



International Civil Aviation Organization

**Ninth ATM Subgroup Meeting (ATM SG/9)
(Sharm El Sheikh, Egypt, 14 – 16 November 2023)**



**AGENDA ITEM 4: PLANNING AND
IMPLEMENTATION ISSUES RELATED TO ATM/SAR**

IP/3: KHARTOUM FIR CONTINGENCY PLAN

Presented by the Secretariat

All diagrams, charts and images used in this file are not necessary reflecting the exact National territories or FIR boundaries; It is solely used for the purpose of general illustration of the situation from the perspective of international air traffic flow streams.



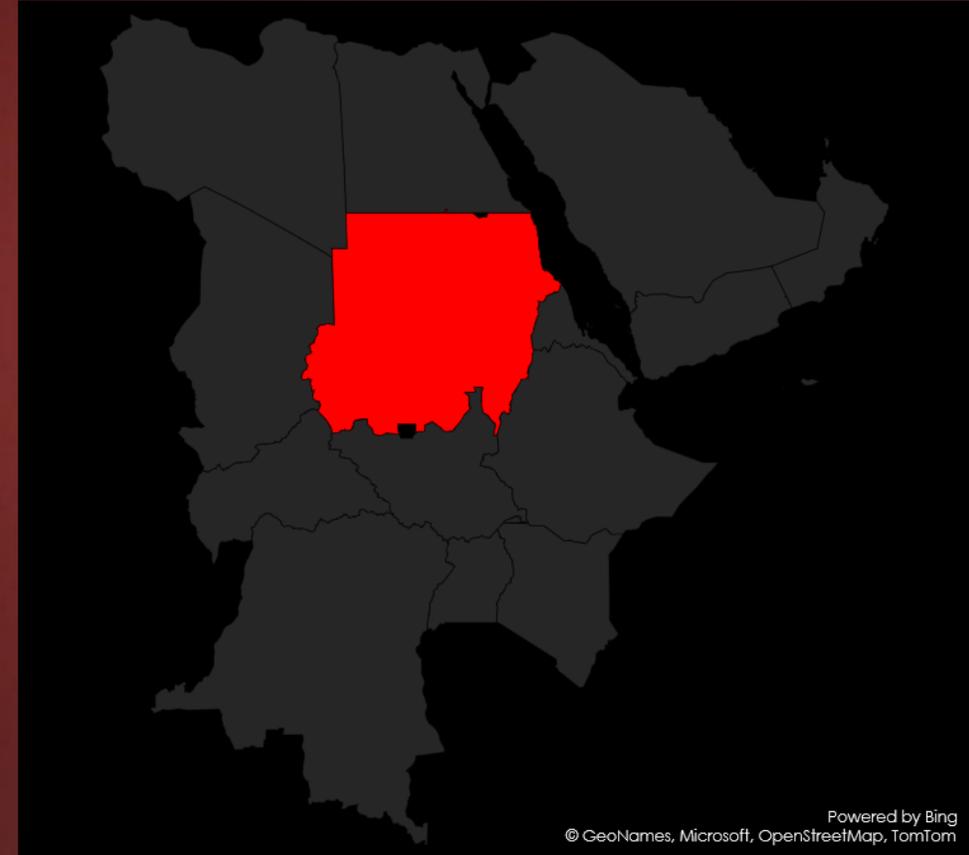
CONTENT LAYOUT

- Khartoum CCT:
 - Situation in Sudan and the Impact on the ANS Services provisions
 - Activation of the Contingency Coordination Team
 - Diversionary measures
 - Additional routing requested by IATA/Airspace users
 - Contingency Plan (original, Amendment 1, and coming steps)
 - Recovery phase
 - Lessons learned

KHARTOUM CCT:

- **Situation in Sudan and the impact on ANS Provisions**

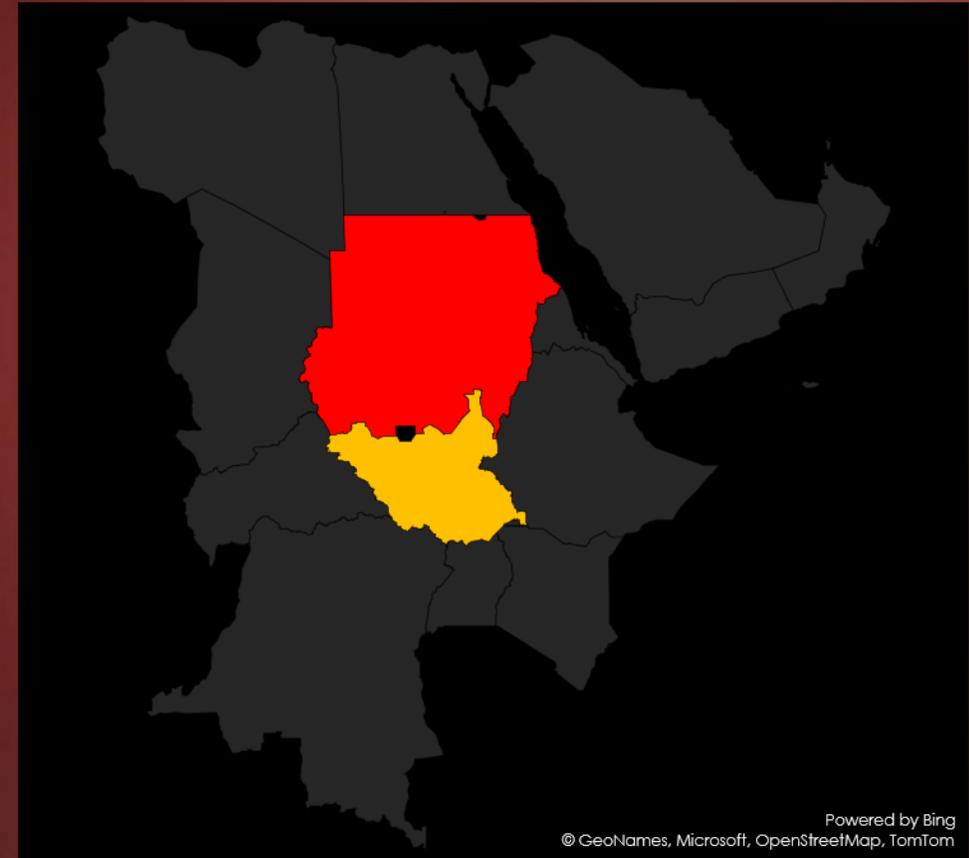
- The ICAO MID Regional Office received information on 15 April 2023 regarding the interruption of Air Navigation Service provisions within Khartoum FIR (excluding the area over South Sudan up to Flight Level 245) due to the political unrest in Sudan.
- The ICAO MID and ESAF Regional Offices immediately notified the adjacent States, IATA AME Office, and Airspace Users. Consequently, Khartoum FIR CCT was activated.

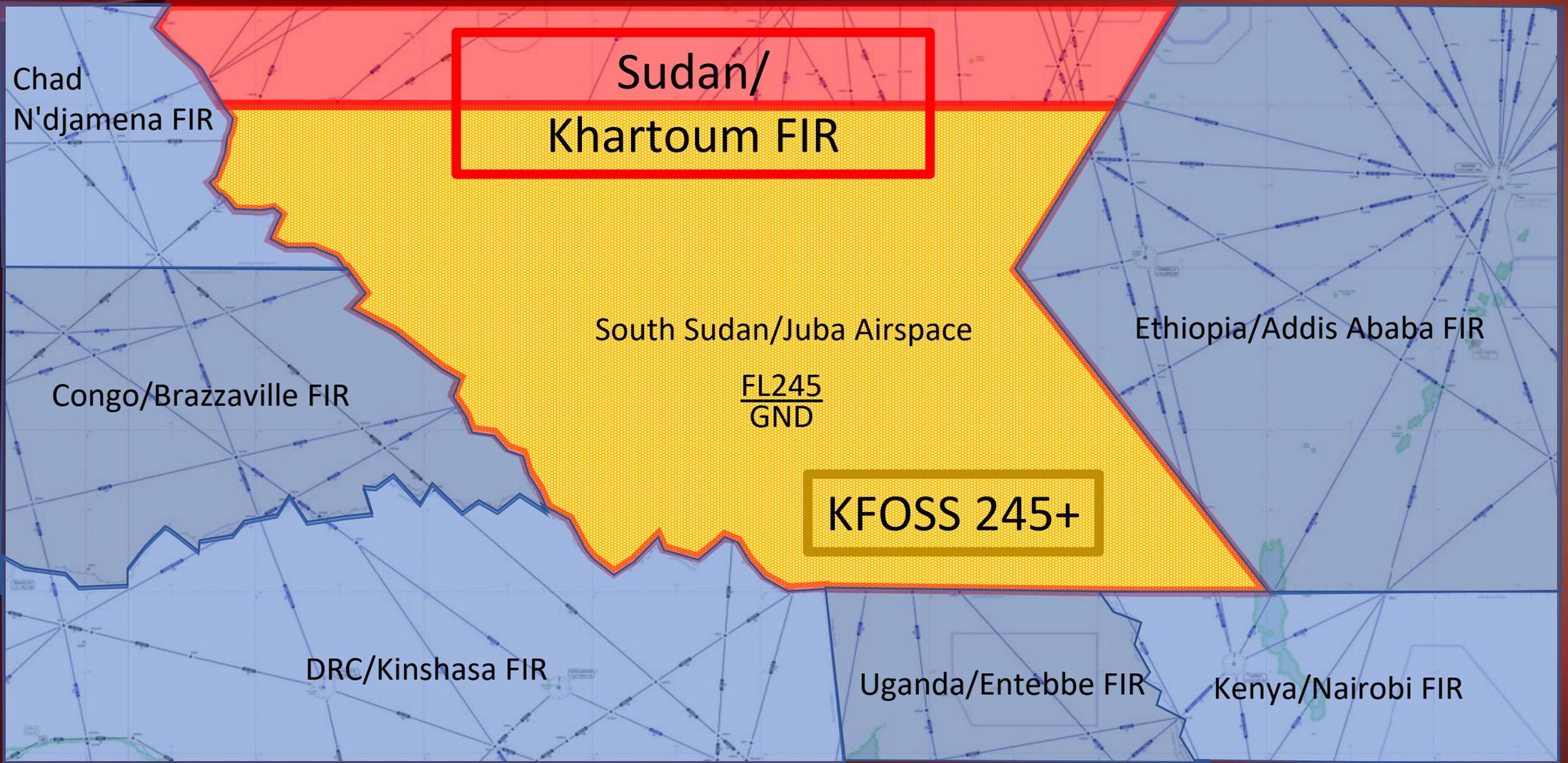


KHARTOUM CCT:

- **Situation in Sudan and the impact on ANS Provisions**

- Khartoum FIR includes the Airspace over Sudan and South Sudan above FL245.
- the Airspace over South Sudan was assigned to Juba (provides APP and TWR services), while Khartoum Provided the ACC/Enroute Service within the upper Airspace above FL245.
- No official CAA reports received regarding the status of aviation infrastructure including ANS facilities, NAVAIDS and Aerodromes. Sudan CAA sill does not have eyes-on the situation, to evaluate the damages. aircraft damages were reported at Khartoum Airport.

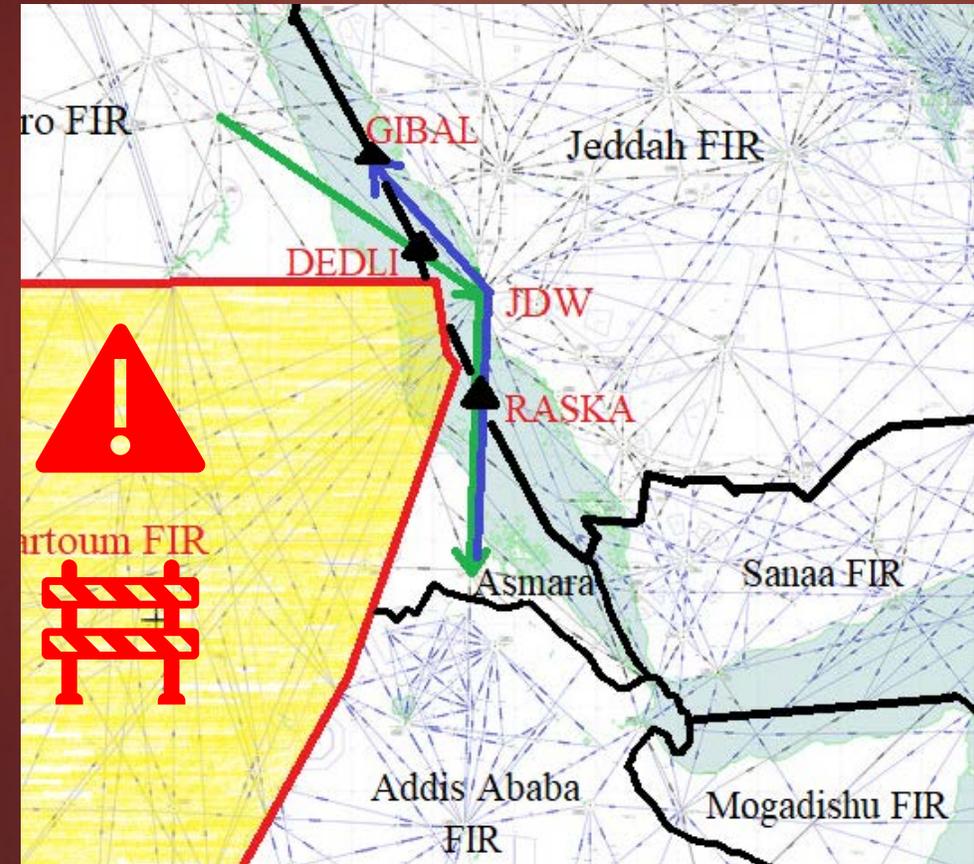




KHARTOUM CCT:

- **Activation of the Contingency Coordination Team**

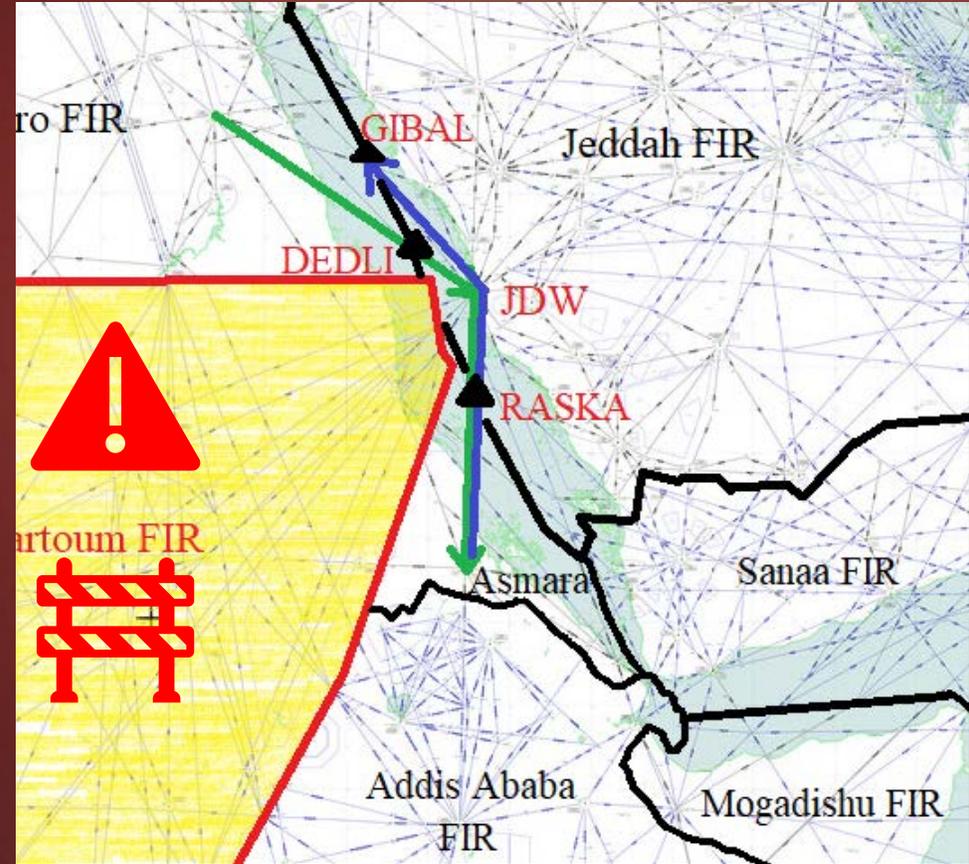
- The first Khartoum CCT Meeting was conducted virtually on 16 April 2023. many following meetings were conducted on periodic and ad-hoc manner.
- The impacted States, ANSPs and Airspace users were invited to the meetings, and requested to present their challenges and limitation to be addressed by the CCT team.
- Additionally, the CCT reached out to other international organizations and agencies, including EUROCONTROL, WFP, Red Cross and United Nation Humanitarian Air Service (UNHAS).



KHARTOUM CCT:

- **Diversionsary measures**

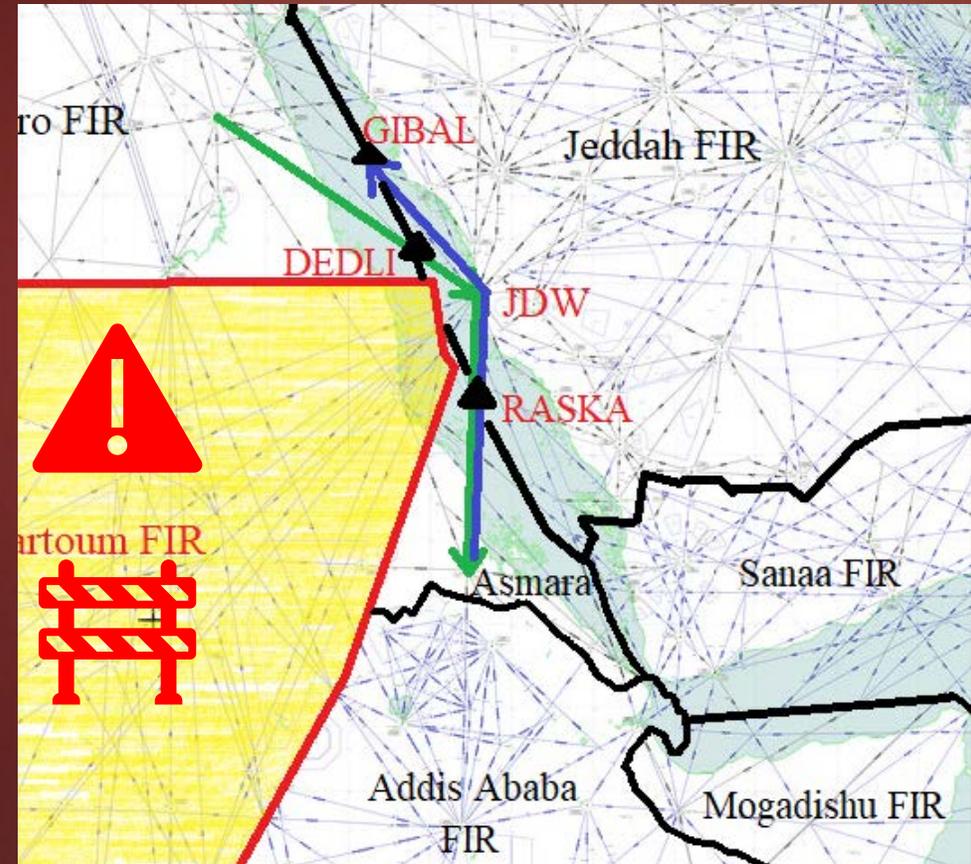
- Diversionsary routing arrangement was utilized to circumnavigate Khartoum FIR (including the airspace above South Sudan FL245 and above), using the current ATS route structure without needing for the establishment of new contingency routes (at the first stage), also, considering the other flight restriction/limitation zones within the area.



KHARTOUM CCT:

- **Diversiónary measures**

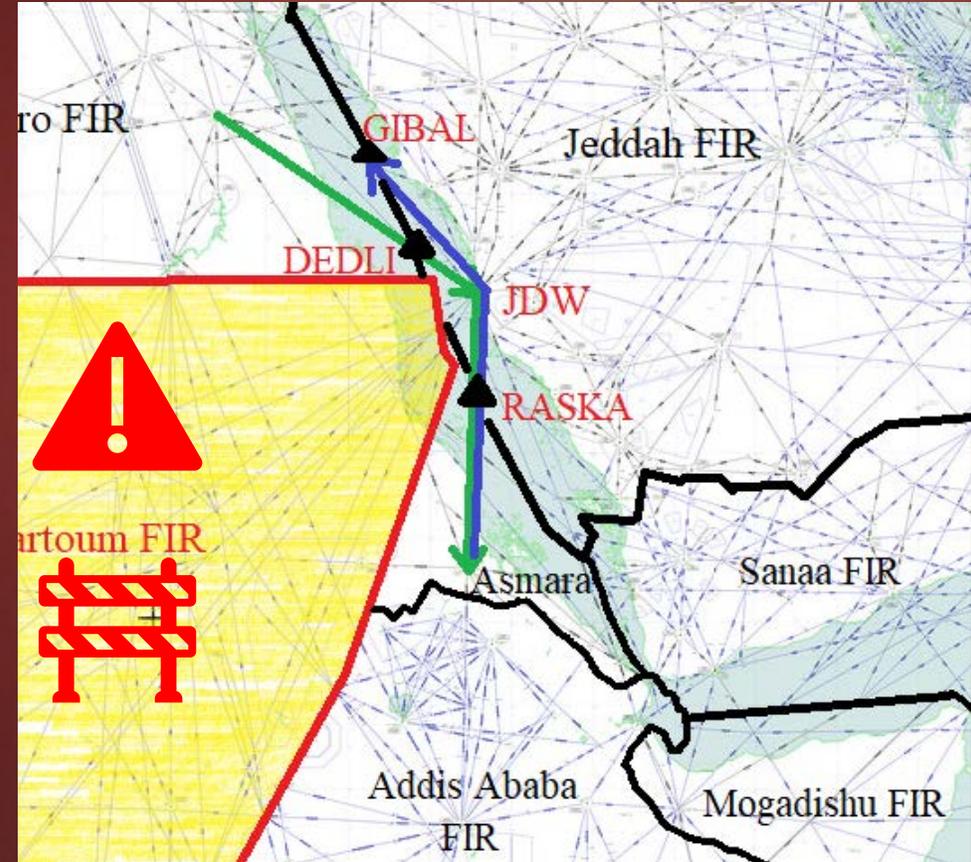
- The CCT continuously monitors the traffic demand vs the available capacity within the ACC units; and the potential saturation in demand VS Capacity due to the shifted traffic flow, utilizing the Diversiónary routings or other available option.
- The graph shows the Diversiónary routing schema.



KHARTOUM CCT:

- **Diversionary measures**

- After coordination with the MID Office, Sudan delegated Egypt to publish aeronautical information on their behalf.
- Diversionary routes were agreed by Egypt and Saudi Arabia, thus was published.





KHARTOUM CCT:

- **Diversionsary measures**

- The relevant NOTAM has been coordinated and consolidated with the team members and published accordingly:

HSSS Khartoum ACC

A0071/23 NOTAMR A0069/23

Q) HSSS/QAFXX/IV/NBO/E/000/999/1401N03009E999

A) HSSS B) 2305010735 C) 2305132359 EST

E) ON BEHALF OF SUDAN CAA DUE TO SECURITY REASONS THE ANS WITHIN KHARTOUM FIR AND ABOVE FL245 OVER SOUTH SUDAN ARE NOT AVBL

A0070/23 NOTAMR A0068/23

Q) HSSS/QAFLC/IV/NBO/E/000/999/1401N03009E999

A) HSSS B) 2304301235 C) 2305132359 EST

E) ON BEHALF OF SUDAN CAA AIRSPACE OVER THE TERRITORY OF SUDAN IS CLSD TO ALL FLIGHTS EXC FOR HUMANITARIAN AND EVACUATION FLIGHTS BY PPR FM SUDANIAN CIVIL AVIATION AUTHORITY REF SUDAN AIP GEN 1.2

OEJD JEDDAH

A0817/23 NOTAMR A0784/23

Q) OEJD/QARCR/IV/NBO/E/000/999/2501N04522E999

A) OEJD B) 2304212111 C) 2307162359 EST

E) KHARTOUM FIR AVOIDANCE. TFC AVOIDNING KHARTOUM FIR SHALL RTE VIA: GIBAL ATS RTE M686/L300 OR RASKA ATS RTE G650. ALL LEVELS AVBL EXC FL260 AND FL300. FLW WPT NOT AVBL: MIPOL, KAROX AND GIBAP. ALL TRAFFIC SHALL COMPLY WITH AIP SUP 01/2023 WEF 10 JAN 2023 JEDDAH(OEJD) FIR SPECIAL PROCEDURES AND RQMNTS. PARA 2.9.8 AND 2.11.7.

HECC CAIRO ACC

A0081/23 NOTAMR A0080/23

Q) HECC/QAFXX/IV/NBO/E/000/999/2721N03009E999

A) HECC B) 2304301250 C) 2305312359 EST

E) KHARTOUM FIR AVOIDANCE.

TFC AVOIDING KHARTOUM FIR SHALL RTE VIA DEDLI.

THE SIGNIFICANT POINTS NUBAR,ATMUL,ENABU AND ALEBA ARE NOT AVBL EXC FOR STATE AND HUMANITARIAN FLIGHTS BY PPR FM EGYPTIAN CIVIL AVIATION AUTHORITY

HECC CAIRO ACC

A0081/23 NOTAMR A0080/23

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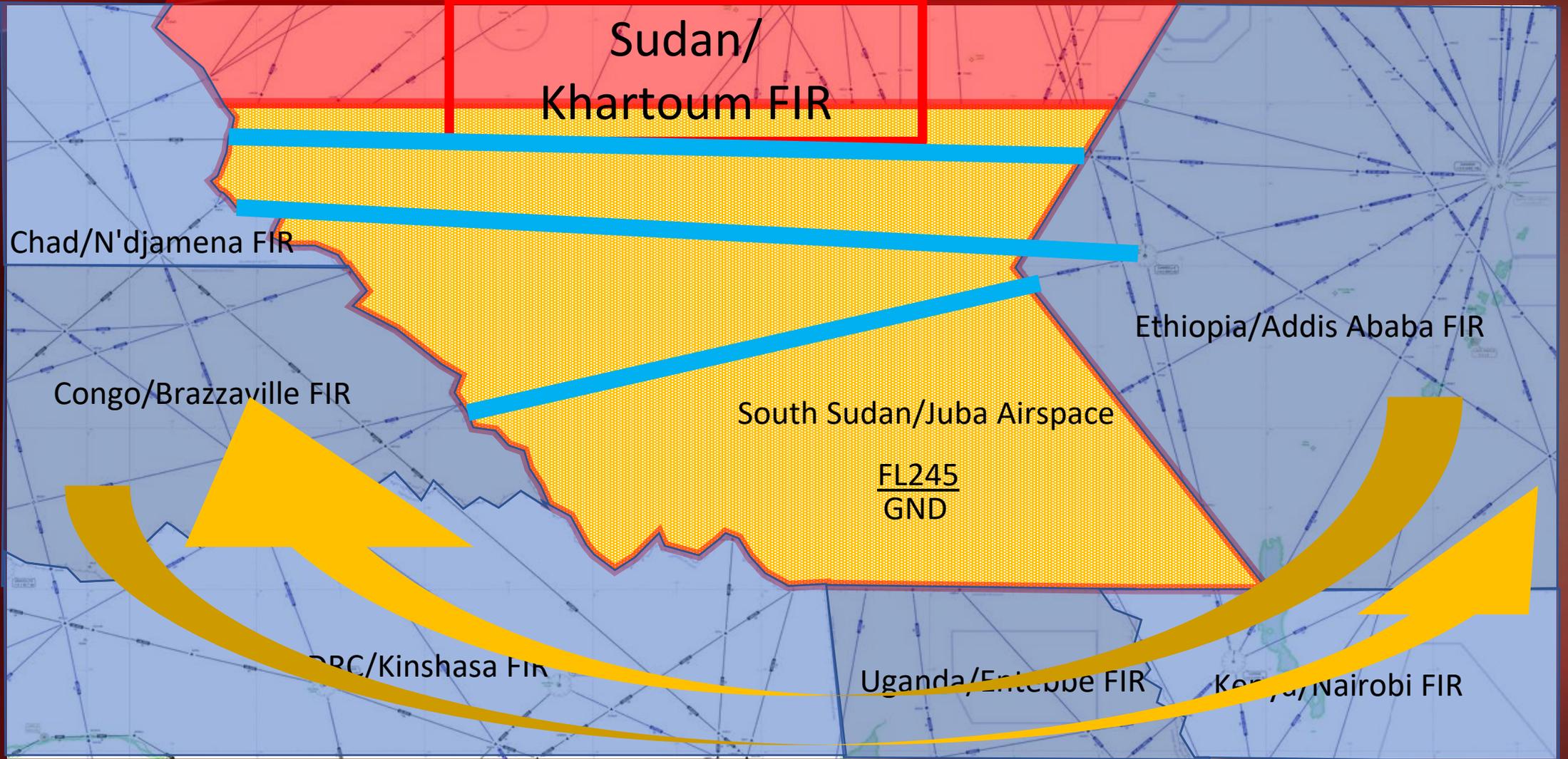
THE SIGNIFICANT POINTS NUBAR,ATMUL,ENABU AND ALEBA ARE NOT AVBL

EXC FOR STATE AND HUMANITARIAN FLIGHTS BY PPR FM EGYPTIAN CIVIL AVIATION AUTHORITY



KHARTOUM CCT:

- **Additional routing requested by IATA/Airspace users**
 - The Diversionary Routing Arrangement was implemented as planned with no operational issues/limitations reported, other than reduced flight efficiencies due longer routes assigned to circumnavigate Khartoum FIR on North – South Trajectory.
 - Airspace users through IATA, requested to utilized the Airspace over South Sudan as an alternate routing option, to enhance routing efficiency for traffic on East – West Trajectory.
 - This part of the Airspace over the territory of South Sudan above FL245, is still part of the Khartoum FIR.





KHARTOUM CCT:

- **Contingency Plan (original)**

- A dedicated team of experts, is now focusing on the development of a wholistic Contingency Plan to utilize the routing options within KFOSS240+.
- The contingency plan should involve all the Stakeholders and subject to a detailed safety assessment by the States and Airspace users intending to operate in these route segments.
- The Safety Assessment shall consider all the aspects, including the warnings from other sources. To evaluate risks and implement mitigation measures.
- All the CCT members will not accept or tolerate in any mean, cutting corners or any compromises against safety of flight operations.



KHARTOUM CCT:

- **Amendment 1 to the Contingency Plan**

- Operational needs requested to (mainly from local operators in Sudan) to operate from/to Port Sudan Airport (HSPN).
- The CCT reviewed the proposals and developed the required parts within the Contingency Plan to include arrival and departure routing options to connect HSPN with the ATS route structure within Cairo and Jeddah FIRs.
- The Safety Assessment considered the Letter of Agreements/Procedures to exchange traffic in the most safe and efficient manner, and operations started on August 2023.
- The CCT regular meetings reviews the post implementation comments and proposes actions to the relevant stakeholders.



KHARTOUM CCT:

- **Next steps**

- The establishment and operation of Juba Information unit is ongoing, currently proposing amendments to the LoAs/Ps to provide Flight Information and Alerting Services within KFOSS245+. Which is considered as additional safety net to the operations within KFOSS.
- Additional contingency routes within the eastern part of Khartoum FIR, based on operational requests and the enhancements made at the ATS units at HSPN.



KHARTOUM CCT:

- **Recovery phase**

- Based on the reports issued by international media, Khartoum Airport received a lot of damages; the ANS facilities are located within the Airport premises, but no official report has been received on the status yet.
- Khartoum CAA is already evaluating the possible alternates, including the ANS facilities available in other airports, to be utilized as backup/alternate facility.
- The resumption of the services provisions are not yet in the plan.



KHARTOUM CCT:

- **Lessons learned**

- The uniqueness of the situation of Khartoum FIR makes it different from other experienced situation, that could be stabilized in few days, according to the commonly used procedural steps within the CCT process.
- So far, after 7 months since the political unrest broke in Sudan, the team has organized 17 meetings and many other side meetings, to collect data and coordinate the activities and harmonize the implementation. It required 24/7 response availability to arising events and issues.
- Also, sever workload has been put on the ATM team within the States, ANSPs and Regional Offices, to address this unique situation which has not yet been stabilized.
- The dedicated Contingency Plan is being developed, that would challenge all team members and Stakeholders to get it approved and operational, non of the cases within the Regional or National plans supported this scenario.



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THANK YOU