO MAINT DURING VMC ONLY. SCHEDULE: **SUN WED 0700-0900** • FROM 12 APR 23 07:15 TO 12 JUL 23 23:59 **PAPI RWY 33R RIGHT SIDE U/S.** • FROM 13 APR 23 00:00 TO 12 JUN 23 23:59 **NEW LIGHTED GROUP OF OBSTACLES** ERECTED IN THE CIRCLING AREA AT EAST OF THE AIR FIELD, WITH THE FOLLOWING SPECIFICATIONS: OBST TYPE: BUILDING5 ELEVATION: 134M/439F AMSL



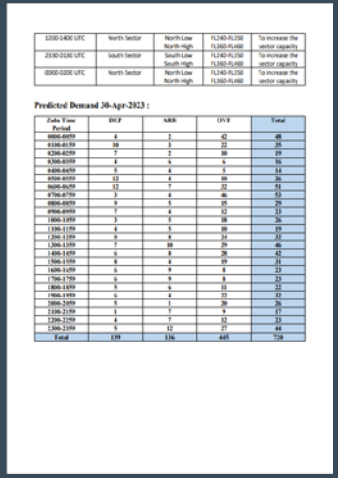
	AREA COORDINATES: CIRCLE OF 0.12NM CENTERED AT 331612.90N0441553.40E.
ORBM/OSM	NIL
ORER/EBL	• FROM 17 APR 23 11:10 TO 05 MAY 23 15:00 **ACFT STAND 8 CLSD** DUE TO PBB REFURBISHMENT. • FROM 30 APR 23 06:00 TO 30 APR 23 08:50 **RWY 18/36 CLSD** DUE TO MAINT
ORKK/KIK	NIL
ORMM/BSR	• FROM 20 APR 23 01:00 TO 20 MAY 23 01:00 **VOR/DME BSR 112.3 MHZ/CH70X U/S** • FROM 20 APR 23 01:03 TO 20 MAY 23 01:00 **INSTRUMENT APPROACH PROCEDURES VOR/DME RWY 14** AND **VOR/DME RWY 32 SUSPENDED** DUE TO BSR VOR/DME U/S. REF AIP PAGES AD 2.3-15 AND 2.3-17. • FROM 20 APR 23 01:40 TO 20 MAY 23 01:00 IAP ILS OR LOC/DME RWY 32, CHARTED MISSED APPROACH PROCEDURES NOT AVAILABLE DUE TO BSR VOR/DME U/S. **ALTERNATE MISSED APPROACH INSTRUCTION ESTABLISHED**, AS FOLLOWS: **MAINTAIN RUNWAY HEADING CLIMBING TO 3000FT AMSL, THEN DCT WOGET AND HOLD. EXPECT RADAR VECTORS.** REF AIP PAGE AD 2.3-13.
ORNI/NJF	NIL
ORSU/ISU	• FROM 20 APR 23 00:00 TO 03 MAY 23 23:59 TRIGGER NOTAM – PERM AIRAC AIP AMDT 02/23 WITH EFFECTIVE DATE 20 APR 2023. **SULAIMANIYAH INTL. AIRPORT TOWER PRIMARY AND SECONDARY FREQUENCIES CHANGED.**

Special events:

NIL

ATFM Measures:

Airspace sectorisation period	Sector concerned	New sectors	Flight Levels	Reason
0530-0730 UTC	South Sector	South Low South High	FL240-FL350 FL360-FL460	To increase the sector capacity
0600-0800 UTC	North Sector	North Low North High	FL240-FL350 FL360-FL460	To increase the sector capacity
1200 1400 UTC	South Sector	South Low South High	FL240-FL350 FL360-FL460	To increase the sector capacity



1200-1400 UTC	North Sector	North Low North High	FL240-FL350 FL360-FL460	To increase the sector capacity
2330-0330 UTC	South Sector	South Low South High	FL240-FL350 FL360-FL460	To increase the sector capacity
0300-0200 UTC	North Sector	North Low North High	FL240-FL350 FL360-FL460	To increase the sector capacity

Predicted Demand 30-Apr-2023 :

Zulu Time Period	DEP	ARR	OVF	Total
0000-0059	4	7	42	48
0100-0159	10	3	22	35
0200-0259	7	2	10	19
0300-0359	4	6	6	16
0400-0459	6	4	4	14
0500-0559	12	4	10	26
0600-0659	12	7	32	51
0700-0759	3	4	46	53
0800-0859	9	5	15	29
0900-0959	7	4	12	23
1000-1059	3	5	18	26
1100-1159	4	5	10	19
1200-1259	6	8	14	32
1300-1359	7	10	29	46
1400-1459	6	8	28	42
1500-1559	8	4	19	31
1600-1659	6	9	8	23
1700-1759	6	9	8	23
1800-1859	6	6	10	22
1900-1959	6	4	23	33
2000-2059	5	1	20	26
2100-2159	1	2	9	12
2200-2259	4	7	12	23
2300-2359	6	12	27	44
Total	**139**	**136**	**465**	**738**

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C- Established CDM teleconferences: Collaborative Decision Making (CDM) teleconferences have been initiated by the ATFM unit with the relevant stakeholders to share information and coordinate actions for improving the efficiency of air traffic management.

D- Predicting the En-route traffic: The ATFM unit uses advanced tools (programmed in python) to predict the expected airspace traffic flow, which helps manage capacity and demand.

E- Applying ATFM measures with reference to actual traffic: The unit applies ATFM measures such as sector split, and re-routing based on the actual traffic conditions to ensure the safe and efficient flow of air traffic.

F- Defining ATFM role and job description: The unit has defined the roles and responsibilities of the ATFM staff and developed job descriptions for each position.

G- Developing an ATFM training plan and basic course: The ATFM unit has designed a training plan and a basic course for the staff to ensure they are equipped with the necessary skills and knowledge to carry out their duties effectively.

H- Initiating the steps to implement the Flexible Use of Airspace (FUA):

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- The ATFM unit has started the process of implementing the FUA concept, which aims to optimize the use of airspace by allowing more flexible and dynamic use of airspace by civil and military users. (On request).
- Airspace is no longer designated as purely "civil" or "military" airspace but is considered as one continuum and allocated according to user requirements.
- Introducing changes through intensive, close collaboration with the military side, several dangerous and prohibited areas have been made available upon request while the vertical limits of other areas have been lowered to enhance airspace efficiency.
- The FUA manual was developed based on the guidelines outlined in the ICAO Document 9750.

SEARCH AND RESCUE

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➢ Brief History

- Following the year 2003, all documentation and records about search and rescue services were lost, resulting in Iraq having to rebuild its search and rescue services from scratch.
- Work began at a slow pace due to the involvement of reestablishing ATS service in the country.
- Finally. ARCC was established and was well equipped, then work started to accelerate.

➢ Progress

- After establishing the ARCC, coordination with the Iraqi military began, and several meeting committees were established to provide assistance and collaboration in case of air disasters and exercises.
- The Iraqi military has highly skilled search and rescue teams, well-equipped centers, and well-defined procedures.
- Moreover, they regularly conduct large-scale exercises twice a year and have successfully executed multiple CSAR operations.

SEARCH AND RESCUE

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After the coordination effort with the military, we had access to:

1) direct line with **JOC.**
2) direct line with the **Air Force** command center.
3) Direct line with the **army aviation** command center.
4) direct lines with **NAVY** command center. Also, part of the agencies cooperating was **CIVIL DEFENCE**, and we also have a direct line with the **CD's** command center.

Work is in progress to develop **SAR MANUAL** and **NATIONAL SAR PLAN.**

The **ARCC** was established in the General Company for Air Navigation Services **(GCAAN)** building in a position very close to **BACC** and **APP** centers. Lines

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SEARCH AND RESCUE (SAR)

The Aeronautical Rescue Coordination Center (ARCC) is equipped with the following equipment

1) Automation system (Radar and Assist Positions)
2) **AMHS** station.
3) **COSPAS-SARSAT** service.
4) Aeronautical and land communication means.

-ARCC has full **VHF** air band monitor capability plus it has some **UHF** capability (for military aircraft).

- Standard landlines plus mobile comms.

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IRAQ Recent CNS Update

1. Upgrading GCAAN Aeronautical Telecommunications Network (ATN)
   - The Network connects the main Air Traffic Control Center with local Airports, VHF sites, RADAR sites, and all the neighboring countries.
   - Using MPLS routing protocol.
   - Modernize all network and security equipment.
   - Provide VOIP communications with all sites.

IRAQ Recent CNS Update

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2. Upgrading Baghdad Int. Airport AWOS system
   - Replacing Servers and workstations.
   - Upgrading operating system.
   - Upgrading display software to support IWXXM exchange.

3. Activating AMHS system:
   - New AMHS system has been activated in Baghdad Int. Airport.
   - Two international lines and more than (15) domestic lines are implemented.
   - Three more international lines are in progress.

Projects in Progress

- New Communication systems in Najaf Int. Airport
- New CNS systems for Mosul Int. Airport
- New CNS systems for Nasiriyah Int. Airport
- New CNS systems for Karbala Int. Airport
- Upgrading Basra PSR/ SSR
- Install new ATIS system in Baghdad Int. Airport

AIS Achievements

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1. In the process of migrating to the European AIS Database EAD as part of the AIS- AIM project.
2. Identifying waypoints serving Baghdad FIR concerning the conventional NAV(DIS, T Bearing, M Bearing) as part of the GNSS jamming/spoofing issue resolving project. (Needs to Iraq CAA approval).
3. Amend some route designators to comply with lCAO RDs rules. (A Waiting for Iraq CAA approval).
4. identifying the Baghdad FIR boundary to be published formally in the Iraq AIP and updating the ANP. (A waiting for Iraq CAA approval).
5. In the process of resolving deficiencies identified by ICAO one by one according to a timeline provided to ICAO, such us:

- Obstacle and terrain dataset.
- Instrument approach procedures dataset.
- Updating the SLA between AISs and data originators A waiting for lrag CAA. Issue- resolving

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ATCOs Training and Local and International LOAs and Documentation

- Iraqi ATCOs are fully prepared to handle any increase in traffic, and a local operational plan has been activated for best performance.

Achievements

- Unit Training Plan (UTP) has been updated and is awaiting approval from ICAA
- Local Air Traffic Control Instructions updated and awaiting ICAA to review and approve.
- LOAs with adjacent States are updated and are waiting for signature only.
- LOAs with Iraqi Airports and ground operations (Baghdad and Basra) are COMPLETED..
- Contingency plan updated awaiting ICAA to review and approve.
- GCAAN become an Active state.
- Two ATCOs have been certified for PBN approval and oversight as GCAAN.
- ORER airport delivers the new chart of PBN, charts will be published in AIP after obtaining approval from ICAA; moreover, controllers are being trained in Erbil to familiarize themselves with the PBN concept and new approach charts.
- Annual theoretical and practical ECT training for 2024 has started.

GNSS Interference procedures:

1. A high-level government meeting was convened, involving the following stakeholders:
   - Ministry of Defense and its operational departments.
   - Iraqi Air Defense.
   - Iraqi Air Force.
   - Ministry of Internal Affairs.
   - Ministry of Transportation (MOT).
   - Ministry of Communications.
   - Media and Communications Authority.
   - Iraqi Civil Aviation Authority.
   - Office of the National Security Adviser.
   - GCAAN.

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The meeting resulted in recommendations to establish a specialized team to identify the source of GNSS jamming and spoofing throughout Iraq, with a primary focus on airports. The team has already commenced and done its work at Baghdad International Airport.

2. Efforts are underway to install additional conventional Navigation Aids (VOR/DMEs) in areas where GNSS signals are deficient.

3. A request has been submitted to MIDFPP to restructure routes in the northern part of Iraq to mitigate the impact of GNSS interference on air traffic.

4. We have coordinated with adjacent ATS units, including those in neighboring states, to ensure awareness of potential deviations by aircraft. An LOA with Tehran has been updated regarding this matter, specifically concerning the transfer of control.

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- Note 1: When a pilot requests a deviation from their current route due to weather, and the new route would enter another FIR's airspace, the ATC unit in control of the aircraft will inform the affected ATC unit and coordinate accordingly.

- Note 2: All deviated aircraft (due to spoofing, GPS failure, weather, etc.) should be advised to contact IRAN Air Defense before entering Tehran FIR. Additionally, they should squawk indent upon establishing communication with adjacent FIR ATC units.

- Ongoing civil-military coordination and cooperation.

5. A NOTAM has been issued (A0716/23) from October 3, 2023, at 19:30 until December 2, 2023, at 23:59, notifying operators of GPS jamming or spoofing interference within the northern part of Iraq. Operators are instructed to inform ATC immediately and expect radar vectoring.

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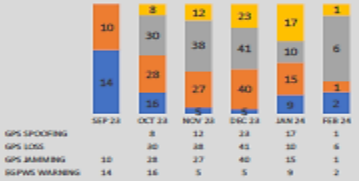
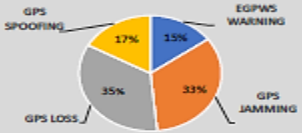
Statistics

This percentage and total count for all different types of GPS failure from September 1, 2023, to February 29, 2024, were reported by pilots and ATCOs.

Total GPS failure reported, 359.





GPS Failure PER MONTH

Top 10 A/Cs GPS failure reported.

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Thank You