



International Civil Aviation Organization

MIDANPIRG/18 and RASG-MID/8 Virtual Meetings

(15-22 February 2021)

Agenda Item 5.2.5: Air Navigation Planning and Implementation/Proposal for Amendment (PFA) of the ICAO MID ANP - Volume I (Serial No.: MID ANP-I 20/01 – ATM/SAR), originated by Qatar

BAHRAIN'S OBJECTION TO THE PROPOSAL FOR AMENDMENT OF MID ANP VOL. I FOR THE ESTABLISHMENT OF QATAR FIR

(Presented by the Kingdom of Bahrain)

SUMMARY

This paper and its attachment inclusively, constitute a document detailing Bahrain's technical arguments for the objection to the Proposal for Amendment of the ICAO MID ANP – Volume I, for the establishment of Qatar FIR originated by Qatar, for consideration by the MIDANPIRG in accordance with the procedure for the amendment of MID ANP Volume.

Action by the meeting is at paragraph 4.

1. INTRODUCTION

1.1 The ICAO MID Office has circulated a proposal for amendment of the ICAO MID Air Navigation Plan (Doc.9708), MID ANP Volume I, dated 12th January 2020, originated by Qatar, proposing the establishment of Qatar FIR/UIR. This is following two Task Force Meetings held during January and April 2019 to discuss the proposal that was first submitted in August 2018. The Task Force Meetings concluded “no regional agreement” on the proposal. Bahrain raised its formal objection detailing the technical arguments for the objection to the proposal through a reply letter to the ICAO dated 10th February 2020.

1.2 In accordance with the procedures for amendment of MID ANP Volume I and as part of the consultation process, Bahrain responded to the ICAO letter dated 5th July 2020 maintaining its objection to the proposal through a reply letter dated 8th July 2020.

1.3 Attachment A to this working paper provides the technical argument for Bahrain's objection submitted to ICAO -10th February 2020.

2. DISCUSSION

2.1 In accordance with the Middle East Regional Air Navigation Plan, Volume I, 5. Procedure for amendment of Volume I, any State (or group of States) wishes to effect a change in the approved air navigation plan for that region, it should propose to the Secretary General, through the Regional Office accredited to that State, an appropriate amendment to the plan, adequately documented; the proposal should include facts that lead the State (or group of States) to the conclusion that the amendment is necessary.

2.2 Taking into consideration the above requirement, the proposal for amendment of the air navigation plan volume 1, originated by Qatar, lack factual details that would necessitate the amendment of the plan. The proposal is subjectively developed and does not indicate facts that would prove any shortcomings and difficulties with the current FIR arrangement that would support the argument of the need to amend the air navigation plan.

2.3 The current FIR structure along with the existing technical and operational arrangements that are agreed on by all States in the region and endorsed by ICAO, proved to be functional, safe, efficient and cost effective. Bahrain was able to consistently provide highly commendable air traffic services in close cooperation with adjacent States, including Qatar in a highly dense airspace over the Gulf for more than half a century. Qatar proposal while lacking technical facts to substantiate the amendment, also calls for a significant change to an agreed operational arrangement which would, if implemented, lead to serious safety consequences.

2.4 The Terms of Reference of the MIDANPIRG requires the group to ensure the continuous and coherent development of the Middle East Regional Air Navigation Plan and other relevant regional documentation in a manner that is harmonized with adjacent regions, consistent with ICAO SARP's and the Global Air Navigation Plan (Doc. 9750) to address global aviation requirements. The arguments provided in Qatar proposal for the amendment of the MID Regional Air Navigation Plan is inconsistent with the Global Air Navigation Plan, and the vision of the aviation community that does not support the fragmentation of airspace and should progress towards seamless Air Traffic Management Systems.

3. CONCLUSION

3.1 The proposal for amendment of the MID ANP Volume I, originated by Qatar aims at dividing the existing well-established FIR into smaller FIRs without presenting technical, operational or safety consideration or improvements to current service level that would justify proposed changes to the existing arrangements.

3.2 The proposal will result, if implemented, in a reduction in level of safety, increase coordination and substantially defeats the need to provide optimum economic operations to the airspace users.

3.3 The proposed amendment is contrary to ICAO resolutions and policies which call for a harmonized and interoperable Air Traffic Management.

3.4 The proposal is opposed by several adjacent states and has no regional agreement.

4. ACTION BY THE MEETING

4.1 The meeting is invited to:

- a) note that, Bahrain maintains its objection to the proposal for amendment originated by Qatar; and
- b) in accordance with MID ANP volume I, Procedure for Amendment, the ICAO is invited to submit the contents of this working paper and its attachments to the Air Navigation Commission (ANC) for formal consideration.

KINGDOM OF BAHRAIN

Ministry of Transportation
and Telecommunications



مملكة البحرين
وزارة المواصلات والاتصالات

Ref : USCA/02/ICAO/2-13

Date : 10th February 2020

H.E. Mohamed Khalifa Rahma
ICAO - Middle East Regional Director
Ministry of Civil Aviation Complex
P.O.Box 85
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Excellency,

Subject: Proposal for Amendment of the ICAO MID Air Navigation Plan (Doc 9708)
MID ANP – Volume 1
(Serial No: MID ANP-1 20/01-ATM/SAR)

Bahrain Civil Aviation Affairs of the Ministry of Transportation and Telecommunications of the Kingdom of Bahrain presents its compliments to ICAO MID Office and wishes to refer to your letter Ref. AN 6/5A -20/009 dated 12 January 2020, regarding the above subject.

The Kingdom of Bahrain wishes to raise a **formal objection** to the proposal for amendment of the Air Navigation Plan – Middle East Region (Doc 9708, Volume1) which has been originated by the State of Qatar and communicated by ICAO through your letter. The details of Bahrain's technical argument for the objection to the proposal is attached to this letter.

As always, the Kingdom of Bahrain remains fully committed to ensure the safety and efficiency of air transport across the MID Region and to support ICAO's efforts in this regard. Bahrain also acknowledges that the airspace above the Gulf will see a further increase in traffic and will spare no effort in coping with such growth while maintaining a high level of safety and efficiency of air traffic in cost effective and a sound environment manner.

Accept, Excellency, the assurance of our highest considerations.


Mohamed Thamer Al-Haabi
Undersecretary for Civil Aviation Affairs

Enclosure

The Kingdom of Bahrain's objection to the Proposal for Amendment of the ICAO Air Navigation Plan (Doc. 9708). MID ANP Volume 1 originated by the State of Qatar.

1. Introduction and Executive Summary

1.1 The State of Qatar has originated a proposal for amendment of the ICAO Middle East Air Navigation Plan, MID ANP volume 1, document 9708 through a State letter, MID ANP-1 20/01 – ATM SAR, dated 12th January 2020 (the January 2020 Proposal) which was circulated by the ICAO Middle East Regional Office in Cairo. Qatar proposes to establish new Doha Flight Information Region (FIR) and Doha Search and Rescue Region (SRR) by segmenting the existing Bahrain FIR/UIR and SRR.

1.2 This is following the proposal which was submitted by Qatar in August 2018 to the ICAO MID Regional Office for the amendment of the MID ANP/ Volume 1 (the August 2018 Proposal). The proposal was discussed by two Task Force meetings which were held to carry out formal coordination at the regional level (QANPP TF/1, 8 to 10 January 2019 and QANPP TF/2 13 to 14 April 2019).

1.3 The Kingdom of Bahrain actively participated in both meetings and through its working papers presented the necessary documentation that provided evidence that the optimal option for the provision of safe and efficient air traffic services in the region, is to continue the existing arrangement with no change to the Bahrain FIR/UIR. The submitted documentation included detailed proof that there are no operational benefits from the proposed creation of a new FIR; there is no added safety, technical or operational value in the proposal; and the FIR boundaries in the MID ANP along with the existing technical and operational arrangements in place will continue to serve effectively the short- and long-term regional requirements.

1.4 In contrast, Qatar only asserted but did not substantiate any technical or operational factors that would justify changes to the existing arrangement. Nor did it demonstrate how the new FIR/UIR within the



existing Bahrain FIR would result in improving or even maintaining the current level of services. As the Secretariat confirms in Section (g) of the January 2020 Proposal, QANPP Task Force meetings concluded that there was no regional agreement on the necessity of the proposed amendment to the MID ANP.

- 1.5 It became obvious that the proposed amendment could not be justified technically and operationally and that the proposal will not bring additional safety, efficiency accessibility and economy benefits to the users. On the contrary the disintegration of Bahrain FIR would impose unnecessary coordination between ATC units, increase controller-pilot workload and may in fact reduce the level of safety and efficiency and increase the cost to the users.
- 1.6 Bahrain reiterated its offer to continue dialogues with regional States, including Qatar, under the auspices of ICAO to make any specific improvements that are considered necessary for meeting users' changing demands. However, Qatar decided not to pursue the dialogue process and, instead, to escalate the issue with the circulated proposal which is still not justified technically or operationally, and which would severely impact the Bahrain FIR and other adjacent FIRs.
- 1.7 It is important to mention that following the first meeting of the Task Force, QANPP TF/1 8 to 10 January 2019, and as agreed by the meeting, the Kingdom of Bahrain has submitted through the ICAO MID Regional Office a set of 22 clarification questions raised to the State of Qatar regarding their proposal for Qatar to consider and provide its responses for discussions during the second Task Force meeting. State of Qatar did not provide the necessary responses as required. Copy of the set of questions are provided in Appendix (1).
- 1.8 To date, the State of Qatar did not provide the necessary responses as required. Qatar's failure to respond to Bahrain's questionnaire, confirms the absence of credible technical and operational rationale for the segmentation of the Bahrain FIR/UIR.
- 1.9 In accordance with the ICAO document 9708, MID ANP Volume 1, Part A – procedure for amendment of Volume 1, Paragraph 5.5, this report is developed to detail the reasons of the objection of the Kingdom of



Bahrain to the proposal for the amendment of the MID ANP originated by the State of Qatar.

1.10 In this document, Bahrain explains, first, the history of Bahrain FIR/UIR and Bahrain's role in providing efficient Air Traffic Services through the current arrangements in the Bahrain FIR/UIR as detailed in (section 2.); The legal framework for the provision of Air Traffic Services and delineation of airspace and other essential considerations is provided in (section 3.); Qatar's attempt to secure a regional agreement for the segmentation of the Bahrain FIR/UIR and Qatar's failure to identify technical or operational reasons that justify changes to the existing arrangement is detailed in (section 4.); Bahrain's response and objection to Qatar's stated reasons for the amendment and alleged operational benefits by Qatar in its proposal is provided in (section 5.).

1.11 As detailed in Section 5, the Kingdom of Bahrain formally and strongly objects to the entirety of the proposal originated by the State of Qatar to segment the existing Bahrain FIR and change the existing ATS arrangement. Qatar has not referred to any evidence that the existing arrangement does not meet the current or future requirements of air navigation in the Gulf or its proposal would improve the Air Navigation Services in the region. Nor has it presented technical, operational, efficiency or safety considerations that would justify proposed changes to the existing arrangement. In the absence of any regional agreement on the need to change the FIR delineation, Bahrain continues to believe that the current arrangement best serves the short- and long-term demands and requirements of civil aviation in the region.

2. History of Bahrain FIR/UIR and Bahrain's role in providing effective air traffic services

2.1 Bahrain is the Air Navigation Service Provider (*ANSP*) in the concerned FIR/UIR including Qatar's sovereign airspace with more than six decades of successful management and operation.

2.2 Air Traffic Services have always been provided in the Bahrain FIR in accordance with the Chicago Convention, the associated Standards



and Recommended Practices as prescribed in the Annexes to the Convention, together with all ICAO provisions for FIRs/UIRs operations. This has been agreed by all States in the Middle East Region through the Regional Air Navigation Meetings conducted during the past decades and approved by the ICAO council (Ref. Doc 7967 MID/1959) for the establishment and the provision of Air Navigation Services in the Bahrain FIR/UIR. Appendix (2) contains the ATS chart showing the FIR boundaries in the region which includes Bahrain FIR.

2.3 Throughout these decades, the development of the services including the introduction of state-of-the art Air Traffic Management infrastructure has been a continuous investment practice for serving the dynamic traffic flows in the Bahrain FIR/UIR. Many changes to the route network and promotions of the Air Traffic Services were introduced in the interest of improving safety and efficiency of Air Navigation operations. Tremendous efforts have been expended by Bahrain resulting in an optimized combination of airspace design and route network structure that delivered enhanced services to all users in the region.

2.4 The Air Traffic Services provided within the Bahrain FIR/UIR have been undisputedly of the highest levels of safety, quality and efficiency to all users without any discrimination. Bahrain has made every possible effort to enhance the quality of Air Traffic Services in all areas of responsibilities within the Bahrain FIR/UIR. Such efforts have included a high level of cooperation and coordination with Qatar to ensure that every possible technical and operational support is provided to facilitate the air traffic flow from/to all entry/exit points for Qatar.

2.5 In the above context, Bahrain has provided Air Traffic Services in collaboration with Qatar. In April 2000, the two States signed an Air Navigation Services Organization Agreement, and confirmed that Bahrain is responsible for air traffic control within its FIR/UIR—and, thus, in the sovereign airspace of Qatar—, but that the two States would agree to create a Terminal Control Area (TMA) around the Doha International Airport, where Qatar provides air traffic services. The same Agreement also provides that the Civil Aviation Authorities



of the two States shall consult in relation to the provision of effective services within the Bahrain FIR. In 2013, Qatar and Bahrain duly established a TMA covering part of Qatar's sovereign airspace, below FL245. The arrangements created under this bilateral agreement have not raised any technical, operational or safety concerns, and Bahrain has continued to assume the delegated responsibility. Appendix (3) shows Doha TMA before and after 2013.

2.6 Current Bahrain FIR/UIR structure and existing arrangements

- 2.6.1 The present ATM arrangements framework are fundamentally structured for enhanced accommodation of significant concentration of traffic volumes on interregional networks of ATS routes and major cross boarder regional traffic streams in collaboration with neighboring States adjacent to the Bahrain FIR/UIR.
- 2.6.2 In response to the changing air traffic flow demands in the region, Bahrain reviewed the existing route network in 2014 and took a major step towards a comprehensive airspace restructure for the full implementation of RNAV1 routes in the Bahrain FIR/UIR. (Appendix X) reflects the capacity comparison before and after the airspace restructure within Bahrain FIR that became fully RNAV1 in 2014 as the first FIR in the region.
- 2.6.3 The pertinent route network to Bahrain FIR enclose the management of complex Homogenous ATM areas and Major international traffic flows with common ATM interests, similar characteristics, traffic density, complexity and airspace demands.
- 2.6.4 This initiative was highly commended by air space users. Accordingly, Bahrain received an appreciation letter from IATA provided in Appendix (5).
- 2.6.5 For better comprehension of the key operational roles and the associated arrangements of Bahrain FIR in the regional aviation,



it is imperative to highlight that as an integrated system, the functional airspaces north of Bahrain as one of the busiest areas in the Mid-region and one of the most demanding interregional air traffic interchanges that involves four major regional traffic streams that merge in this airspace:

- 1- UAE to KUW and KSA FIRs
- 2- KSA FIR to UAE N, UAE S and Tehran FIR
- 3- KUW FIR to UAE N and UAE S
- 4- Doha TMA to KUW and KSA FIRs

2.6.6 Traffic flows are successfully managed and coordinated primarily by the Bahrain East and Central sectors; However East and the North sectors acts in close coordination and surveillance interface to ensure that all conflict areas and hotspots are safely managed. (Appendix 6) provides a Risk Analyses chart identifying remarkable Hotspot areas within Bahrain FIR. The procedurally enhanced restructured route design together with the adapted transfer arrangements within Bahrain FIR has achieved the assurance of safe, efficient and optimum capacity as well as flexible operations through and crossing within the airspace.

2.6.7 Any segmentation of the existing FIR will result disruption to this well- organized airspace and the effectiveness of handling multiple traffic flows that are efficiently managed under one ANSP within one FIR. Such disorder will negatively impact the provision of Air Traffic Services in the MID-region. (Appendix 7) shows the busiest significant waypoints table in the MID region.

2.7 Environmental benefits:

2.7.1 The recently designed route structure and operational arrangements have resulted in a major reduction of traffic convergence within Bahrain FIR, traffic flows from the far-east can now transit and/or land at adjacent FIRs with minimized intervention against traffic transiting from Europe/South Africa



and vice versa. Consequently, the majority of flights within the Bahrain FIR can now reach optimum cruising levels, which in turn contributes to a significant reduction of CO2 emissions.

2.7.2 The introduction of Continuous Descend/Climb Operations on the restructured routes has likewise reduced fuel combustion and noise reduction levels with further environmental benefits. All such initiatives have been recognized and documented as success stories in the air navigation field on regional levels. (MID Air Navigation Report 2016, Section 5 refers).

2.8 Safety Enhancement Arrangements

2.8.1 In line with the BCAA Civil Aviation Law as Primary Aviation Legislation and the Air Navigation Technical Regulation as Secondary Aviation Legislation, BCAA has established and implemented effective aviation safety strategies, regulatory frameworks and processes in line with a State Safety Program (SSP) to achieve highest levels of safety. The Safety and Regulatory Oversight is performed and monitored by the Aviation Safety and Security Directorate.

2.8.2 BCAA has adapted a data-driven approach through a safety performance indicators-based compliance assessment. The active implementation of safety procedures and technical regulations together with a risk-based oversight system are in place for gap analyses and identification of areas of safety concerns.

2.8.3 BCAA has mandated the establishment of a State Safety Program (SSP) that include the implementation of an integrated Safety Management System (SMS) to achieve highest level of safety in the provision of ATS within Bahrain FIR.



2.9 Level of coordination and cooperation with adjacent States, other agencies and users

2.9.1 BCAA as an ANSP has signed the necessary operational Letter of Agreements and ATM contingency planning agreements with all neighboring ANSPs that cover adequate coordination, transfer arrangements, contingency procedures, as well as ad-hoc ATFM measures. Such high level of cooperation and support for the best interest of civil aviation is not limited to adjacent States but further extended to other states in the MID regional States. This has been recognized and acknowledged by the ICAO MID Regional Office letter (ER 4/1-262 dated 25th September 2017).

2.9.2 Such instruments are open for the introduction of any additional routes or procedures based on states requirements and subject to safety assessment measures.

2.10 Coordination and cooperation with Military agencies

2.10.1 For the purpose of enhanced Civil/Military operational cooperation and coordination, BCAA has implemented effective mechanisms and agreements with relevant military authorities to accommodate military activities under enhanced application of the Flexible Use of Airspace (FUA) concept within Bahrain FIR.

2.10.2 BCAA has arranged in close liaison and coordination with relevant military operational control units the integration of civil ANS and military air traffic operations on Pre-Tactical and real-time Tactical levels.

2.10.3 A Flow Management Tool is utilized to determine the traffic density on busy airways for traffic reroute and flight path deviation avoidance from intended routes. This flow management tool allows ATM to dynamically activate Special Use Airspace (SUA) areas with full consideration of civil traffic utilization requirements. (Appendix 8) shows the traffic forecast Dialogue Window for dynamic sector activation.



2.10.4 Appendix (9) to this document reflects the Military appreciation of the tremendous efforts of Bahrain Civil Aviation Authority in terms of high level cooperation and operational support. The letter applauds the optimum use of Bahrain FIR recognizing the effective management of Bahrain ATC throughout all successful missions and activities carried out in an unquestionable safe, flexible and cooperative manner.

2.11 Coordination and cooperation with the airspace users

2.11.1 With the main objective of accommodating stakeholders and airspace user's requirements in a safe and efficient manner, BCAA has established a collaborative ANSP/Stakeholder approach to ensure consolidated, safe, efficient and cost-effective flight operations.

2.11.2 This collaborative approach aims at sharing national implantation plans with all users and stakeholders including route structure consultation and/or any airspace improvement projects.

2.12 Contingency Arrangements within Bahrain FIR

2.12.1 The Middle East Region has been subject to political developments for the past four decades which consequently affected the safety and the efficiency of air traffic operations in some of the FIR/UIRs. Such developments have necessitated crucial changes in the routes network in several parts of the region and the need for the activation of contingency plans, the establishment of contingency routes in order to protect the civil air traffic, and to ensure the continuity of aircraft operations in a safe, orderly and efficient manner.

2.12.2 Bahrain maintains a historic record of contingency planning with the establishment of contingency routes in the region being essential to the safe and efficient flow of air traffic. Appendix (10) contains contingency routes that were established and implemented in 2014 due to developments in the region.



2.12.3 Bahrain has been recently recognized as a major contributor to the successful implementation of the MID Regional Contingency Plan in the Gulf Area. This was acknowledged by the ICAO MID Regional Office Letter ER 4/1-262, dated 25 September 2017 Appendix (11) refers.

2.12.4 No contingency arrangements have necessitated and/or resulted in any amendments to the MID ANP or the establishment of new FIRs/UIRs.

3. The legal Framework for the provision of Air Traffic Services and delineation of ATS Airspace

3.1 The current arrangement described above is based on, and consistent with, the Chicago Convention and its Annex 11, under which contracting States may agree to organize the provisions of air traffic services in a safe and efficient manner, including through delegation of responsibility.

3.2 Article 28 of the Chicago Convention provides that:

Each contracting State undertakes, so far as it may find practicable, to:

- a) Provide, in its territory,^[1] airports, radio services, meteorological services and other air navigation services to facilitate international air navigation in accordance with the applicable standards and practices recommended or established from time to time, pursuant to this Convention. ...

3.3 Annex 11, entitled “Air Traffic Services”, sets out the standards and practices relating to the establishment of airspace, units and services necessary to promote a safe, orderly and expeditious flow of air traffic. Thus, a contracting State may decide to undertake to provide air traffic services in its sovereign airspace, but it is still entitled to delegate the provision of such services to another State. Annex 11 provides that:

¹ Article 2 of the Chicago Convention provides that: “For the purposes of this Convention the territory of a State shall be deemed to be the land areas and territorial waters adjacent thereto under the sovereignty, suzerainty, protection or mandate of such State”.



*by mutual agreement, a State may delegate to another State the responsibility for establishing and providing air traffic services in flight information regions, control areas or control zones extending over the territories of the former.*²

3.4 Annex 11 further recognizes that agreements to permit the delineation of airspace lying across national boundaries are advisable when such action will facilitate the provision of air traffic services.³

3.5 As for airspaces above the high seas, where no one State has primary/presumptive rights or responsibility in relation to air traffic services, the provision of such services shall be determined “on the basis of regional air navigation agreements”, which are approved by the ICAO Council on the advice of Regional Air Navigation Meetings.⁴

3.6 These provisions reflect the functional and technical nature of FIRs/UIRs. National boundaries have little or no bearing on their delineation. Rather, their spatial limits are determined on the basis of technical and operational considerations, with the aim of ensuring safety and optimizing efficiency and economy.

3.7 Annex 11 clarifies that “[t]he delineation of airspaces, wherein air traffic services are to be provided, should be related to the nature of the route structure and the need for efficient services rather than to national boundaries”. Similarly, the “consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation”, repeatedly stated in Assembly Resolutions, confirms the importance of technical and operational considerations for determining and changing FIR boundaries. As confirmed in these resolutions, the limits of ATS airspaces, whether over States’ territories or over the high seas, shall be established “on the basis of technical and operational considerations” with the aim of ensuring

2 Annex 11: Air Traffic Services, para.2.1.1

3 Annex 11: Air Traffic Services, para. 2.9.1, Note 1.

4 Annex 11: Air Traffic Services, Para. 2.9.1



resolutions, the limits of ATS airspaces, whether over States' territories or over the high seas, shall be established "on the basis of technical and operational considerations" with the aim of ensuring safety and optimizing efficiency and economy for both providers and users of the services.

3.8 As demonstrated above, under the current arrangement agreed by all the regional States and endorsed by ICAO, safe and efficient air traffic services have been provided for many years in the Gulf area with a high density of air traffic. Qatar proposes to alter this agreed and fully operational arrangement, claiming that the proposed change would ensure the safety, capacity, efficiency, operational and technical considerations are optimized in the area where a substantial growth of air traffic is anticipated.⁵

3.9 It is of paramount importance that safe and efficient air traffic services are provided constantly and consistently. In that light, ICAO stresses the solidity and continuity of the framework that has already been established for the provision of air traffic services, and reiterates the key principle that only technical and operational considerations should be taken into account in determining the need for an FIR/UIR and determining the delineation of FIRs/UIRs for safe and effective provision of services.

3.10 ICAO Assembly has regularly confirmed its "policies and associated practices related specifically to air navigation" through its Resolutions. As for the delineation of air traffic services airspaces (which include FIR/UIRs), Appendix G to Resolution A40-4, adopted in October 2019, explains current ICAO policies and recommended practices as follows:

- 1- the limits of ATS [air traffic services] airspaces, whether over States' territories or over the high seas, shall be established on the basis of technical and operational considerations with the aim of ensuring safety and optimizing efficiency and economy for both providers and users of the services;



2- established ATS airspaces should not be segmented for reasons other than technical, operational, safety and efficiency considerations; ...6

3.11 The second statement is of fundamental importance for the assessment of Qatar's Proposal; it clarifies that, once airspaces are delineated and FIR/UIRs are established based on technical and operational considerations, none of those FIR/UIRs can be segmented unless technical, operational, safety and efficiency considerations are proven to require such segmentation. In its proposal Qatar is claiming for extending a new Qatar FIR/UIR all the way up to the current border between the Bahrain and Tehran FIRs.⁷ Resolution A38-12 does not support any such argument.

3.12 Segmentation of an existing FIR/UIR into smaller FIRs/UIRs is particularly problematic, as it would likely lead to more interactions and duplications, and deterioration of the quality and efficiency of the present "economies of scale" of the existing FIR. Such segmentation cannot meet the ICAO policy that FIRs/UIRs must be delineated in such a manner as to ensure safety and optimize efficiency and economy for both providers and users of the services.⁸

3.13 Furthermore, Qatar's insistence on the delineation of the airspaces above the Gulf along national boundaries goes against the trends of both ICAO and its member States towards a more integrated approach, based on practical considerations, in ensuring the provision of safe and efficient air traffic services and meeting users' needs through means other than re-delineation of existing FIRs. For example;

3.13.1 A number of States in Europe have already delegated the provisions of air traffic services in their UIRs above their

⁶ Resolution A38-12: "Consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation", adopted at the 38th session of the Assembly, 24 September – 4 October 2013, Appendix G: "Delineation of air traffic services (ATS) airspaces". Emphasis added.

⁷ Qatar's Proposal, August 2018, p. 7.

⁸ Resolution A38-12: "Consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation", adopted at the 38th session of the Assembly, 24 September – 4 October 2013, Appendix G: "Delineation of air traffic services (ATS) airspaces", operative para 1.

territories to Eurocontrol under a multi-State ATS Agreement. This process does not require any changes to FIR boundaries or re-delineation of the airspace.

3.13.2 The GCC Member States have been discussing a plan for a common UIR with a view to developing a fully integrated Air Traffic Management system and enhancing aviation safety and expanding airspace capacity in the GCC States.⁹

3.14 The delegation of the provision of air traffic services by one State in the sovereign airspace of another State often creates a much more flexible and effective arrangement and reflects the trend towards regional and ultimately global harmonization of the provision of air traffic services. For example;

3.14.1 The sovereign airspace of Luxembourg is within the Brussels FIR and air traffic services within that cross-border FIR are provided by Belgium below FL245 and above FL165 in the southern part and above FL145 in the north. EUROCONTROL is responsible for the provision of air traffic services in the Brussels UIR.¹⁰

3.14.2 The Belgrade FIR extends beyond the airspace of Serbia and includes Montenegro's sovereign airspace as well as the airspace above Montenegro's exclusive economic zone.¹¹

3.15 Qatar argues that the proposed creation of its own FIR within the Bahrain FIR seeks to "optimize the arrangements supporting air navigation operations and safety in the region, and more specifically to ensure the continuity of such operations".¹²

⁹ Cooperation Council for the Arab States of the Gulf (GCC) Upper FIR Project, 14 February 2017, MIDANPIRG/16-WP/38, para. 1.1.

¹⁰ Aeronautical Information Publication: Belgium and Luxembourg, GEN 3.3 Air Traffic Services, 23 May 2019, Section 2 "Area of Responsibility", available at: https://ops.skeyes.be/html/belgocontrol_static/eaip/eAIP_Product/GEN.pdf.

¹¹ Aeronautical Information Publication: Serbia/Montenegro, GEN 3.3 Air Traffic Services, effective 20 June 2019, available at http://www.smatsa.rs/AIS/Active/eAIP/20-Jun-2019-A/2019-06-20-AIRAC/html/index_commands.html.

¹² Qatar's Proposal, August 2018, p. 2.



3.16 Bahrain has already illustrated in detail how Qatar's initial Proposal does not identify present technical, operational, safety or efficiency concerns arising from Bahrain's provision of air traffic services or to present any evidence of data demonstrating that such concerns may exist, and how the issues raised in Qatar's proposal have already been addressed, or can be addressed, in the existing arrangement without creating a new FIR/UIR.¹³ There is no need to repeat these points here. Bahrain notes however that it had sought to obtain more information to understand Qatar's concerns and identify areas in which it may make further improvement in collaboration with Qatar. Qatar has failed to respond to Bahrain's questionnaire.¹⁴ As Bahrain stated at the second meeting of the Task Force, only confirms the absence of credible technical and operational rationale for the segmentation of the Bahrain FIR/UIR.¹⁵

4. Qatar's Proposal for the Amendment of the MID ANP – Volume 1 for the segmentation of the Bahrain FIR/UIR.

4.1 Qatar's proposed amendment of the MID ANP seeks to establish a new Qatar FIR/UIR in Qatar's sovereign airspace and the airspaces over the high seas North and East of Qatar, which have been parts of the Bahrain FIR/UIR for more than five decades based on an unanimously agreed regional agreement with the approval of the ICAO council. This proposal would reduce the size of Bahrain FIR by 60%. It will have a massive negative impact on the current structure of Bahrain FIR, and on the safety and efficiency levels provided in the present FIR.

4.2 Qatar stated in its proposal several reasons for the amendment. However, Qatar has not substantiated any of those reasons with concrete evidence. The Proposal has no technical and operation merits and, thus, it is not justified.

¹³ See WPI, Bahrain FIR/UIR Arrangements versus claimed operational benefits in Qatar's proposal, presented by the Kingdom of Bahrain for the Second Meeting of Qatar's Proposal on the Amendment of MID Air Navigation Plan Task Force, 13-14 April 2019; see also Summary of Discussions of the Second Meeting, paras 5.14-5.17.

¹⁴ See Second Meeting of Qatar's Proposal on the Amendment of MID Air Navigation Plan Task Force, 13-14 April 2019, Summary of Discussions, paras 5.3 and 5.14.

¹⁵ See Second Meeting of Qatar's Proposal on the Amendment of MID Air Navigation Plan Task Force, 13-14 April 2019, Summary of Discussions, para 5.14.

4.3 Qatar claimed that the current FIR boundaries contained in the Air Navigation Plan for the Middle East Region (Doc. 9708) “no longer serve the best interests of flight operations in the Region and need to be updated”.¹⁶

4.4 Qatar appears to have in mind the criteria set out in the MID ANP volume (I), Appendix A, Procedure for the amendment of Regional Air Navigation Plans (Approved by Council on 18 June 2014), paragraph 2. General Criteria; that; “*the Assembly has resolved that regional plans should be revised when it becomes apparent that they are no longer consistent with current and foreseen requirements of international civil aviation*”.

4.5 In fact, for more than half a century, Bahrain has been providing effective Air Traffic Services in the region to meet such evolving requirements, it is evident that the current FIR arrangements are still consistent with the requirements of the international civil aviation in this region.

4.6 In the final report of the two most recent Middle East Air Navigation Planning and Implementation Regional Group meetings (MIDANPIRG/16, April 2017 Appendix 6A and MIDANPIRG/17, April 2019 Appendix 6.3A & 6.3B), the Regional Group recognized that the Kingdom of Bahrain is the one and only Air Navigation Service Provider with zero deficiencies in the Middle East Region and that it has achieved conformance and compliance with ICAO applicable Standards and recommended practices.

5. Bahrain Objection to Qatar’s stated reasons for the amendment and the claimed Operational benefits.

Reasons alleged by Qatar for its proposed amendment

5.1 In its proposal, Qatar claims that the proposed amendment aims to enhance safety and improve the efficiency and economy of flight

¹⁶ Qatar’s Proposal for Amendment of the Air Navigation Plan – Middle East Region, Volume I (serial No. MID ANP-I 20/01 – ATM/SAR), paragraph (d) “Originators’ reasons for amendment”, first sentence.



operations through operational benefits that also represent a major contribution towards alignment with the objectives of the ICAO Global Air Navigation Plan.

5.2 Furthermore, Qatar alleged that, in developing the proposal, it considered the following issues:¹⁷

- anticipated future air traffic flow and the nature of the route structure
- the need for efficient air navigation services
- delineation of airspace boundaries by straight lines where practicable
- optimum location of control points
- the most efficient coordination procedure ensuring that flying on the international air routes is carried out under uniform conditions as far as practicable, and
- the ability of all ATS provider States to furnish the required services without undue efforts.

Bahrain's responses to those alleged reasons

5.3 These issues are covered within the standing ICAO strategies and implementation plans framework that are regularly monitored and implemented.

5.4 Supporting its objection to the Qatar proposal, responses of the Kingdom of Bahrain to the reasons for amendment as stated by Qatar including alleged operational benefits are provided below.

5.5 The ICAO practice recognizes that the boundaries of ATS airspaces shall be established on the basis of technical and operational considerations and, once airspaces are delineated, those established ATS airspaces should not be segmented for reasons other than technical, operational, safety and efficiency considerations.¹⁸ The States in the MID Region recognized the following needs for

¹⁷ Qatar's Proposal for Amendment of the Air Navigation Plan – Middle East Region, Volume I (serial No. MID ANP-I 20/01 – ATM/SAR), paragraph (d) "Originators' reasons for amendment", second sentence.

¹⁸ ICAO Assembly Resolution A40-4 "Consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation", adopted at the 40th session, September 9-October 2019, Appendix G "Delineation of air traffic services (ATS) airspaces", paragraphs 1 and 2.

determining the delineation of FIR boundaries and changes to those boundaries in a manner that reflects the ICAO practice:¹⁹ (Ref. Doc. 9672/1996):

- a) The need for adequate air-ground communications coverage;
- b) The need to minimize communications-frequency changes and position-reporting by aircraft; and
- c) The need to minimize problems relating to ascending and descending traffic at major aerodromes in the vicinity of FIR boundaries.

5.6 The introduction of a Qatar FIR as proposed, will among others, increase communication frequency changes and position reporting, hence, increasing the pilot's workload.

5.7 Apart from the additional pilot's work-load in b), ascending and descending aircraft will be confronted with extra transfer of control tasks such as receiving route clearance, clearance read back (with the associated miss-read back risks) and the required route adjustments in the Flight Management System with all associated navigation inputs and modifications.

5.8 Due to the close proximity of the proposed FIR boundary with the congested airspace within the Bahrain TMA and the associated conflict areas near major airports, consideration must be given to the existing instantaneous sector to sector coordination (ATCO to ATCO point-out). This is vital as an inter-sectors practice for enhanced conflict recognition and situation awareness, thus efficient management and transfer of traffic. Additional safety measures and operational arrangements for the establishment of the proposed design will result in step climb and step descent that contradicts with the CDO and CCO ASBU modules in the Global Air Navigation Plan.

5.9 The proposed segmentation of the existing FIR will result in major disruption to the provision of Air Traffic Services within the Bahrain FIR/UIR with severe impacts on the effectiveness of the airspace

¹⁹

Doc 9672, Report of the Limited Middle East (COM/MET/RAC) Regional Air Navigation Meeting, 7-17 January 1996, para 2.4.

utilization. The proposal submitted by Qatar will also result in the disintegration of the existing FIR/UIR arrangements serving multiple traffic flows in the region which will not achieve the global orientation towards the Harmonization and the Seamless Sky concept that aims at the interoperability, safety and efficiency initiatives (including the cost effectiveness of Air Navigation Services).

5.10 It is also critical to understand that, as an entirely RNAV 1 airspace, the Bahrain FIR/UIR is as efficient as possible given the existing technologies and practices. Qatar's proposal presents a major challenge to the main functionality objectives of the region in terms of the fragmentation of this cross border unique chain of FIRs/UIRs that is safely and efficiently managing the regional traffic flows. Any disruption or breakup of this integrated sequential system would significantly reduce its effectiveness, safety and efficiency of major interregional flow management from the Far-east to the Middle East, Europe, Africa and vice versa. It moves the region in the opposite direction to modern single sky concepts.

5.11 The transfer of the Eastern sectors of the Bahrain FIR/UIR to Qatar would require the imposition of significant flow management coordination initiatives with neighboring FIRs/UIRs to safely manage the airspace, taking into consideration the identified Homogeneous ATM areas, Major Traffic Flows and Interregional flows together with the FIRs concerned and type of areas (Ref. MID ANP volume I, table General II-1) such as:

- Oceanic or Continental
- High or Low density
- Oceanic En-route or Continental En-route

5.12 Additional arrangements and detrimental consequences associated with the proposed segmentation design such as, but not limited to; the implementation of Flight Level Allocation Schemes (FLAS) between Bahrain FIR/UIR and the proposed FIR (which is a step backwards in terms of efficiency and airspace user's benefits), and major operational rearrangements with neighboring ATS units/FIRs which will likewise be required.



5.13 Most importantly, with all the above facts and the ICAO references, the submitted Qatar proposal does not demonstrate any evidence of existing technical or operational inconsistency with ICAO requirements and, as such, it does not justify the proposed segmentation of Bahrain FIR nor any amendments to the current Middle East Air Navigation Plan.

5.14 it is further stressed that, as acknowledged in Appendix G to the Resolution A40-40 (2019), the established spatial limits of FIRs/UIRs *“should not be segmented for reasons other than technical, operational, safety and efficiency considerations”*. No such considerations have been given by Qatar to require or justify the creation of a new FIR within the Bahrain FIR/UIR.

5.15 The proposed segmentation of the Bahrain FIR and creation of FIRs following national borders goes against ICAO policies of a more integrated approach to the provision of air traffic services, based on practical considerations.

5.16 The current arrangement is satisfactory and has provided safe and efficient air traffic services under that arrangement, Qatar has not identified technical or operational reasons that justify changes to the existing arrangement, and it has not demonstrated how the Proposal would result in improving or even maintaining the current level of services.

Operational benefits allegedly arising from Qatar’s proposals, and Bahrain’s responses

5.17 The operational benefits that are alleged by Qatar in its proposal not only lacks added value to the existing FIR arrangements, but they are not supported with any technical, operational and safety enhancement initiatives that would justify any amendments or changes to the MID ANP.

5.18 Claims related to safety enhancement from a reduction in complexity and coordination are counterintuitive. Dividing an FIR into two will inevitably upsurge coordination requirements to an



unnecessary level, in terms of additional transfer complication and raised risk probability associated with the introduction of an additional ATM facility between Bahrain and UAE FIRs. Moreover, additional air traffic controllers work load (ATCO to ATCO coordination) and additional pilot's cockpit management tasks are likewise immense factors.

5.19 Claims related to the reduction of coordination related to traffic to and from Doha airports and simplification of the interface. This is without merit, as a successful and effective management of traffic to/from Doha TMA airports is already achieved through the enhanced restructured route design and the adapted minimal coordination requirements with Doha approach. Additional coordination is only required under unusual circumstances such as emergency and weather deviations. The alleged coordination advantage in fact does not exist, as it will only change the parties required to complete the coordination, but it does not reduce the extent of required coordination.

5.20 Claims related to the contribution towards alignment with the objectives of the ICAO Global Air Navigation Plan and the MID Region air navigation strategy. Qatar has failed to identify any specific objectives that its proposed segmentation of the Bahrain FIR/UIR would allegedly achieve. And there are in fact none. The very objective of this Proposal is to break up a well-established FIR for reasons other than gaining operational benefits and preserving existing levels of safety. That is blatantly in conflict with ICAO policies, Global Air Navigation Plan, and the region's Air Navigation Strategy towards seamless ATM systems.

5.21 Claims related to sectorization design that ensures optimized approach and departure procedures and trajectories to/from Doha, Hamad Intl. Apart from the fact that Qatar did not present any airspace or sectorization design to support its proposal and the existence of sectorization within Doha TMA, Bahrain sectorization and airspace design has been continuously revised and expanded to meet the needs of all users transiting within the East section of the FIR without prejudice. All Bahrain sectors are under constant internal and external third-party review, the airspace is optimized based on over flight traffic as well as traffic trajectories to and from all regional airports including Qatar, Bahrain, KSA, Kuwait and UAE airports.



- 5.22 Claims related to improved coordination between the civil/military stakeholders and the introduction of the Flexible Use of Airspace (FUA).** In line with the Flexible Use of Airspace concept, current civil/military arrangements within Bahrain FIR provides Military users with continuous dynamic access to the required airspace through proven effective coordination mechanisms (Military letter detailed and referenced in paragraph 2.9 above refers).
- 5.23 Claims related to potential implementation of additional conditional routes.** The existence of only one part-time route with significant altitudes and timing restrictions over Qatar`s national airspace, it is contrary to the alleged airspace segregation and implementation of additional conditional routes particularly that, the presently imposed altitude restriction to the northern part of the airspace by Qatar military authorities contradicts with the such allegation.
- 5.24 Claims related to facilitation of traffic flow with less restrictions, including opportunities to define additional users preferred routes, and support continuous climb and descend operations (CCO and CDO).** Contrary to Qatar`s claim, with the diverse range of aircraft using the FIR boundary proposed by Qatar, the proposed segmentation of the Bahrain FIR will result in step climb and step descent measures explained in Section 5, paragraph 5.8.
- 5.25 Claims related to facilitation of seamless provision of ATS within the whole vertical stratum above Qatar.** The current structure provides a seamless ATS within the prescribed area. There is continuous operational review to ensure safety and efficiency of air traffic. The current structure has the proven ability to respond to regional traffic change based on stakeholder requirements. The proposed segmentation of Bahrain FIR would add an additional layer of coordination to facilitate the provision of ATS which is counter to the argument.
- 5.26 Claims related to facilitation of opportunities to accommodate direct routings without ACC coordination with third ACC.** Direct routing without coordination circumventing agreed procedures poses a grave safety risk, however, direct routing with approved coordination is already a mainstay of the current operational structure.

5.27 Claims related to optimized integration of traffic flows to and from Doha airport and Bahrain departures on the East and North-East in the regional network. Due to the close proximity of the proposed FIR boundary. All traffic departing Bahrain and Saudi Arabia to the East and the North East will be subject to approval requests and vice versa under the proposed segmentation, resulting in increased delay and restrictions on traffic movement that would severely impact the efficiency of aircraft operations. This would negatively impact flight schedules and would raise airspace users concerns. Currently, all traffic flows to the East and North East are fully integrated and optimized with due regard and synchronization with regional overflight flows and other regional departures and arrivals. The proposal appears to be only focused on Qatar departures and arrivals with a failure to address the majority of the responsibilities associated with the management of the airspace in question.

5.28 Claims related to the distribution of the workload between Bahrain ACC and Qatar ATS units. The objective of safe and efficient air traffic management is not to evenly distribute workload among FIRs. The objective is to ensure consistent, relevant, safe procedures in compliance with ICAO SARPs, allotment of workload needs to be based on functionality and overall safety.

5.29 Claims related to the deployment of state-of-the-art CNS/ATM infrastructures. The development of air navigation services including the introduction of state-of-the art ATM/CNS infrastructures has always been a continuous investment practice by all MID states to cope with traffic growth. Bahrain is a pioneer in this area as the first RNAV1 airspace in the region. Moreover, Bahrain and the UAE have successfully implemented data exchange connections and cross boarder arrival manager platform.

5.30 Under the BCAA service enhancement strategies and infrastructures developments initiatives. Bahrain has launched several air navigation projects which include a completely new Area Control Centre that incorporates state-of-the art new integrated ATM/CNS systems. In addition, the infrastructures developments include the following:

- New Area Control Center with Emergency Fall Back facilities that incorporates a complete back-up ATM/CNS system.



- New Training and Simulator center
- New state-of-the art Air-Ground communication station with new Transmitter/Receiver system and all associated hardware through a sophisticated fiber optic network infrastructure.
- ADS /B system implementation project in the Bahrain FIR.

5.31 Bahrain FIR has a proven track record of safety and efficiency as well as having been the first established fully RNAV1 airspace in the region, with adequate sectors and effective sectorization procedures that proved proper distribution of workload that are based on sector capacity. The operations are carried out by highly qualified air traffic controllers who are capable of managing the volume of traffic in a safe and efficient manner. Bahrain has developed a long-term recruitment plan for training and licensing air traffic controllers to cope with the traffic growth in the region.

5.32 **Claims related to providing an operational environmental conducive to handling future regional traffic growth in the most effective manner.** BCAA's long-term strategic planning for capacity expansions is carefully managed and supported by regulatory and infrastructure developments, the strategic planning has proven throughout the years' appropriate vision and prediction of traffic demands that has exceeded traffic forecasts and expectations in the region. As a result, Bahrain has been a leader in adapting routings and procedures, generating creative solutions to facilitate safe and efficient traffic flows during times of conflict within the region as a key facilitator and an active participant in the majority of the ICAO CCT developments.

5.33 **Claim related to the removal of the reliance on delegation of air navigation services outside of Qatar coordination of which has proved historically challenging, thereby simplifying regulatory oversight, regulations, air traffic service provision and in some instances coordination.** Qatar provides no proof for its assertion, and it offers no explanations as to which part of the delegation or coordination has been historically challenging. Several examples exist of the adjacent units adapting to facilitate Qatar traffic with a view to optimizing routes and enhancing cost savings whilst maintain safety and efficiency of air traffic. It is very important to note that the delineation of FIRs in the Gulf has been accepted by the regional States and ICAO Council and recorded in the MID ANP, Qatar cannot now suddenly

complain about Bahrain's provision of air traffic services in the current FIR. Matters related to regulations and safety enhancements have been already addressed in section 2.7 above.

5.34 Claims related to the alignment of FIR and SRR boundaries simplifying overall ATS and SAR responsibilities and taking the opportunity to support the provision of effective SAR services more directly from facilities available to Qatar covering the whole proposed FIR/SRR. Current SAR responsibilities within the proposed area have been delegated to Bahrain by regional agreement and endorsed by ICAO. Functions within the proposed area are being provided by Bahrain FIR in collaboration and agreement with neighboring countries. Whilst Qatar is currently responsible for SAR provision within its territorial areas, Bahrain does not discriminate in humanitarian situations and is ready to offer any assistance required. As part of the national search plan, Bahrain and the SAR agreement signatories possess the all the required assets to fully service SAR operations not only in the proposed area but also the entire current FIR.

6. Conclusion

6.1 Bahrain's pioneer role, longstanding experience and capabilities in providing Air Traffic Services in all areas of responsibilities within the Bahrain FIR/UIR and in the region is highly commended and recognized by the aviation community.

6.2 Qatar's proposed segmentation of the Bahrain FIR/UIR and creation of a new Qatar FIR/UIR are not justified by any technical, operational, safety or efficiency considerations. Nor would the proposal result in improving the current level of air traffic services. There is no regional agreement on Qatar's proposal or more generally the need for creating more FIRs in the region.²⁰

6.3 The high-risk factor associated with the introduction of an additional ATM unit in a sophisticated, multi-conflicts, high density and complex traffic area, will unnecessarily result in a reduction in the levels of the safety in the region.

²⁰ Second Meeting of Qatar's Proposal on the Amendment of MID Air Navigation Plan Task Force, 13-14 April 2019, Summary of Discussions, para 5.28.

6.4 It is important to reiterate that, that the current arrangement is satisfactory and that it has provided safe and efficient air traffic services under that arrangement and that Qatar has not identified technical or operational reasons that justify changes to the existing arrangement and it has not demonstrated how the Proposal would result in improving or even maintaining the current level of services.

6.5 The Kingdom of Bahrain strongly objects the proposal for the amendment of the Middle East Air Navigation Plan – MID ANP Volume 1. At the same time, Bahrain remains fully committed to ensure the safety and efficiency of air transport across the MID Region and to support ICAO's efforts in this regard. Bahrain also acknowledges that the airspace above the Gulf will see a further increase in traffic and will spare no effort in coping with such growth while maintaining a high level of safety and efficiency of air traffic in cost effective and a sound environment manner.

...End...



Appendix (1)

State of Qatar's Proposal to amend the MID ANP

Bahrain's List of Questions

Questions relating to Section 1 entitled "Introduction"

Page 1, para 3: (The arrangements under the Regional ANPs must be based on the principle of non-discrimination and ensure that "international air transport services may be established on the basis of equality of opportunity" in conformity with the Preamble of that Convention.)

Q1: Please explain how this principle set out in the Preamble assists Qatar's request for its own FIR/UIR.

Page1, para.5: (Recent developments in the MID Regional have led to a disruption of international air navigation activities).

Q2. Please describe in detail the recent developments that led Qatar to propose the amendment to the ANP.

Q3. Please list the international air navigation activities that were disrupted in Bahrain FIR? Please provide technical evidence and quote the date and time of each disrupted activity?

Page1, para.5: (More specifically restrictions and block of access of aircraft operating to and from the State of Qatar have been denied access to the regional airways network).

Q4. Please provide a complete list (including date and time) of aircraft operating to and from the State of Qatar that have been blocked or denied access by Bahrain ATC to the regional airways network, with technical evidence?

Page1, para.5: (This situation has emphasized the need for the State of Qatar to seek arrangement to resolve the current operational limitations. The objective will be achieved by creating Qatar FIR/UIR).

Q5. Arrangements are already in place with no operational limitations and risk of disruptions, especially those related to access over the high seas. Please provide a technical analysis that explains how the proposed Qatar FIR /UIR will overcome what is claimed as operational limitations?

Questions relating to Section 3 entitled "Motivation and reasons for Amendment"



Page2, para.2: (Hampering the ability of the State of Qatar to effectively manage Air Traffic in some parts of its sovereign airspace).

Q6. How could the State of Qatar be prevented from managing air traffic in its sovereign airspace above its land territory and territorial water, when its Air Traffic Unit has total control over traffic within Doha TMA. Could the State of Qatar provide further explanation and examples of instance in which they were prevented?

Page2, para.3: (This situation has resulted in the disturbance of international air navigation operations in the region and deterioration in the level of safety).

Q7. Please provide concrete evidence showing that international air navigation operations in the region have been disturbed and how the creation of a new Qatar FIR/UIR would end the alleged disturbance.

Q8. Could the State of Qatar provide a clear definition of the level of safety in Bahrain FIR? Please provide evidence showing that the level of safety has been deteriorated and to what level.

Page2, para.3: (The arrangements laid down in the current ANP for MID Region are no longer satisfactory and need to be corrected with overall safety and efficiency enhanced including in respect of contingency planning).

Q9. Could the State of Qatar provide a technical analysis to prove that the current arrangements laid down in the ANP are no longer satisfactory? Could the state of Qatar explain how the creation of Qatar FIR/UIR would enhance contingency planning? Can the State of Qatar provide examples?

Page2, para5: (The proposal submitted by Qatar is intended to optimize arrangement supporting air navigation operations and safety in the region and more specifically to ensure the continuity of such operation).

Q9. Under what operations and safety initiatives could the State of Qatar demonstrate this?

Questions relating to Section 3.b entitled "Qatar Obligations under the Chicago Convention"

Page3, para.4: (With due consideration to the air navigation environment in the Middle-East Region, Qatar is of the opinion that the best possible way to discharge its obligation effectively is to create its FIR).

Q10. The State of Qatar has agreed to delegate the responsibility for providing air navigation services in its sovereign airspace to Bahrain for more than 60 years. Please elaborate what



specific aspects of the current air navigation environment in the Middle East have led the State of Qatar to change its long-term position.

Question relating to Section 3.d entitled “Operational Efficiency”

Page4, para.1: (Any amendment to an existing regional ANP must result in arrangements that are at least as safe and efficient as the plan in place).

Q11. The State of Qatar has not disputed for many years that the existing arrangements have maintained a safe and efficient provision of air navigation services. If the proposal for creating a new Qatar FIR/UIR would result in arrangements that are at least as safe and efficient as the current plan, there is no need for segmenting the Bahrain FIR. Please elaborate how Qatar’s proposal would maintain or improve the safety and efficiency of air navigation services in the region, in light of the alleged deterioration in the level of safety (see Q7 and Q8 above).

Page4, para.1: (Qatar’s proposal aims to bring benefits to the airspace users through the deployment of state-of-the-art infrastructures and simplified interfaces between the various ATS units involved).

Q12. Could the State of Qatar please provide details of the claimed infrastructure? All states in the region were and still are investing in state-of-the-art ANS infrastructures and Qatar’s proposal may only result in duplication. What difference would the State of Qatar plan to bring?

Page4, para.1: (The performance and safety of ANS is also expected to improve thanks to a reduction of coordination).

Q13. How would this be achieved while Qatar is proposing fragmentation and disintegration of the existing FIR structure? Please provide data that support and substantiate the claim of safety improvement and coordination reduction?

Questions relating to Section 5 entitled “Extent of the Qatar FIR/UIR”

Page 7, para.2 (the whole paragraph)

Q14. Could the State of Qatar provide detailed technical analysis to prove that the proposed amendment, particularly in relation to the airspace over the high seas, would result in seamless, continuous, efficient, safe and cost effective ANS in the region that are better than the current arrangements? How cost effectiveness was calculated and measured? Please provide supporting data.



Questions relating to Section 5.b entitled "High Seas"

Page7, para.2 & 3: (Those paragraphs refer to Resolution A38-12 terms, which provides that established spatial limits of FIRs/UIRs *"should not be segmented for reasons other than technical, operational, safety and efficiency considerations"*).

Q15. The proposal by the State of Qatar will result in segmenting the established spatial limits of the Bahrain FIR/UIR. Please elaborate the technical, operational, safety and efficiency considerations which, in Qatar's view, justify the segmentation of the Bahrain FIR/UIR.

Page7, para.4: (The extension of the Qatar FIR/UIR over the aforementioned part of high seas is requested in particular for contingency planning).

Q16. Contingency planning and contingency routes are already established in coordination with Qatar. Could the State of Qatar confirm that the contingency arrangements in place today are unsatisfactory? Does this justify the establishment of new FIR's for this purpose?

Questions relating to Section 6 entitled "Operating Benefits":

(Enhancement of safety from a reduction in complexity and coordination)

Q17. Please provide technical analysis to support the claim that the proposed amendment would reduce complexity and level of coordination? How would this be achieved?

(Improved coordination between the civil and military stakeholders sharing the airspace).

Q18. Please explain how this would be better than the current civil-military coordination and sharing of airspace, especially over the high seas?

(Ability of traffic to flow to /from Iran without restrictions).

Q19. Please explain why Qatar needs to establish an FIR to resolve Iran traffic flow? Isn't this a matter governed by the LOA between Bahrain and Tehran ACCs?

(Optimized integration of traffic flows to and from Doha and Bahrain Departure to the east).



Q20. Please explain how this would be achieved? The proposed Qatar FIR boundary would require all traffic departing Bahrain to the east to be subject to approval request from Doha, thus increasing delay and restricting traffic movement out of Bahrain.

(Provide operational environmental conducive to handling future regional traffic growth in the most effective manner)

Q21. Could the State of Qatar please provide the characteristic of the claimed conducive operational environment?

(a major contribution toward alignment with the objective of the ICAO global Air Navigation Plan).

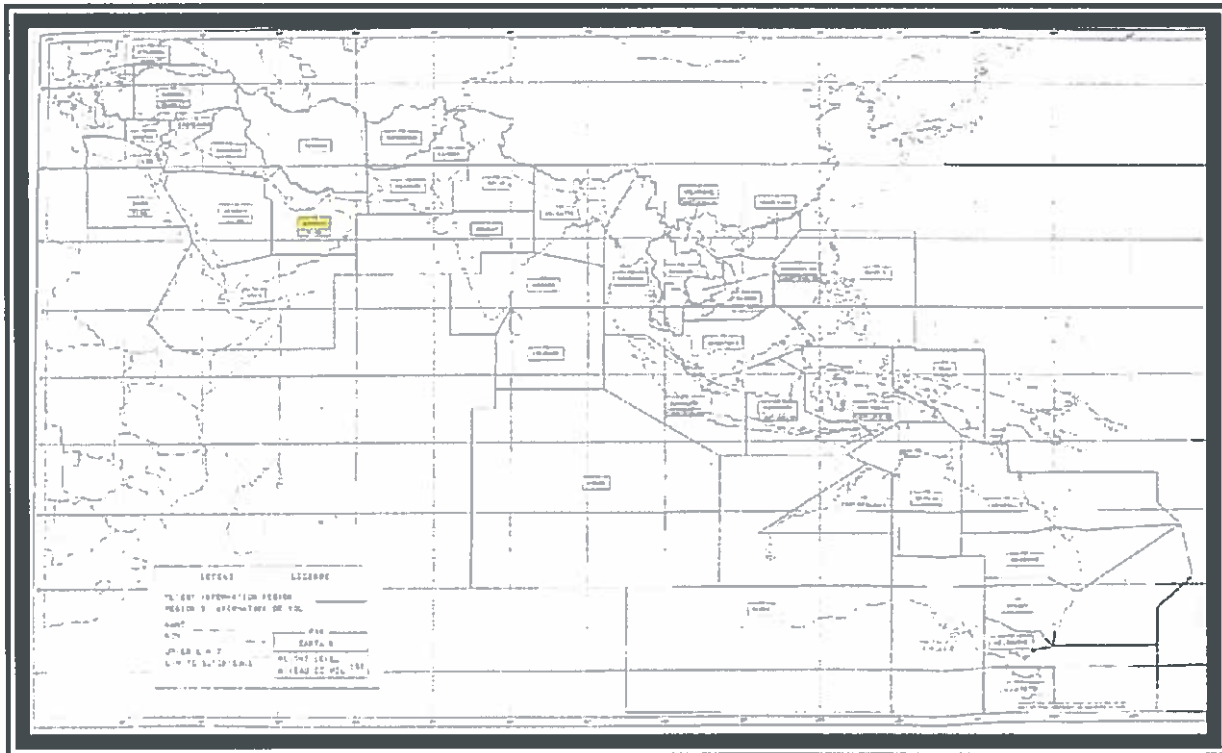
Q22. Could the State of Qatar please explain how the fragmentation of the airspace is an alignment with the ICAO objective which calls for single sky policy?



Appendix (2)

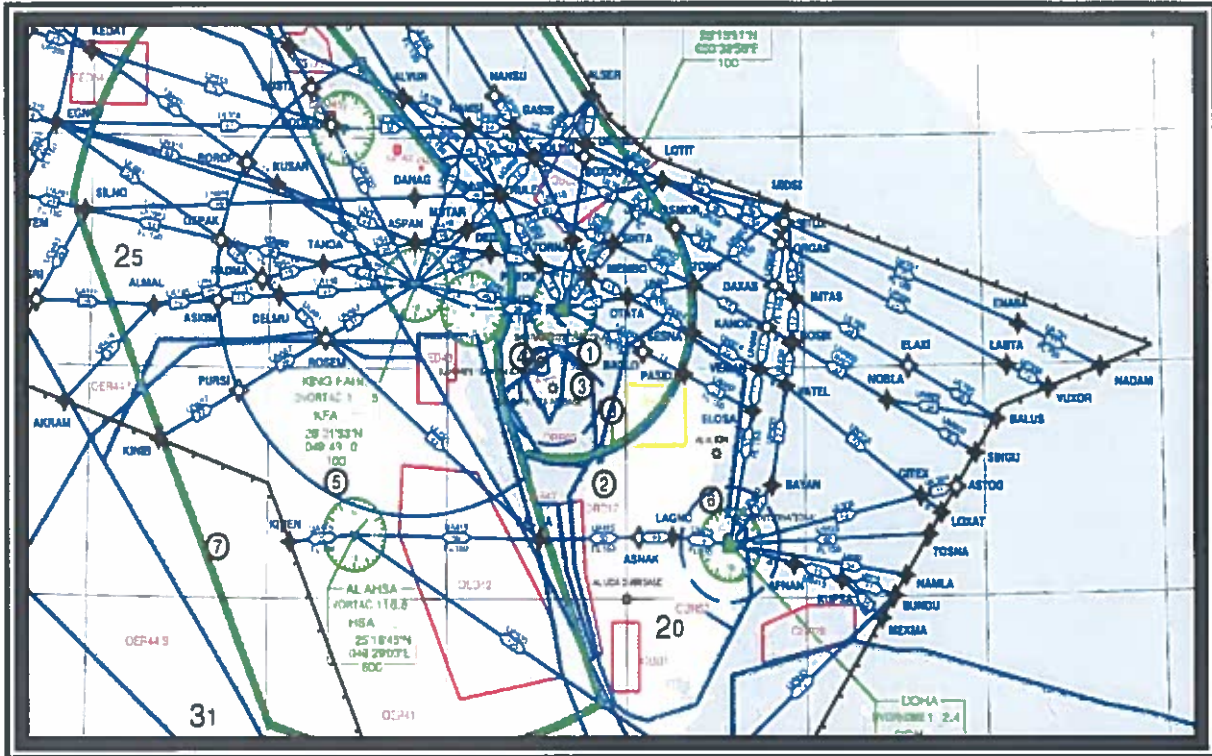
ATS chart in 1959. Showing FIR boundaries in the region which includes Bahrain FIR.

ATS chart 1959

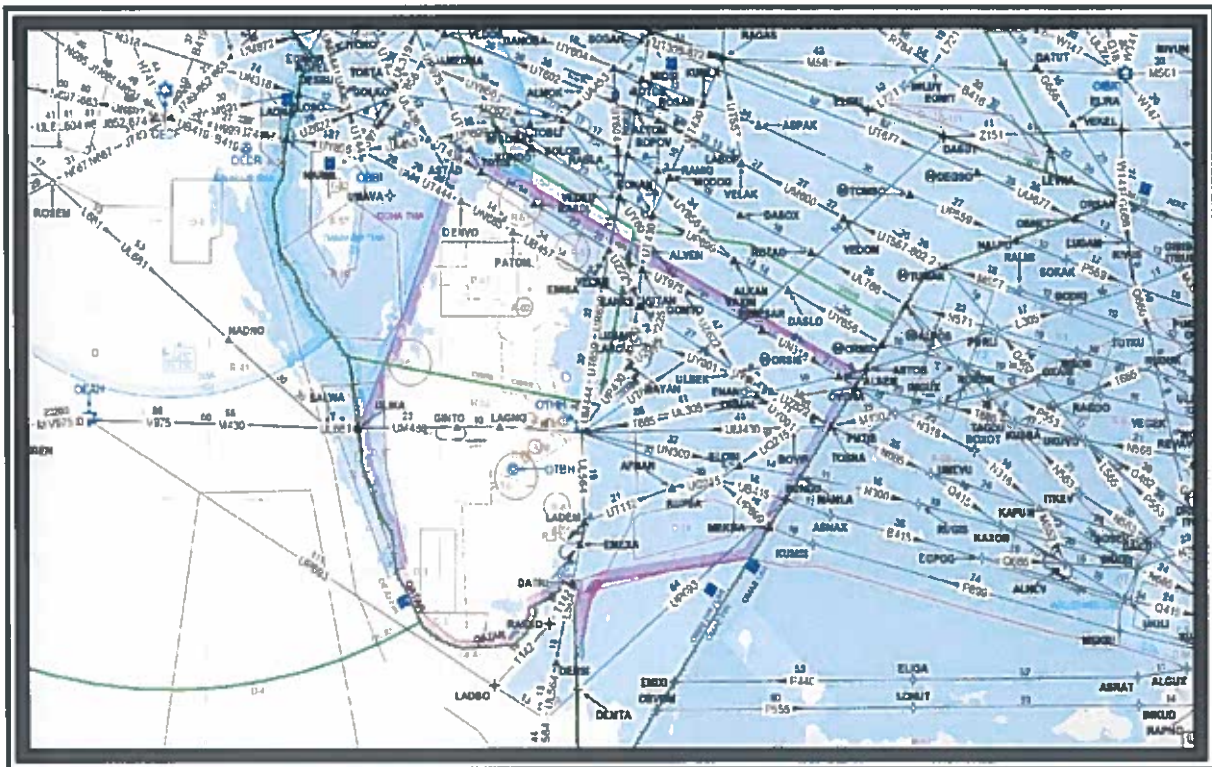


Appendix (3)

Doha TMA before and after 2013



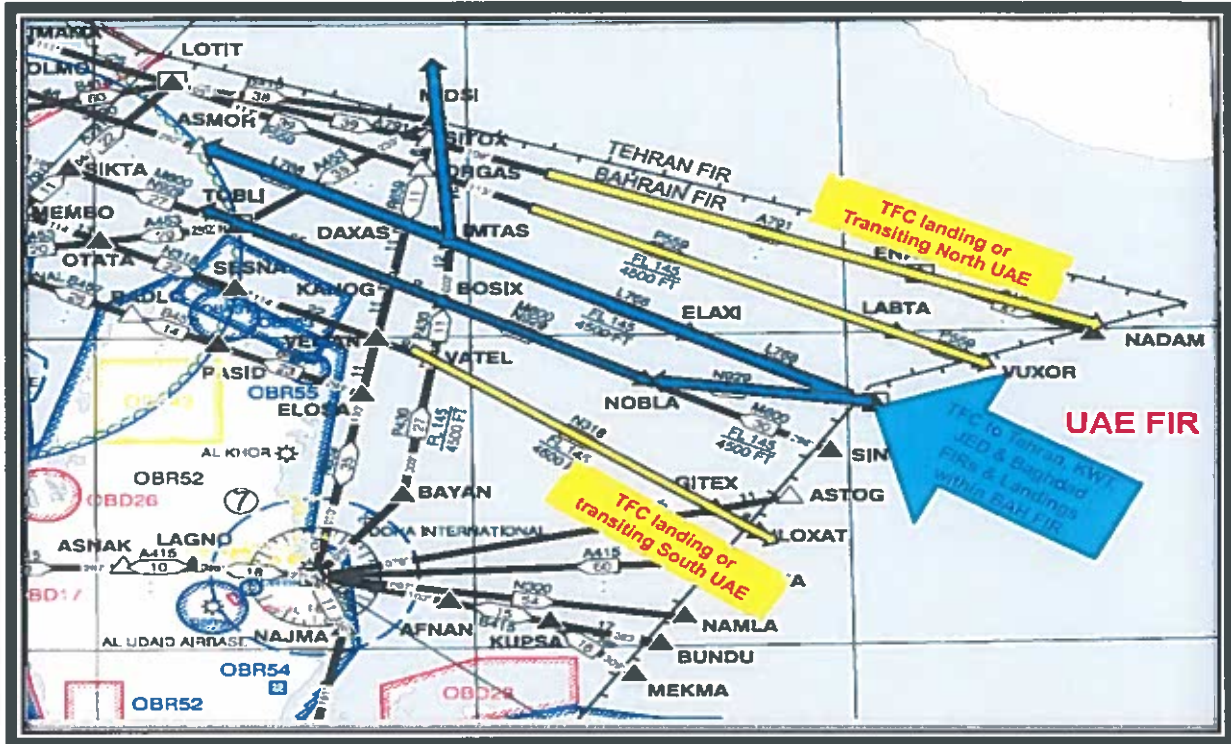
Before the establishment of Doha TMA



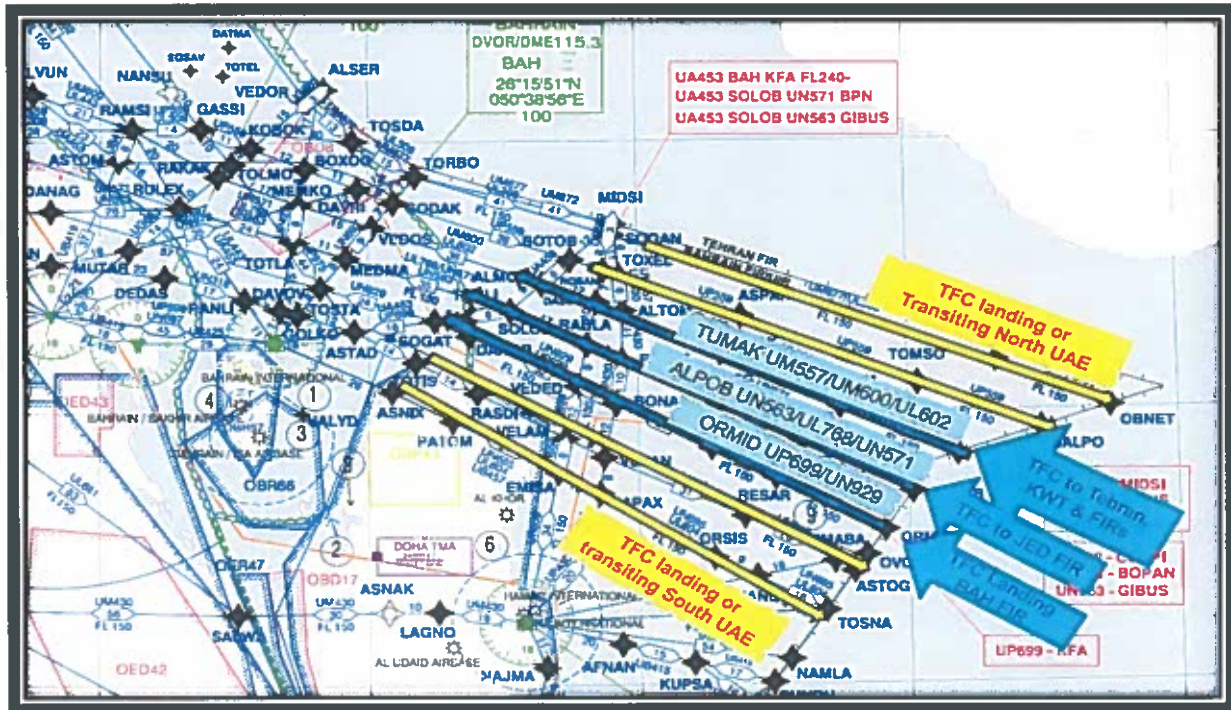
After the establishment of Doha TMA

Appendix (4/A)

Bahrain FIR Major Airspace Restructure (2014)



Bahrain FIR before the major airspace restructure



Bahrain FIR After the major airspace restructure (2014)



Appendix (4/B)

Capacity comparison before and after RNAV1 FIR restructure.

FIR Total 2012-2013



2012: 606063

2013: 630885



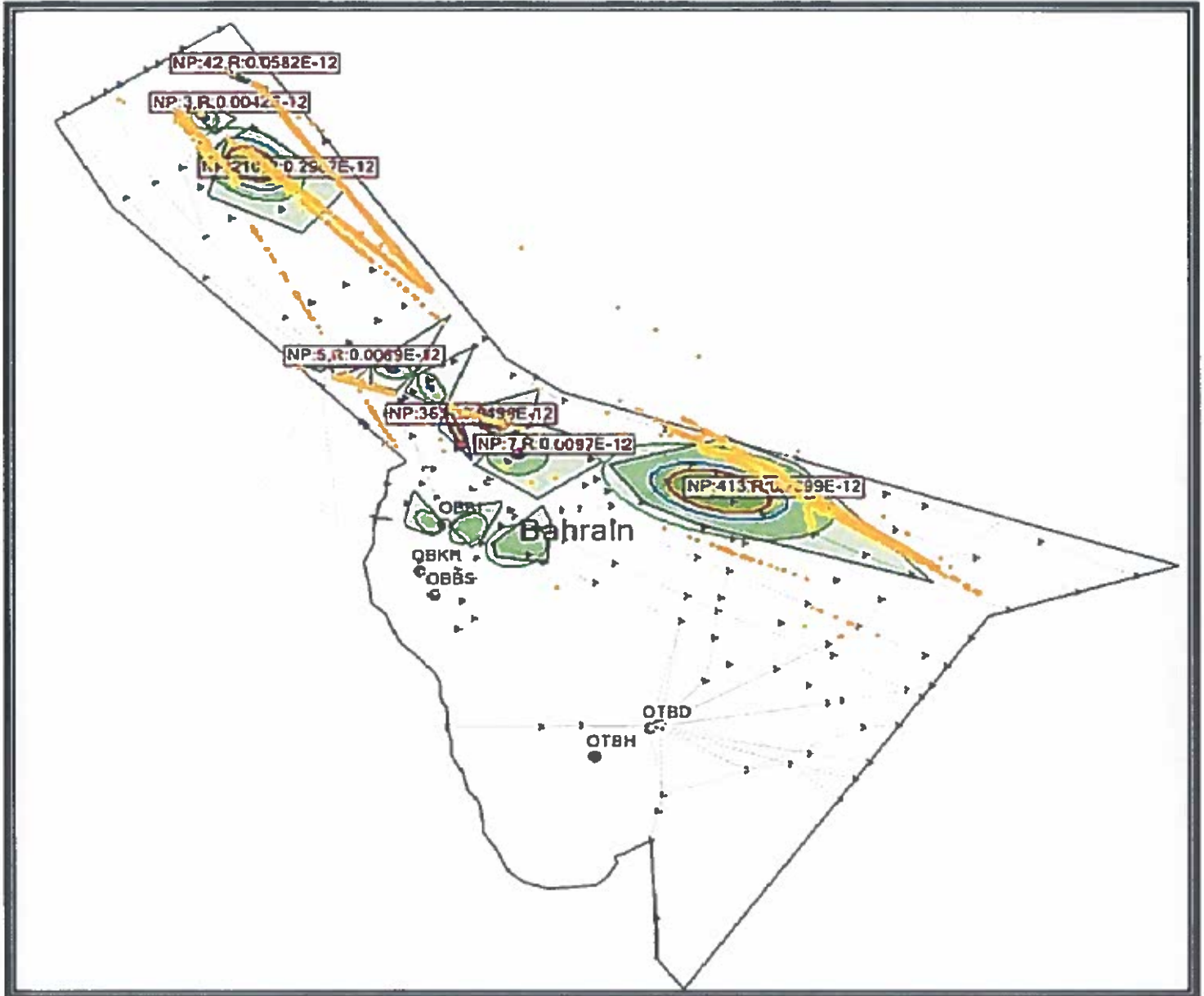
Appendix (5)

Appreciation and thanks letter:



Appendix (6)

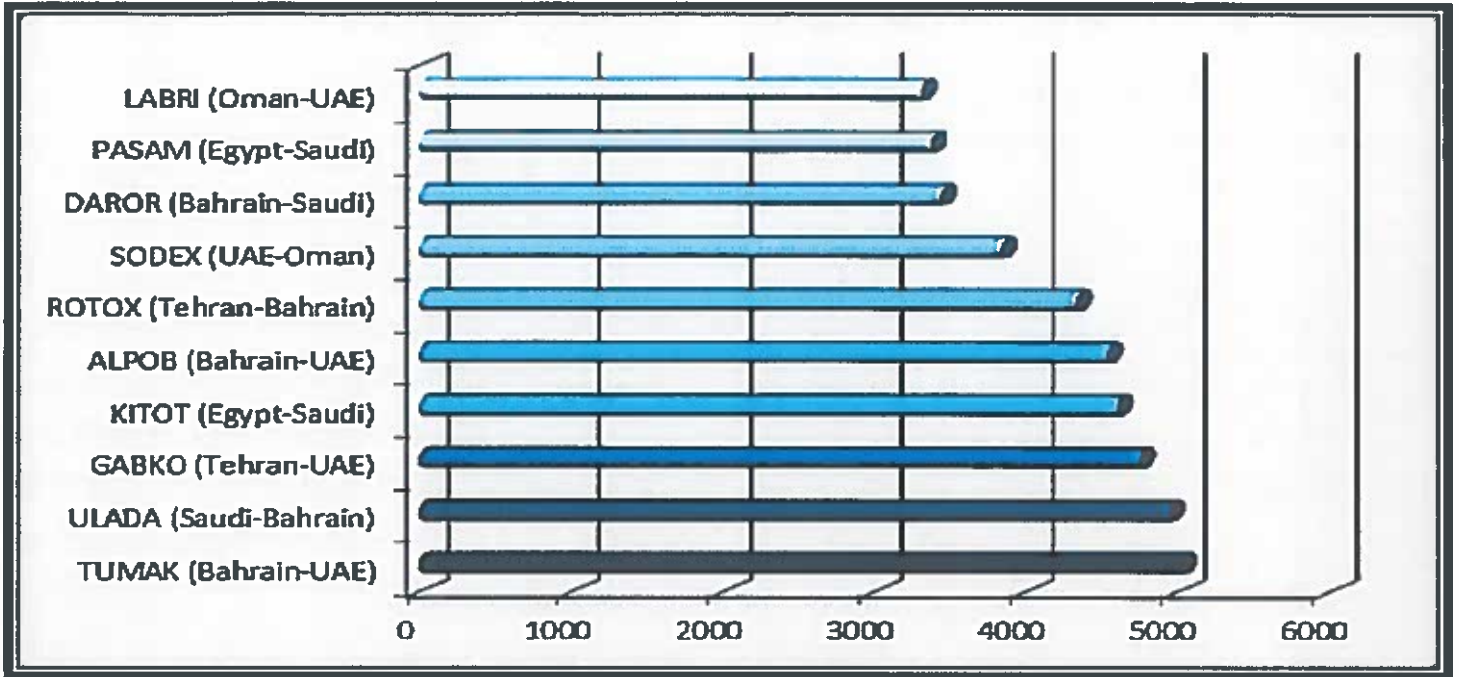
Risk Analyses – Bahrain FIR Hotspots



- Risk Analyses Feb 2019.
- Proposed FIR Boundary cuts through several Hotspots Areas.

Appendix (7)

Busiest Entry – Exit Points in the MID Region



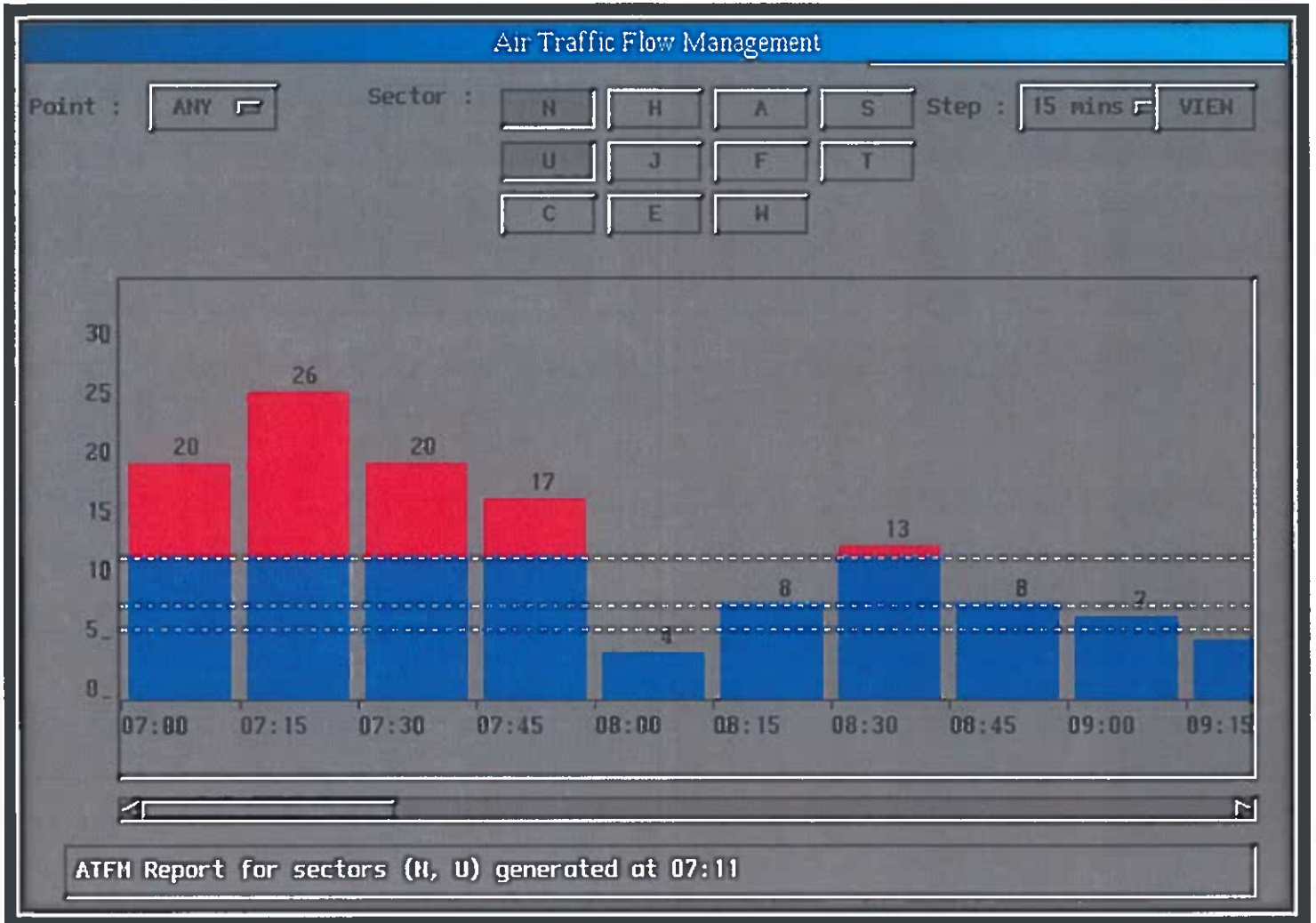
Ref. MID RMA SMR 2015

- Six out of Ten Busiest Entry – Exit Points in the MID Region are located within Bahrain FIR.



Appendix (8)

Traffic Forecast Dialogue Window



- ATFM software used for Dynamic sector activation
- ATFM software used for Dynamic SUA activation under FUA concept



Appendix (9)

United states AO appreciation letter



Embassy of the United States of America
Defense Attaché Office
Manama, Kingdom of Bahrain

5 May 2019

To: Mr. Ahmed Bucheery
Chief Air Traffic Management, Air Traffic Management Directorate
Ministry of Transportation & Telecommunications, Kingdom of Bahrain

Dear Ahmed Bucheery

On behalf of the United States Defense Attaché Office in the Kingdom of Bahrain, I would like to take this opportunity to personally acknowledge the tremendous efforts of the Bahrain Civil Aviation Authority and the Air Traffic Control team for their assistance in the successful United States Navy Helicopter Medical Evacuation drill held 06 March 2019. The resounding success of this drill is one of many shining examples of the outstanding cooperative efforts between our operational units.

We recognize that the optimum use of Bahrain FIR airspace requires for the skies to be managed as a continuum of civilian and military users and it further entails the utmost degree of safety, flexibility and cooperation on the part of the Air Traffic Control team. Your unquestionable high level of support and coordination of all our missions that operate in choreographed harmony with your civil aviation responsibilities does not go unrecognized, and is certainly appreciated.


Once again we thank you and your dedicated Air Traffic Control team for the support and outstanding service and we look forward to continue our partnership.

DAVID C. WALLIN
Colonel, U.S. Air Force
Senior Defense Official / Defense Attaché



Appendix (11)

ICAO MID Regional Office Appreciation letter



International
Civil Aviation
Organization

Organisation
de l'aviation civile
Internationale

Organización
de Aviación Civil
Internacional

Международная
организация
гражданской
авиации

منظمة الطيران
المدني الدولي

国际民用
航空组织

File Ref.: BR 4/1-262 25 September 2017

H.E. Eng. Kamal Ahmed Mohammed
Minister of Transportation and Telecommunications
Kingdom of Bahrain

Subject: Appreciation for the Excellent Cooperation during Contingency Situation


Excellency,


I have the honour to extend my sincere gratefulness to the Ministry of Transport and Telecommunications of the Kingdom of Bahrain and the Authority of Civil Aviation for being an essential contributor to the successful implementation of the MID Regional Contingency Plan. Bahrain's great support ensured safe accommodation of the traffic in the Gulf Area.

Bahrain's compliance to the provisions of the MID Region ATM Contingency Plan, in particular to the notification procedures and the working arrangements of the Contingency Coordination Teams (CCTs), has been highly appreciated by ICAO.

I would like to thank you for the continuous support provided by the Kingdom of Bahrain to the MID Regional Office activities. I reiterate the excellent working relations and cooperation between Bahrain and the MID States for the best interest of the civil aviation. The Office is proud to count a State such as yours in its accreditation area and I am confident that the same excellent cooperation will continue to prevail.

Accept, Excellency, the assurances of my highest consideration.


Mohamed Khalif, Rahma
Middle East Regional Director



Ministry of Civil Aviation Complex, Tel.: + 2 (02) 2267 4840/1/5/8 E-mail: icbomid@icao.int

