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Protection of aviation security through the establishment of prohibited airspace

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3 | Technical and Operational Aspects of Prohibited Airspace

1 PRELIMINARY REMARKS

Chapter II has examined the conditions for a Contracting State to establish prohibited airspace over its territory; and this chapter will explore more complicated situations, such as the closure of bilaterally delegated airspace. Because the establishment of prohibited airspace is always accompanied by air navigation services,¹ this chapter studies the technical and operational aspects of establishing prohibited airspace, starting with exploring the relevance of air navigation services to the establishment of prohibited airspace.

2 RELEVANCE OF ANS TO PROHIBITED AIRSPACE

2.1 Introductory remarks

As clarified in Annex 11 of the Chicago Convention,² prohibited airspace(s) shall be established with the indication of the nature of hazards.³

Each prohibited area, restricted area, or danger area established by a State shall, upon initial establishment, be given an identification and full details shall be promulgated.⁴

#AIP-DS# Description, supplemented by graphic portrayal where appropriate, of prohibited, restricted and danger areas together with information regarding their establishment and activation, including:

- 1) identification, name and geographical coordinates of the latest limits in degrees, minutes and seconds if inside and in degrees and minutes if outside control area/control zone boundaries;
- 2) upper and lower limits; and

1 See Section 2.1 of this chapter.

2 Annex 11, Standard 2.33.1.

3 Hazard is defined as “a condition or an object with the potential to cause or contribute to an aircraft incident or accident.” See ICAO Doc 9858, *Safety Management Manual*, 4th ed., 2018. In aviation, a hazard can be considered as a dormant potential for harm which is present in one form or another within the system or its environment. This potential for harm may appear in different forms, for example: as a natural condition (e.g., terrain) or technical status (e.g., runway markings).

4 Annex 11, Standard 2.33.1.

3) remarks, including time of activity.

Type of restriction or nature of hazard and risk of interception in the event of penetration shall be indicated in the remarks column.⁵

Identifying hazards requires accurate and timely information regarding risks to international civil aviation. In this process, air navigation services (ANS), including information services,⁶ plays an essential role in ascertaining risk levels of air routes.⁷ ANS encompasses, among others, communication, meteorological, search and rescue, and air traffic management (ATM).⁸ Within the frame of ATM,⁹ an air traffic service (ATS) ensures the safety of flight by maintaining safe routes and optimizing the traffic flows.¹⁰ An appropriate ATS authority¹¹ can take contingency responses to events such as meteorological and geological phenomena, pandemics, national security and industrial relations issues.¹²

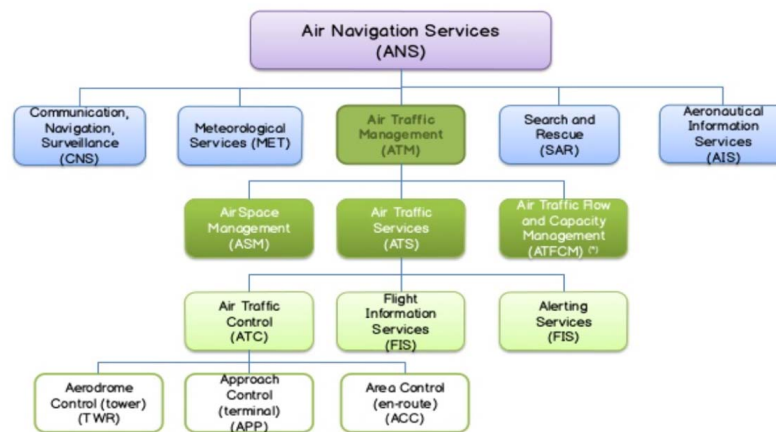


Figure 10: Air Navigation Services¹³

5 See ICAO Doc 10066, Aeronautical Information Management, 1st ed., 2018, Appendix 2, ENR 5.1. See also the presentation by Raúl A. Martínez Díaz, ICAO NACC RO/AIM, "Doc 10066 – PANS AIM Contents", at Mexico City, 3 to 5 September 2019.

6 A flight information service is defined as "a service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights." *ibid*, p. 1-8.

7 On the responsibility to assess risks, see Section 4.2 of this chapter.

8 See ICAO Doc 4444.

9 Gabriela, STROE, & Irina-Carmen, ANDREI. (2016). Automation and Systems Issues in Air Traffic Control. *INCAS Bulletin*, 8(4), pp. 125-140.

10 *ibid*.

11 On the concept of an appropriate ATS authority, see Section 2.2 of this chapter.

12 See for example, ICAO, CAR Region Air Traffic Management Contingency Plan, Draft Version 1.2 May 2020, approved by NAM/CAR Air Navigation Implementation Working Group; Published by ICAO North American, Central American and Caribbean Office (NACC) Office.

13 Source: Razvan Margauan's Introductory lecture to the Air Traffic Management course at the Aerospace, EUROCONTROL, March 2015.

In connection with prohibited airspace, an appropriate ATS authority is competent to announce that the airspace is closed under the following circumstances:¹⁴

- “Airspace Not Safe”, due to causal events such as industrial action, earthquake, nuclear emergency, etc. affecting the provision of ATS;
- “Airspace Not Secured”, due to contingency events such as military activity, military conflict, war, terrorist activities, unlawful interference, etc. necessitating the avoidance of such airspace; and
- “Airspace Not Available”, due to causal events such as national security-political decisions, civil unrest, imposition of sanctions, etc. necessitating the avoidance of such airspace.

To pre-empt the use of certain airspace, an appropriate ATS authority can label a segment of airspace as “not available” and thus prohibits airspace users from using the routes therein. Where the appropriate ATS authority declares airspace as not safe/secured/available, it is the pilot-in-command that has the final say as to the disposition of the aircraft;¹⁵ nonetheless, the pilot-in-command is also obliged not to operate an aircraft in a negligent or reckless manner.¹⁶ Flying through airspace with a NOTAM¹⁷ warning of “not safe/secured/available” could constitute negligent or reckless operation of an aircraft.¹⁸

If the appropriate ATS authority prohibiting the overflight of aircraft out of safety concerns, the pilot-in-command should not behave recklessly in contravention of such warnings. Therefore, the airspace announced by the appropriate ATS authority as “not safe/secured/available” is an airspace of defined dimensions within which the overflight of aircraft is prohibited/restricted; such airspace restrictions with the effect of airspace closure falls

14 For instance, see ICAO ATM Contingency Plan (AFI) Africa and Indian Ocean, version 1, July 2019, para. 12.1.

15 See Standard 2.4 of Annex 2.

16 See Standard 3.1.1 of Annex 2.

17 A NOTAM is defined as ‘a notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.’ See Annex 11 to the Chicago Convention, 1-6. For airspace announced as not available, it may happen that the ATC facility involved will be subject to evacuation. In this instance the ANSP will issue NOTAMs and broadcast that contingency procedures have been initiated, so that the airspace is closed to aircraft. For example:

NOTAM: Due to emergency evacuation of (States ACC) all ATC services are terminated. Flights within (States ACC) FIR should continue as cleared and contact the next ATC agency as soon as possible. Flights not in receipt of an ATC clearance should land at an appropriate airfield or request clearance to avoid (State) FIR. Flights should monitor (defined frequencies).

See ICAO, ATM Operational Contingency Plan for South Atlantic Oceanic FIRS, 1st ed., May 2019, p. 6.

18 See Merinda E. Stewart, *Freedom of Overflight: A Study of Coastal State Jurisdiction in International Airspace*, Wolters Kluwer 2021, chapter II, Section 2.1.

into the scope of prohibited/restricted airspace.¹⁹ The establishment of prohibited/restricted airspace(s), through the announcement of “not safe/secured/available”, requires the coordination of technical and operational functions of the appropriate ATS authority or authorities.

2.2 Appropriate ATS authority

An appropriate ATS authority is defined in the foreword of Annex II as the relevant authority designated by the State responsible for providing ATS in the airspace concerned.²⁰ Through an appropriate ATS authority as designated, an ICAO Member State provides ATS in accordance with Article 28 of the Chicago Convention.²¹ If, and so long as, an ICAO Member State has not notified ICAO to the contrary, it shall be deemed to have agreed to provide ATS in its territory;²² for those parts of the high seas, an ICAO Member States provide ATS in accordance with regional air navigation agreements and ICAO regulations.²³

According to Annex 11 to the Chicago Convention, an appropriate ATS authority is *responsible* for providing flight information and assessing risks of air routes,²⁴ so that airspace users can access ATM resources for their specific operational requirements.²⁵ On the one hand, the appropriate ATS authorities determine the access and level of service provided to civil aircraft wishing to operate in any controlled airspace.²⁶ On the other hand, the appropriate

19 Prohibited/restricted airspace or area, by definition (See Chapter II, Section 2.2.3), is an airspace of defined dimensions, above the land areas or territorial waters of a State, within which the overflight of aircraft is prohibited/restricted. In this sense, prohibited/restricted areas cover “airspace not safe/secured/available”.

20 See the definition in Annex 11, I-4. “Appropriate ATS authority: The relevant authority designated by the State responsible for providing air traffic services in the airspace concerned.”

21 Abeyratne, Ruwantissa, *Air Navigation Law*, Spring Link 2012, p. 24. See Standard 2.1.2 of Annex 2 and the following Section 3 of this chapter.

22 *ibid.*

23 See Section 3.2.2 of Chapter IV.

24 See Annex 11, Attachment C, para. 4.2, also ICAO Doc 10066, Aeronautical Information Management, 1st ed., 2018, Appendix 2, ENR 5.1, and the presentation by Raúl A. Martínez Díaz, ICAO NACC RO/AIM, “Doc 10066 – PANS AIM Contents”, at Mexico City, 3 to 5 September 2019. More on the responsibilities of an appropriate ATS authority, see Section 4 of this chapter.

25 See generally ICAO, *Manual on Collaborative Air Traffic Flow Management*, 1st ed., 2012.

26 Distinguishing civil aircraft operations from State aircraft operations was important enough to warrant the creation of Article 3 of the Chicago Convention, which excludes State aircraft used in military, customs and police services from ICAO’s regulations. Further, ICAO developed ATM contingency plans in recognition of the fact that circumstances causing disruptions of services to international *civil* aviation vary widely and that contingency measures in response to specific events and circumstances must be adapted to these circumstances. See Attachment C to Annex 11, para. 1.3; see also ICAO working paper,

ATS authority is competent to announce the existence of hazards and close the airspace under selective circumstances.²⁷ As such, the appropriate ATS authority is responsible for managing the traffic flow, and establishing prohibited airspace, including through announcing that a portion of airspace is not available/safe/secured.

In some cases, the appropriate authority designated for providing ATS services sits within the national civil aviation administration authority. For example, in the US, the appropriate ATS authority is the Chief Operating Officer of the Air Traffic Organization, acting under the authority of the Federal Aviation Administration (FAA).²⁸ In China or France, the appropriate ATS authority is national civil aviation administration or a department within the administration.²⁹ In countries where the provision of air navigation services was neither corporatized, privatized, nor commercialized, it is not difficult to identify the ‘appropriate ATS authority’ as the national civil aviation administration, because such administration, as an authority, *provides* ATS in accordance with national laws.

However, it is less straightforward to identify the ‘appropriate ATS authority’ when the provision of air navigation services have been corporatized, privatized, or commercialized.³⁰ When an air navigation service provider

“ICAO provisions related to access to the High Seas”, presented by the Secretariat at European Air Navigation Planning Group (EANPG) Flexible Use of Airspace (FUA) Task Force (FUA-TF/3), third meeting, Paris, 10 to 11 February 2009, para. 2.2.

27 See more on the responsibility of the appropriate ATS authorities in Section 4 of this chapter.

28 The Air Traffic Organization (ATO) was established by FAA in February 2004 to take over the entire air traffic operations, pursuant to Presidential Executive Order 13180. See https://www.faa.gov/air_traffic/publications/atpubs/aip_html/part1_gen_section_3.3.html, last accessed Oct 15, 2021. ICAO Case Studies on Commercialization, Privatization and Economic Oversight of Airports and Air Navigation Services Providers (ANSPs), <https://www.icao.int/sustainability/CaseStudies/UnitedStates.pdf>, last accessed Oct 15.

29 In China, the Air Traffic Management Bureau of the Civil Aviation Administration of China (CAAC) holds under its responsibility the control functions on air traffic and navigation services, aeronautical regulation and services of communications and meteorology and, in general, the technical aspects of ANS; whereas in France, functional separation occurred in 2005 within the French Civil Aviation Administration (DGAC), whereby the Direction des Services de la Navigation Aérienne (DSNA) was set up as the Air Navigation Services provider branch of the DGAC, under safety, security and economic oversight by functionally separate DGAC directorates (namely Direction du Transport Aérien (DTA), and Direction de la Sécurité de l’Aviation Civile (DSAC)), see ICAO Case Studies on Commercialization, Privatization and Economic Oversight of Airports and Air Navigation Services Providers (2013) available at: https://www.icao.int/sustainability/pages/Eap_ER_Databases_CaseStudies_ANSPs.aspx, last accessed 7 November 2021.

30 *ibid.* See also IATA, Commercialisation of Air Navigation Service Providers (2011), available at: <https://www.iata.org/policy/Documents/commercialisation-ansps.pdf>, last accessed 7 November 2021. In comparison with ICAO (2013), IATA understands commercialization not only as a change in organizational-ownership structures, but also as an orientation of ANSPs to commercial revenue. Hobe et al reviewed the development of European ANSPs, see Stephan Hobe, Katharina Irmen, Christian Plingen, ‘Privatization of German and Other European Air Navigation Service Providers and the Single European Sky Regulations’,

(ANSP)³¹ is a private entity, it is questionable whether this private entity can be called an 'authority', even under the domestic law.³² Even more complex is that, the function of ANSPs, under European law, is contingent upon the oversight of a national supervisory authority (NSA);³³ an NSA controls the operation of an ANSP through issuing certificates.³⁴ An NSA in this context is an authority, while noting that this authority *supervises* rather than *provides* ATS.³⁵ It is equally questionable whether a NSA can be called 'the appropriate ATS authority', which by definition is to *provide* ATS.

In Annex 11 to the Chicago Convention, a Note to Standard 2.1.3 says that: "the authority responsible for establishing and providing the services may be a State or a *suitable agency*."³⁶ The Note does not specify that the appropriate ATS authority has to be a *governmental* agency, so the concept of 'an appropriate ATS authority' can be interpreted as accommodating corporatized or private entities providing ATS. Therefore, one interpretation is that a corporatized or private ANSP can be called an appropriate ATS authority as long as the State properly designated it to provide ATS in accordance with national law. A second interpretation is that the conducts of a corporatized or private

(2007), 32, *Air and Space Law*, Issue 3, pp. 168-178. Dempsey claims that commercialization is not only a change in organizational-ownership structures in order to improve the cost-effectiveness and quality of services provided, but also a way of introducing public-private business relationships into the industry, see Dempsey, P. S., Janda, R., Nyampong, Y., Saba, J., & Wilson, J. The McGill Report on Governance of Commercialized Air Navigation Services, XXXI *Annals of Air & Space Law* (2006), pp. 213-347. Commercializing Air Traffic Control: Have the Reforms Worked? *Canadian Public Administration* 51(1). DOI: 10.1111/j.1754-7121.2008.00004.x. Jones and Guthrie divide the services provided by Air Navigation Service Providers into public service (non-commercial) and commercial services, see Jones, A., & Guthrie, J. 2008. Protecting 'Public Interest' in Modernised Skies Protecting 'Public Interest' in Modernised Skies, in: Paper Presented at the 5th International Conference on Accounting, Auditing & Management in Public Sector Reforms, Amsterdam, September 3-5, 2008.

31 Flight information service and alerting service are provided by air navigation service providers (ANSPs) to en-route traffic for a given area. See Annex 11, Standards 4.2.1 & 5.1.3. In the EU context, Regulation (EC) 2096/2005 contains further specifications as to the common requirements. The term 'Air Navigation Services Provider' is defined as 'any public or private entity providing air navigation services for general air traffic'. See Art 2 No 5 Regulation (EC) 549/2004 of 10 March 2004.

32 On the terminologies of corporatization and privatization under German law, see Stephan Hobe, Katharina Irmen, Christian Plingen, 'Privatization of German and Other European Air Navigation Service Providers and the Single European Sky Regulations', (2007), 32, *Air and Space Law*, Issue 3, pp. 169-170: The German Constitution uses the term 'federal administration' (*bundeseigene Verwaltung*), German Air Navigation Services Provider (*Deutsche Flugsicherung* (DFS) was organized as a limited liability company (*Gesellschaft mit beschränkter Haftung* – GmbH).

33 See Art 4 Regulation (EC) 549/2004 of 10 March 2004, Art 3 para. 2 of Regulation (EC) 2096/2005 of 20 December 2005.

34 *ibid.*

35 *ibid.*

36 Note 1 to Standard 2.1.3 of Annex 11.

ANSP are attributed to the supervising State civil aviation administration, so that it is a State organ, such as an NSA, that 'provides' ATS, in an indirect way, through supervising the activities of the private ANSP.

The first interpretation depends on the meaning of an 'ATS authority' in national laws, *i.e.*, what is a legally valid designation of an 'authority'; and the second interpretation adopts a broad definition of 'provision', which hinges upon the attribution theory in customary international law on State responsibility.³⁷

No matter which interpretation a Contracting State has adopted and thereon designates an ATS authority, the author emphasizes that, at the international level, the State is liable for the consequences arising from the provision of ATS in its territory. For example, the German Federal Administration of Air Navigation Services (*Bundesanstalt für Flugsicherung*, BFS), a federal government agency, was commercialized through the amendment of the German Constitution.³⁸ Germany subcontracted the ATS provision over the airspace of southern Germany, including the town of Überlingen, to a Swiss company Skyguide.³⁹ In 2002 when a mid-air collision happened over Überlingen, Skyguide was in control of the said airspace.⁴⁰ It depends on domestic German law to clarify which authority is 'the appropriate ATS authority' for the airspace over Überlingen.⁴¹ Despite technical complications due to the delegation of ATS pro-

37 ILC, 'Draft Articles on Responsibility of States for Internationally Wrongful Acts, with Commentaries' (2001) II(2) Ybk ILC 26, Article 30 on p. 88 and Article 31 on p. 91. Cessation of conduct in breach of an international obligation is the first requirement in eliminating the consequences of wrongful conduct. The obligation to make full reparation is the second general obligation of the responsible State consequent upon the commission of an internationally wrongful act, see *Factory at Chorzów*, Jurisdiction, Judgment No. 8, 1927, P.C.I.J., Series A, No. 9, p. 21.

38 In October 1992, the Deutsche Flugsicherung GmbH (DFS) was established as a limited liability company, which is wholly owned by the Federal Government and governed by Private Company Law. In January 1993, DFS formally succeeded BFS and commenced its operation. Since 1994, DFS has been responsible for performing not only civil but also regional military air traffic control. ICAO Case Studies on Commercialization, Privatization and Economic Oversight of Airports and Air Navigation Services Providers, https://www.icao.int/sustainability/pages/Eap_ER_Databases_CaseStudies_ANSPs.aspx, last accessed 7 November 2021.

39 See <https://www.swissinfo.ch/eng/charges-brought-against-skyguide-staff/5364820>, last accessed 7 November 2021.

40 *ibid.*

41 See Stephan Hobe, Katharina Irmen, Christian Plingen, 'Privatization of German and Other European Air Navigation Service Providers and the Single European Sky Regulations', (2007), 32, *Air and Space Law*, Issue 3, pp. 168-178. In December 2004, the Federal Government announced a plan to change the ownership of DFS, selling 74.9 per cent of its equity to private investors and reorganizing it as a public-private partnership (PPP). The Parliament formally approved the proposal with the Air Navigation Services Act in April 2006. However, the privatization process was stopped by the President's decision in October 2006 because it conflicted with a constitutional clause, which says air traffic management within Germany must be carried out by a State organization. See ICAO Case Studies on Commercialization, Privatization and Economic Oversight of Airports and Air Navigation

vision, with respect to liability issues, the Court of Konstanz found that Germany is responsible and therefore must cover for the losses addressed to victims.⁴²

2.3 Case study of airspace closure due to the unavailability of ATS

It did happen that due to the non-availability of ATS, aircraft have been prohibited from using certain air routes, and thus prohibited airspace is established for targeted aircraft. For example, in 1956, Israel alleged that the Arab States were not providing ATS to aircraft *en route* to or from Israel, refusing them permission to fly over Arab territory, and establishing prohibited/restricted areas to an unreasonable extent.⁴³ The allegations were admitted by Egypt.⁴⁴

The Executive Committee of the ICAO Assembly decided not to discuss the matter raised by Israel upon a motion submitted by Peru.⁴⁵ The motion proposed that the debate be adjourned on the grounds that although the situation described by Israel had technical aspects, it was part of a much larger political problem that did not fall within the jurisdiction of ICAO at all.⁴⁶

The situation changed over the course of the 1970s and 1980s with the conclusion of peace treaties.⁴⁷ The tables below show that Israel gained support from Egypt, Kenya, and South Africa to facilitate its operation of international flights; the three States were willing to provide ATS for Israeli flights in 1989,⁴⁸ thus, prohibited areas against Israeli flights had decreased.⁴⁹ After

ServicesProviders, https://www.icao.int/sustainability/pages/Eap_ER_Databases_Case_Studies_ANSPs.aspx, last accessed 7 November 2021.

42 See further in F.P. Schubert, 'The Liability of Air Navigation Services Providers: Some Lessons from the Single European Sky', in Daniel Calleja Crespo & Pablo Mendes de Leon, *Achieving the Single European Sky: Goals and Challenges*, Kluwer 2011, p. 55.

43 ICAO Assembly, Executive Committee of the Tenth Session, 1956. See Bin Cheng, *The Law of International Air Transport*, p.114.

44 *ibid.* Egypt maintained that both these measures were part of a boycott instituted in the interests of self-preservation and based on the existence of a technical state of war between Israel and her neighbors which was entirely compatible with the non-existence of a state of active belligerence mentioned in UN Security Council's resolution.

45 See ICAO Assembly, Executive Committee of the Tenth Session, 1956, quoted by ICAO *Bulletin* (1956), p. 32 *et seq.* It is interesting that this document did not specify whether or not the ICAO Air Navigation Bureau proposed or took technical actions on this matter.

46 *ibid.*

47 Kristian Coates Ulrichsen. (2018). Egypt-Israel Peace Treaty. A Dictionary of Politics in the Middle East, 2018-06-21.

48 ICAO, Circular 221-AT/89, International Air Passenger and Freight Transport – Middle East, 1989.

49 See Mohamed R.M. Khonji's (Regional Director ICAO Middle East Office) presentation, "Civil/Military Coordination in the Middle East (MID) Region", at Global Air Traffic Management Forum on Civil/Military Cooperation (Montréal, 19 to 21 October 2009). Air traffic services (ATS) routes in the MID Region go through airspace that has many military-

the signing of the Abraham Accords in 2020,⁵⁰ with the making of détente and the grant of traffic and transit rights, Israel opened direct flight routes with more States in the Middle East. Dubai and Israel were the first to establish direct flights in November 2020;⁵¹ Bahrain and Israel also started about 14 direct passenger flights;⁵² Israel and Jordan opened the air corridor for commercial airlines;⁵³ and the first Morocco-Israel direct flight landed in Marrakech on 25 July 2021.⁵⁴

use and shared (civil/military) airspaces, including over high seas, which emphasizes the need for effective coordination between civil and military activities in order to safeguard the safety of civil aviation operations. In this regard, MIDANPIRG/10 adopted Conclusions 10/25 – Civil/military coordination, 10/26 – Coordination of flights operating over high seas and 10/27 – Uncoordinated flights over the Red Sea area. Effective coordination is also necessary to achieve progress under the Global Air Navigation Plan – Global Plan Initiatives relating to increased airspace capacity and improved ATS routes and terminal operations, as well as to reduce flight operational costs through more favorable route trajectories. See ICAO, C-WP/13121, “Implementation of regional plans – proposals for special implementation projects for 2008”, presented by Secretary General at the ICAO Council’s 183rd Session, 19/02/08.

- 50 On Sept. 15, 2020, Emirati Foreign Minister Abdullah bin Zayed al-Nahyan, Bahraini Foreign Minister Abdullatif bin Rashid al-Zayani, then-Israeli Prime Minister Benjamin Netanyahu, and then-U.S. President Donald Trump met on the South Lawn of the White House to sign the Abraham Accords, normalizing relations between the two Gulf Arab states and Israel. Morocco followed suit several months later, signing a similar agreement with Israel on 22 December 2020. On 6 January 2021, Sudan and Israel also agreed to normalize relations. See <https://www.state.gov/the-abraham-accords/>, last accessed 28 August 2021.
- 51 Roie Yellinek, “The Abraham Accords one year on”, 19 August 2021, <https://www.mei.edu/publications/abraham-accords-one-year>, last accessed 28 August 2021.
- 52 Lahav Harkov, “Bahrain and Israel sign direct flights agreement”, 22 October 2020, <https://www.jpost.com/arab-israeli-conflict/bahrain-signs-aviation-agreement-with-israel-for-14-weekly-flights-646559>, last accessed 28 August 2021.
- 53 Davi Casey, “Israel-Jordan airspace deal to open-up new routes”, 9 October 2020. <https://www.routesonline.com/news/29/breaking-news/294281/israel-jordan-airspace-deal-to-open-up-new-routes/>, last accessed 28 August 2021.
- 54 Steven Scheer, “Israeli airlines start direct flights to Morocco”, July 15, 2021. <https://www.reuters.com/business/aerospace-defense/israels-el-al-starts-flights-morocco-after-improved-diplomatic-ties-2021-07-25/>, last accessed 28 August 2021.

Table 1: Air service links in the Middle East in 1988

Appendix 4-3. Air service links between States in the Middle East (one or more weekly through-plane scheduled passenger services by any airline - June 1988)

and	Between														Totals
	Bahrain	Democratic Yemen	Iran Islamic Rep. of	Iraq	Israel	Jordan	Kuwait	Lebanon	Oman	Qatar	Saudi Arabia	Syrian Arab Republic	United Arab Emirates	Yemen	
Bahrain						X	X	X	X	X	X	X	X	X	9
Democratic Yemen							X	X		X	X	X	X	X	7
Iran Islamic Rep. of										X		X	X		3
Iraq						X	X				X				3
Israel															0
Jordan	X			X			X	X	X	X	X	X	X	X	10
Kuwait	X	X		X		X		X	X	X	X	X	X	X	11
Lebanon	X	X				X	X		X	X	X	X	X		9
Oman	X					X	X	X		X	X	X	X		7
Qatar	X	X				X	X	X	X	X	X	X	X	X	11
Saudi Arabia	X	X		X		X	X	X	X	X		X	X	X	11
Syrian Arab Republic	X	X	X			X	X	X		X	X		X	X	10
United Arab Emirates	X	X	X			X	X	X	X	X	X	X		X	11
Yemen	X	X				X	X			X	X	X	X		8
Totals	9	7	3	3	0	10	11	9	7	11	11	10	11	8	110

Source: 'ABC World Almanac Guide', June 1988.

Source: 'ABC World Airways Guide', June 1988.

Appendix 44. Air service links between States in the Middle East and States in other regions (one or more weekly through-plane scheduled passenger services by any airline - June 1988)

And	Between													Totals	
	Bahrain	Democratic Yemen	Iran Islamic Rep. of	Iraq	Israel	Jordan	Kuwait	Lebanon	Oman	Qatar	Saudi Arabia	Syrian Arab Republic	United Arab Emirates		Yemen
AFRICA															
Algeria											X	X			2
Chad											X				1
Cote d'Ivoire								X							1
Djibouti		X							X		X		X	X	5
Egypt	X			X	X	X	X	X	X	X	X	X	X	X	12
Ethiopia		X											X	X	3
Kenya					X				X		X		X	X	5
Liberia							X								1
Libyan Arab						X	X				X				4
Jamahiriya															1
Madagascar										X					1
Mauritania											X				1
Mauritius													X		1
Morocco				X		X	X				X				4
Niger											X				1
Nigeria								X			X				2
Reunion											X		X		2
Rwanda											X				1
Senegal											X				1
Seychelles	X										X		X		3
Sierra Leone								X							1
Somalia		X								X	X		X	X	5
South Africa					X										1
Sudan	X			X			X	X	X	X	X	X	X	X	10
Tunisia			X	X		X	X	X			X	X	X	X	7
Uganda											X		X		2
United Rep. of Tanzania									X		X		X	X	3
Totals	3	3	0	4	3	4	5	7	5	3	20	5	12	6	80

This study does not comment on the future path of Arab-Israeli normalization, nor does it enter into the merits of the Israel-Arab agreements, but rather it aims to demonstrate the relevance of ATS to the operation of air routes. Prohibited airspace can be established by technical authorities through withholding ATS so that air routes are closed against airlines or aircraft registered in a particular State.⁵⁵ Practices in themselves testify the link between the competence⁵⁶ of appropriate ATS authorities and the establishment of prohibited airspace.

2.4 Interim conclusions

The operations of civil aviation involve a complex process which, amongst others, depends on the provision of ATS. An appropriate ATS authority, in implementing safety management, may determine that certain routes are not safe/secure/available; therefore, the ATS authority issues warnings and declares that air routes are restricted or prohibited from being used by civil aircraft. The closure of air routes could lead to prohibited airspace being established against one targeted State. Due to the closure of air routes, especially those air routes that connect national airspaces and international airspaces, a Contracting State may lose all its connections to international civil aviation. This targeted State may thus question the legality of this encirclement. To address this problem, the following sections explain the competence and responsibility of appropriate ATS authorities to close air routes under international air law.

3 INTERNATIONAL RULES WITH RESPECT TO THE PROVISION OF AIR TRAFFIC SERVICES

3.1 Introductory remarks

Having established the link between ATS and the establishment of prohibited areas, this section further examines rules with respect to ATS in the Chicago

⁵⁵ See Section 2.5.3 of Chapter II for the difference between nationality of airlines and nationality of aircraft. It may be argued that a distinction has been made against Israeli flights, inconsistent with the non-discriminatory requirement in Article 9 of the Chicago Convention (see Chapter II of this study). The counter-argument was that the measures against Israel was in the interests of self-preservation and based on the existence of a technical state of *war*. On the justification for a discriminatory measure in war and national emergency in accordance with Article 89 of the Chicago Convention, see further in Chapter V, Section 2.2.

⁵⁶ As explained in Section 2.3.4 of Chapter I, the competence of an authority or State organ is determined by the State's internal laws.

Convention and ICAO regulations.⁵⁷ Article 28(a) of the Chicago Convention prescribes the provision of ATS in national airspace; pursuant to Article 28(b), ICAO adopted operational practices and regulations pertinent to the provision of ATS in bilaterally delegated airspace, over the high seas, and in airspace of undetermined sovereignty, whereby extending the jurisdiction of an appropriate ATS authority.

3.2 Responsibility to provide ATS in national airspace

3.2.1 *The national competence to provide ATS*

Article 28(a) of the Chicago Convention requires a Contracting State to provide air navigation services (ANS) and facilities “in its territory”.

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

- (a) Provide, in its territory, airports, radio services, meteorological services and other air navigation facilities to facilitate international air navigation, in accordance with the standards and practices recommended or established from time to time, pursuant to this Convention;
- (b) Adopt and put into operation the appropriate standard systems of communications procedure, codes, markings, signals, lighting and other operational practices and rules which may be recommended or established from time to time, pursuant to this Convention;
- (c) Collaborate in international measures to secure the publication of aeronautical maps and charts in accordance with standards which may be recommended or established from time to time, pursuant to this Convention.⁵⁸

Pursuant to Article 1, in conjunction with Article 2 of the Chicago Convention, a Contracting State has sovereignty over the airspace above its territory. As explained in Section 2.3.1 of Chapter I, sovereignty means independence and exclusivity in managing territorial airspace.⁵⁹ Therefore, a sovereign State, with the full capacity to manage its territorial airspace, is able to confer part of the capacity, such as ATS provision capacity, to its designated ATS authority;⁶⁰ thereby the designated ATS authority has the competence to provide ATS in the territorial airspace. Because the competence of an ATS authority derives from territorial sovereignty, this competence also shares the nature of independence and exclusivity as the origin sovereignty.⁶¹ The provision

⁵⁷ The definition of ICAO regulations and its legal force is presented in Chapter I.

⁵⁸ Article 28 of the Chicago Convention.

⁵⁹ See Chapter I, Section 2.3.

⁶⁰ On ‘appropriate ATS authority’, see Section 2.2 of this chapter.

⁶¹ See ICAO Doc 9161, ‘Manual on Air Navigation Services Economics’, 5th ed., 2013, para. 2.5.

of ATS over sovereign territory is a national competence.⁶² A Contracting State discharges the responsibility⁶³ to provide ATS through conferring this *competence* to its designated ATS authority.

3.2.2 The obligation to provide ATS

Article 28(a) of the Chicago Convention also made it clear that the provision of ATS in the territory of a Contracting State is a matter of national “undertaking”, so far as it may find practicable. As explained in Chapter I,⁶⁴ “to undertake” something means to commit oneself to do a particular thing, thereby creating binding legal obligations, a duty.⁶⁵

First of all, the provision of ATS is supervised by ICAO through the Universal Safety Oversight Audit Programme (USOAP).⁶⁶ The Chicago Convention imposes an obligation on the ICAO Council in Article 69: the ICAO Council shall consult with a State which is not in a position to provide reasonably adequate ATS for the safe, regular, efficient and economical operations of aircraft.⁶⁷ A Member State of ICAO, despite of being in a technical difficult situation to provide ATS, is expected to mobilize all possible resources and collaborate with

62 For instance, ICAO General Assembly Resolution A37-20 – *Consolidated statement of continuing ICAO policies in the air transport field*, where Appendix F urges Contracting States to ensure that Article 15 of the Convention is fully respected, regardless of the organizational structure under which airports and air navigation services are operated, and reminds States that they alone remain responsible for the commitments they have assumed under Article 28 of the Chicago Convention.

63 On the responsibility, see Section 4 of this chapter.

64 See Chapter I, Section 3.2.2.

65 ICJ, “[t]he ordinary meaning of the word ‘undertake’ is to give a formal promise, to bind or engage oneself, to give a pledge or promise, to agree, to accept an obligation. It is a word regularly used in treaties setting out the obligations of the Contracting Parties... It is not merely hortatory or purposive”. See *Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Bosnia and Herzegovina v. Serbia and Montenegro)*, ICJ Reports 2007, p. 111, para. 162 (Feb. 26). In *the Matter of the Chagos Marine Protected Area Arbitration (Mauritius v. UK)*, UK had argued that “Lancaster House Undertakings” were not binding and had no status in international law. The Tribunal firmly rejected that argument, holding that those undertakings became a binding international agreement upon the independence of Mauritius. PCA Case No. 2011-3 (UNCLOS Annex VII Arb. Trib. Mar. 18, 2015), at <http://www/pca-cpa.org>.

66 ICAO’s safety oversight system encompasses the whole spectrum of civil aviation activities. Universal Safety Oversight Audit Programme (USOAP) was established in 1999 to promote global aviation safety. Assembly Resolution A33-8 expanded the programme to include Annex 11 – Air Traffic Services. See ICAO Doc. 9734 – Safety Oversight Manual, Part A – The Establishment and Management of a State Safety Oversight System, 2017, ICAO Doc. 9735 – ICAO Universal Safety Oversight Audit Programme Continuous Monitoring Approach Manual, 2014 ICAO Doc 10004 Global Aviation Safety Plan: 2020 – 2022.

67 It reads that “[T]he Council shall consult with the State directly concerned, and other State affected, with a view to finding means by which the situation may be remedied, and may make recommendations for that purpose.”

Council for the provision of ATS.⁶⁸ Article 70 of the Chicago Convention allows a State to conclude an arrangement⁶⁹ with the ICAO Council regarding the financing of air navigation facilities and the ICAO Council is given the option in Article 71 of agreeing to provide resources and assistance at the request of a State.⁷⁰ All these provisions in the Chicago Convention demonstrate that the practical level of ATS provision is supervised by the ICAO Council.

Secondly, the rules and practices of ICAO Member States, including those on the provision of ATS, are audited regularly for compliance with ICAO regulations.⁷¹ ICAO regulations for ATS provision are embodied in Annex 2,⁷² Annex 11⁷³ and other Annexes to the Chicago Convention.⁷⁴ As discussed in Chapter I, SARPs contained in annexes of Chicago Convention do not possess the same legal binding power as an international treaty;⁷⁵ however, should a State notify neither its objection nor the differences with domestic regulations/practices, a Standard must be considered to be binding on that State.⁷⁶

68 See ICAO Assembly resolution A38-2. See further in Chapter V, Section 3.4 on the situation of impossibility to perform.

69 Article 70 reads that "A contracting State, in the circumstances arising under the provisions of Article 69, may conclude an arrangement with the Council for giving effect to such recommendations. The State may elect to bear all of the costs involved in any such arrangement. If the State does not so elect, the Council may agree, at the request of the State, to provide for all or a portion of the costs."

70 Article 71 reads: "If a contracting State so requests, the Council may agree to provide, man, maintain, and administer any or all of the airports and other air navigation facilities including radio and meteorological services, required in its territory for the safe, regular, efficient and economical operation of the international air services of the other contracting States, and may specify just and reasonable charges for the use of the facilities provided."

71 In 2010 the ICAO Assembly adopted Resolution "Universal Safety Oversight Audit Programme (USOAP) – continuous monitoring approach (CMA)" that directs the ICAO Secretary General to ensure that CMA continues to maintain as core elements in key safety provisions contained in Annex 1 (Personnel Licensing), Annex 6 (Operation of Aircraft), Annex 8 (Airworthiness of Aircraft), Annex 11 (Air Traffic Services), Annex 13 (Aircraft Accident and Incident Investigation) and Annex 14 (Aerodromes). See ICAO Doc A37-5. See also United Nations Security Council 7775th Meeting coverage, "Adopting Resolution 2309 (2016), Security Council Calls for Closer Collaboration to Ensure Safety of Global Air Services, Prevent Terrorist Attacks," SC/12529, 22 September 2016.

72 Such as Annex 2, Standard 2.1.2. In particular, the compliance with Annex 2 is mandatory and does not give the States the flexibility provided in Article 38 of the Chicago Convention to register differences from any provisions of Annex 2. See Annex 2, Forward.

73 See Section 4 of this chapter on Annex 11.

74 ICAO regulations prescribe that Contracting States shall build infrastructure, such as airports and air traffic control towers, to guide the operations of aircraft. See ICAO regulations on aerodrome in Annexes 3, 6, 9, 10, 17, and 18.

75 Member States of ICAO agreed to "cooperate" and not "comply" which would have denoted a legally binding force. See Michael Milde, *International Air Law and ICAO*, Eleven International Publishing, 2008, pp.175-176.

76 Van Antwerpen, Niels. Cross-border provision of Air Navigation Services with specific reference to Europe: Safeguarding transparent lines of responsibility and liability. Kluwer Law International 2008. p. 36.

Furthermore, ICAO regulations towards the realization of safety and security in civil aviation navigation are obligatory for all States to comply with.⁷⁷ As explained in Section 3.2.2.2 of Chapter I, ICAO regulations, such as those involving safety and security, are so fundamental that they may not be deviated from by Member States.⁷⁸ Applying this conclusion to ICAO regulations on ATS, ICAO Member States shall protect the public interest of the community of international civil aviation,⁷⁹ through observing ICAO regulations in relation to the safe provision of ATS.⁸⁰ ICAO regulations on ATS, due to their fundamental importance to aviation safety and security, are taken by Member States as an obligation, rather than an option. In particular, to be argued in Section 4.4 of this chapter, ICAO regulations on contingency responses crystalized customary international law in this regard, testified by *opinio juris generalis*.⁸¹

Thirdly, as Chapter I of this study elaborated,⁸² bilateral air service agreements may also contain clauses requiring compliance with the ICAO regulations that are fundamental to civil aviation. ICAO views ATS as a fundamental component in civil aviation.⁸³ The non-implementation of these Standards relevant to ATS may thus have an adverse impact on bilateral civil aviation relations, such as the revocation of traffic rights.⁸⁴ The power of publicity, embarrassment, and loss of credibility further explain that a Member State of ICAO is obliged to provide safe ATS in accordance with the Chicago Convention and ICAO regulations.⁸⁵

In conclusion, ICAO regulations relating to the procedure, implementation and measures for safe ATS establish legal obligations for Member States to comply with. The ICAO audit mechanism and bilateral peer pressure, through air service agreements, are conducive to a Member State's implementation of these legal obligations for providing safe ATS in the airspace under the jurisdiction of the said State.⁸⁶

3.2.3 The interpretation of "so far as it may find practicable"

Having established the State obligation to provide safe ATS, the phrase "so far as it may find practicable" in Article 28 does allow for discretion for each

77 *Antwerpen ibid*, p. 35. ICAO, Resolution of Assembly that applies on 8 October 2004, Doc. 9848, Resolution A35-14.

78 *Huang*, pp. 61-62.

79 Jiefang Huang, "Aviation Safety, ICAO, and Obligation Erga Omnes," *Chinese Journal of International Law*, Volume 8, Issue 1, March 2009, p. 72.

80 *ibid*, pp. 72-73

81 *ibid*.

82 See of Chapter I, Section 3.2.2.3.

83 Ruwantissa Abeyratne, *Strategic Issues in Air Transport: Legal, Economic, and Technical Aspects*, Springer 2012, pp. 22-25.

84 See Chapter I, Section 3.2.2.3.

85 *ibid*.

86 On the jurisdiction in providing ATS, see the following Section 3.3 of this chapter.

Contracting State to account for the feasibility of domestic application.⁸⁷ Confusion does arise when the interpretation of *practicable* is discussed together with Articles 37 and 38 of the Chicago Convention, and thereby channels into the arguments against the compulsory legal force of ICAO regulations in relation with ATS.

This section argues that the legal force of ICAO regulations and the domestic enforceability of Article 28 are technically two questions. The first question regarding the legal force of ICAO regulations is answered in Section 3 of Chapter I of this thesis. The second is whether the phrase “so far as it may find practicable” makes it optional for Contracting States to provide ATS – whether all SARPs on ATS provision are without legal enforceability. The second question is to be answered in this section.

It is worth emphasizing that the phrase “so far as it may find practicable” in Article 28 does not mean to address the legal force of SARPs to be adopted years later, nor to make the SARPs in relation to ATS purely optional.⁸⁸ As said in Section 3 of Chapter I, The legal force of SARPs is determined on the basis of Articles 37 and 38 of the Chicago Convention, and viewed in light of ICAO General Assembly resolutions and ICAO practices on this specific subject.⁸⁹ In contrast, the interpretation and application of the phrase “so far as it may find practicable” relates to the question of treaty interpretation; the interpretation is subject to the customary rules on treaty law as enshrined in the VCLT.⁹⁰

The ordinary meaning of the word “practicable” means “capable of being put into practice.”⁹¹ To explore the meaning of *practicable* in the context of the Chicago Convention, it is necessary to review the proceedings of the 1944 Chicago Conference, where delegations discussed the meaning of this phrase.⁹²

In the present instance the basic [Chicago Convention] ... serves the purpose of enabling legislation. The more clearly the authorized scope of the technical documents can be stated in the basic convention, without unduly circumscribe their future development to keep abreast of the demands of the art, the better it will be.

87 See Abeyratne, Ruwantissa. (2014). Flight MH 17 and state responsibility for ensuring safety and security of air transport. *Journal of Transportation Security*, 7(4), pp. 347-353.

88 Abeyratne, Ruwantissa, *Air Navigation Law*, Spring Link 2012, argues that notwithstanding the lack of mandatory element in Article 28, it cannot be deduced that a State has no responsibility whatsoever under Article 28 of the Chicago Convention or Annex 11 is purely optional, see pp. 23-24 & 246-247.

89 See Chapter I, Section 3.

90 See Articles 31 and 32 of the VCLT.

91 <https://www.merriam-webster.com/dictionary/practicable>.

92 See Articles 31 and 32 of the VCLT. Regarding the interpretation methodology, see Chapter I of this study.

The need for complete acceptance of international standards with respect to uniformity in the use of radio frequencies and functional standardization of certain operation characteristics of communications systems is obvious... The extent of the provision to be made [of communications procedures and systems] must however be limited in force to recommendations which each State commit itself to implement in its own territory to the greatest extent practicable.⁹³

The Chicago Conference held in 1944 addressed the concerns from Contracting States over a treaty on air navigation which may carry attached materials of binding regulatory force. Noting the technical discrepancies among Contracting States, the drafting committee clarifies that the Chicago Convention serves the purpose of *enabling* future legislation on ATS.⁹⁴ For this purpose, the phrase “as far as practicable” in Article 28 means to give authority to future technical regulations, rather than to circumscribe or restrict the legal force of future standards or procedures with respect to the provision of ATS.

As presented in the proceedings of the Chicago Conference, the phrase “as far as practicable” allows Contracting States to implement Article 28 commensurate to their state of art or technical capability.⁹⁵ The word “practicable” does not mean to affect the compulsory nature of ICAO follow-up SAPRs in relation to safe ATS, but works to accommodate a customary rule that a State can invoke the caveat of “impossibility of performance” to preclude wrongfulness for not complying with Article 28 of the Chicago Convention.⁹⁶

On the ground of impossibility of performance, a State can justify its non-performance of treaty obligations:⁹⁷

The wrongfulness of an act of a State not in conformity with an international obligation of that State is precluded if the act is due to *force majeure*, that is the occurrence of an irresistible force or of an unforeseen event, beyond the control of the State, making it materially impossible in the circumstances to perform the obligation.

This rule in the VCLT, also recognized as a general principle of law,⁹⁸ allows for the preclusion of wrongfulness of State acts due to an irresistible force or an unforeseen event beyond the control of the State. The ICJ opined in the

93 *Proceedings of the International Civil Aviation Conference*, Vol.1 (United States Government Printing Office, Washington, 1948), p.705.

94 *ibid.*

95 *ibid.*, pp. 704-705.

96 See Article 61(1) of the VCLT, more is elaborated in Chapter V Section 3.4.

97 ILC, ‘Draft Articles on Responsibility of States for Internationally Wrongful Acts, with Commentaries’ (2001) II(2) Ybk ILC 26, pp. 76-78. The ILC Articles were adopted by the ILC itself in August 2001 and are annexed to GA resolution 56/83 of 12 Dec. 2001.

98 citing the European Court of Justice: see, e.g., case 145/85, *Denkavit v. Belgium*, Eur. Court H.R., Reports 1987-2, p. 565; case 101/84, *Commission of the European Communities v. Italian Republic*, Eur. Court H.R., Reports 1985-6, p. 2629.

Gabčíkovo–Nagymaros Project case that the non-availability of objects or structures indispensable for the execution of the treaty constitute the grounds of impossibility of performance.⁹⁹

UN Member States have consistently recognized technical capability with respect to aviation operation as a ground for precluding wrongfulness in relation to the non-performance of treaty obligations since.¹⁰⁰ Since the 1970s, the UN secretariat also made it clear that aviation technical incapability and navigational errors constitute a ground to preclude negative legal consequences.¹⁰¹

This interpretation is supported by ICAO audit practices.¹⁰² Where Contracting States fail to comply with ICAO regulations fundamental to aviation safety and security, these States have to provide justification for such failings – the burden of proof is shifted to States invoking the caveat of technical incapability.¹⁰³ A Contracting State is entitled to invoke the caveat of “impossibility of performance” so as to avoid negative legal consequences in relation to the inadequate provision of ATS. The caveat intends to preclude the wrongfulness of a State’s acts: only that it is a legal wrong to *not* provide safe ATS, then it is possible to preclude the wrongfulness. No need to preclude wrongfulness if there is no wrong at the first place. Admitting that it is a legal wrong not to provide safe ATS, this section concludes that the provision of safe ATS is compulsory for Contracting States. The phrase “so far as it may find practicable” does not make it optional for a Contracting State to provide ATS, nor does it weaken the legal force of ICAO SAPRs on the provision of ATS.

99 ICJ, Case concerning the *Gabčíkovo–Nagymaros Project (Hungary/Slovakia)*, Judgment, I.C.J. Reports 1997, p. 63, para. 102.

100 See, e.g., the cases of accidental intrusion into airspace, and the cases of accidental bombing of neutral territory attributable to navigational errors during the First World War discussed in the study prepared by the Secretariat, “‘Force majeure’ and ‘fortuitous event’ as circumstances precluding wrongfulness: survey of State practice, international judicial decisions and doctrine”, study prepared by the United Nations Secretariat, in Yearbook of the International Law Commission 1978, vol. II (Part One), p. 61, document A/CN.4/315, paras. 250–256. See also the exchanges of correspondence between the States concerned in the incidents involving United States military aircraft entering the airspace of Yugoslavia in 1946, United States of America, Department of State Bulletin (Washington, D.C.), vol. XV, No. 376 (15 September 1946), p. 502, reproduced in the study prepared by the UN Secretariat, para. 144, and the incident provoking the application to ICJ in 1954, I.C.J. Pleadings, *Treatment in Hungary of Aircraft and Crew of the United States of America*, p. 14 (note to the Hungarian Government of 17 March 1953).

101 The core legal consequences of an internationally wrongful act set out in Part Two are the obligations of the responsible State to cease the wrongful conduct (art. 30) and to make full reparation for the injury caused by the internationally wrongful act (art. 31). ILC, ‘Draft Articles on Responsibility of States for Internationally Wrongful Acts, with Commentaries’ (2001) II(2) Ybk ILC 26, p. 87.

102 See Chapter I, Section 3.2.2.

103 Huang, p. 61.

Thus the responsibility in relation to ATS in Article 28 of the Chicago Convention is a two-fold structure: first, Article 28 establishes the responsibility to provide safe ATS, in terms of the dimensions of both competence and obligation;¹⁰⁴ second, a Contracting State can invoke the caveat of “impossibility to perform”, that is, technical capabilities, to preclude negative consequences arising from the non-performance of Article 28 of the Chicago Convention. In this case, the burden of proof is shifted to the said State.

Furthermore, the preclusion of negative legal consequences does not mean that a State with limited technical capacities is left to do nothing about it. The level of being “practicable” is not to be auto-interpreted¹⁰⁵ as freely by Contracting States. Member States of ICAO are prompted, by peer pressure or the power of credibility and publicity,¹⁰⁶ to build cooperation with States/organizations with adequate technical capability. Contracting States establish ANSP peer review programs within a group¹⁰⁷ or seek capacity-building programs with other States or organizations.¹⁰⁸ Those inter-governmental technical cooperation programs testify that Member States of ICAO do not have the discretion to determine the ‘practicable’ level of adequate ATS provision in its territory without being supervised by the ICAO Council and/or bilaterally connected States.

In conclusion, Article 28 of the Chicago Convention *obliges* a Contracting State to provide safe ATS within its territory. This obligation to provide ATS being established, combined with the competence to provide ATS in national airspace, as explained in Section 3.2.1 of this chapter, lead to the conclusion that a State *can* and *should* provide ATS in the airspace over its territory. Having explained the competence and obligation dimensions, this chapter concludes that a State has *responsibility* to provide safe ATS within its territory.

104 On the two dimensions of responsibility, see further in chapter 4 of this study.

105 See Chapter I, Section 3.2.2.

106 See Chapter I, Section 3.2.2.3.

107 For instance, the Africa ANSP Peer Review Mechanism is a joint initiative between African air navigation service providers (ANSPs) to improve aviation safety across Africa. The initiative was launched in February 2015 following agreement between ICAO and CANSO on the need to address critical safety issues in ATM. It works by encouraging African ANSPs to work in partnership to assess safety management systems (SMS) and other operations requirements, share experiences and learn about measures for improvement in safety and operational performance. See ICAO, “Status of Implementation of the ANSP Peer Review Mechanism”, presented by CANSO Africa, Twenty-Second Meeting of the AFI Planning and Implementation Regional Group (APIRG/22) (Accra, Ghana, 29 July–2 August 2019), APIRG/22 – WP/30.

108 See for instance, ICAO AN-Conf/13-WP/284, “Implementation of ATS Surveillance Infrastructure on the African Continent”, 28/9/18.

3.3 Jurisdiction to provide ATS

3.3.1 Three situations with respect to ATS provision

The previous section explained that Article 28(a) of the Chicago Convention establishes the national responsibility of providing ATS in national airspace. Meanwhile, based on Article 28(b) of the Chicago Convention, Annex 11 covers the provision of ATS in sovereign airspace, as well as in airspace beyond national territory:¹⁰⁹

The Standards and Recommended Practices in Annex 11, [including those on prohibited, restricted and danger areas], apply to the airspace under the *jurisdiction* of a Contracting State wherein air traffic services are provided and also wherever a Contracting State accepts the responsibility of providing air traffic services over the high seas or in airspace of undetermined sovereignty.

Article 28 of the Chicago Convention requires States to provide ATS “in its territory”, whereas Annex 11 considers *jurisdiction* to be the benchmark for the regulation of ATS. The concept of “territory” in the Chicago Convention means land, water, and sea under the *sovereignty* of a State.¹¹⁰ In juxtaposing jurisdiction and sovereignty, Annex 11 confirms that it applies to airspace under the *jurisdiction* of a Contracting State, instead of *sovereignty*. To differentiate the jurisdiction sustained by sovereignty and the jurisdiction sustained by ATS competences, this chapter refers to the former as ‘sovereign jurisdiction’ and the latter as ‘ATS jurisdiction’.

According to Annex 11 to the Chicago Convention, a Contracting State is to provide ATS under its *jurisdiction*,¹¹¹ including where the State accepts the responsibility of providing ATS in delegated airspace, over the high seas or in airspace of undetermined sovereignty: Annex 11 provides an exhaustive list of three situations of ATS jurisdiction; and only in the first situation, the sovereign jurisdiction and the ATS jurisdiction are exercised unequivocally by the same Contracting State.

- *Situation 1:* A route, or portion of a route, contained within airspace under the sovereignty of a State establishing and providing its own ATS.
- *Situation 2:* A route, or portion of a route, contained within airspace under the sovereignty of a State which has, by mutual agreement, delegated to another State, responsibility for the establishment and provision of ATS.

109 Annex 11, Air Traffic Services, 15th ed., July 2018, Foreword (‘Annex 11’).

110 See Section 2.3 of Chapter II.

111 See <https://gis.icao.int/icaofir/>. The ICAO GIS Services is an electronic database based on the geographical (FIRs) from around the world. On FIRs, see the following Section 3.3.2.

- *Situation 3*: A portion of a route contained within airspace over the high seas or in airspace of undetermined sovereignty for which a State has accepted the responsibility for the establishment and provision of ATS.¹¹²

Situation 1 concerns airspace under national sovereignty, such as airspace over territorial land and sea. As explained in Chapter II, the provision of ATS and traffic management in sovereign territories are subject to the discretion of the territorial State; the establishment of prohibited areas “in its territory” is regulated by Article 9 of the Chicago Convention.

Situation 2 refers to ATS provision over another State’s territory. The delegating State retains sovereignty over the delegated airspace,¹¹³ whereas the providing State, operating with the appropriate ATS authorities,¹¹⁴ is responsible to limit or prohibit the use of certain portions of airspace to enable the safe operation of civil aviation;¹¹⁵ here, the following question comes out: who has the jurisdiction to establish prohibited areas, the delegating State or the providing State? This question concerns the possible division of “jurisdiction” and “jurisdiction” between two States.¹¹⁶ This chapter thus examines the bilateral agreements to answer this question.

Situation 3 addresses the provision of ATS over the high seas and in airspace of undetermined sovereignty. Considering that the providing State does not act on the basis of national sovereignty,¹¹⁷ Articles 9 and 28(a) of the Chicago Convention do not apply; the next chapter thus examines ICAO regulations with respect to airspace restrictions over high seas and in the airspace of undetermined sovereignty.

In a nutshell, Annex 11 makes clear that *jurisdiction* is the legal basis to provide ATS; the jurisdiction covers not only sovereign airspace, but also bilaterally delegated airspace, airspace over the high seas, and airspace of undetermined sovereignty.

¹¹² Chapter 2 of Annex 11.

¹¹³ See Section 5.3 of this chapter on the case study of Qatar’s sovereign airspace in Bahrain FIR.

¹¹⁴ See Section 2.2 of this chapter.

¹¹⁵ ICAO Doc 10092-C/1186, Council – Extraordinary Session on 31 July 2017 (Closed), Summary Minutes, 22/8/17, para.37 & paras. 31-32.

¹¹⁶ On Jurisdiction and Jurisdiction, see Section 2.3.3 of Chapter I.

¹¹⁷ ICAO, information paper C-WP/14639 Restricted (Contingency arrangements to facilitate the flow of traffic over the high seas airspace in the Gulf region) (restricted), presented by the Secretary General.

3.3.2 ATS jurisdiction in FIRs

A Contracting State discharges the *responsibility* to provide ATS¹¹⁸ through conferring the competence to its designated ATS authority for territorial airspace – sovereign jurisdiction;¹¹⁹ meanwhile, an ATS authority may have the *competence* to regulate airspaces beyond national territories: the appropriate ATS authority therein manages flight information regions (FIRs) under its *jurisdiction*, which can extend across sovereign territories, and/or extend over high seas, and/or to areas of undetermined sovereignty – ATS jurisdiction.¹²⁰

The concept FIR is not mentioned in the Chicago Convention but is defined in Annex 11 of the Chicago Convention as “an airspace of defined dimensions within which flight information service (FIS) and alerting service are provided.”¹²¹ The term FIR is defines dimensions of airspaces where the provision ATS falls within the jurisdiction of one authority.¹²² FIRs can encompass sovereign airspace, airspace over the high seas, and airspace of undetermined sovereignty, subject to conditions in Annex 11 regarding their establishment.¹²³ FIRs are primarily set up pursuant to technical considerations.¹²⁴

For example, the Singapore FIR was developed to achieve maximum efficiency in the provision of ATS to aircrafts with an emphasis on safety.¹²⁵ Singaporean ATS authorities may continue having the *competence* to manage

118 The connotation of responsibility in relation with competence, see further Section 4 of this chapter.

119 See Section 3.2 of this chapter.

120 See <https://gis.icao.int/icaofir/>. The ICAO GIS Services is an electronic database based on the geographical (FIRs) from around the world.

121 FIR is “An airspace of defined dimensions within which flight information service and alerting service are provided.” I Annex 11, p.1-7.

122 FIRs are identified by the name of the unit having jurisdiction in such airspace, such as Singapore FIR or Hanoi FIR. See Annex 11, Recommendation 2.12.3.

123 Annex 11, Section 2.5, Designation of the portions of the airspace and controlled aerodromes where air traffic services will be provided:

2.5.1 When it has been determined that air traffic services will be provided in particular portions of the airspace or at particular aerodromes, then those portions of the airspace or those aerodromes shall be designated in relation to the air traffic services that are to be provided.

2.5.2 The designation of the particular portions of the airspace or the particular aerodromes shall be as follows:

2.5.2.1 Flight information regions. Those portions of the airspace where it is determined that flight information service and alerting service will be provided shall be designated as flight information regions.

124 Ida Bagus Rahmadi Supancana, “The Speeding-up Process on the Realignment of Flight Information Region (FIR) in Areas A, B, C from Singapore to Indonesia: Issues of Sovereignty, or Safety, or Both?”, in Pablo Mendes de Leon & Niall Buissing. (2019). *Behind and beyond the Chicago Convention: The evolution of aerial sovereignty*, Wolters Kluwer 2019, pp. 163-173. See also ICAO Doc. 9426-AN/924, p. I-2-1-2, para. 1.3.1. See further in Section 3.4 of this chapter on the delegation of the responsibility to provide ATS.

125 Park, W., “The Boundary of the Airspace and International Law”, Thesis, McGill, (1987), p. 32.

certain parts of Indonesian airspace.¹²⁶ All of the airspace(s) managed by Singapore, the Singapore FIR, is under the *jurisdiction* of Singapore ATS authorities. Singapore emphasized that the country “has been implementing and will continue to implement the standards and recommendations laid down by ICAO for the safety of air navigation”¹²⁷ and pledged to provide “a high standard of air traffic services for flights.”¹²⁸

ICAO advises that the delineation of airspace, wherein ATS are to be provided, should be related to the nature of the route structure and the need for efficient service rather than to national boundaries.¹²⁹ Technical considerations are upheld by ICAO resolutions in the delineation of FIRs among Member States.¹³⁰ ICAO Assembly Resolution A38-12 Appendix G confirms that the boundaries 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 optimum efficiency and economy for both providers and users of the services.¹³¹ With respect to the limits of ATS route segments, whether over States’ territories or beyond, the establishment of change-over points is based on “technical and operational reasons”.¹³²

Consequently, with the consent of concerned States,¹³³ FIRs are delineated primarily in accordance with technical considerations. As clarified in the following Section 3.4, Contracting States can conclude agreements to confer a particular competence, the competence to provide ATS, to a delegated State; the delegated State, now also called a ‘providing State’¹³⁴ has the jurisdiction to provide ATS in the airspace agreed by both parties. This ATS jurisdiction, sustained by the competence to announce air routes as not safe/secure/available,¹³⁵ is exercised by the appropriate ATS authority in charge of the said FIR. In case FIRs go beyond territorial limits, the appropriate ATS authorities

126 As of 26 January 2022, Singapore and Indonesia agreed to realign FIR boundaries generally in accordance with Indonesia’s territorial lines. Nonetheless, Indonesia will delegate parts of its realigned FIR to Singapore to provide air navigation services. See The Straits Times, ‘S’pore-Indonesia agreement on airspace can smooth bilateral relations, say analysts’, <https://www.straitstimes.com/singapore/politics/spore-indonesia-agreement-on-airspace-can-smooth-bilateral-relations-say-analysts>, last accessed 4 February 2022. See Section 3.4 of this chapter on bilateral agreements.

127 ICAO. 1977. Assembly 22nd Session: Minutes of the Plenary Meetings. Montreal: International Civil Aviation Organization, 68-69.

128 ICAO. 1983. Assembly 24th Session: Plenary Meetings, Minutes. Montreal: International Civil Aviation Organisation, 44.

129 Annex 11, Recommendation 2.11.1.

130 See Chapter IV on prohibited airspace in airspace of undetermined sovereignty.

131 ICAO Assembly Resolution A38-12, Appendix G. ICAO Assembly Resolution A37-15, Appendix M concerning Delimitation of Air Traffic Services (ATS) Airspace.

132 See Recommendation 2.14.1 of Annex 11.

133 On the consent of a delegating State, see Section 5 of this chapter for the case study of Qatar airspace within Bahrain FIR.

134 See Standard 2.1.1 of Annex 11.

135 See Sections 4.2 and 4.3 of this chapter.

can have the jurisdiction to close airspace over the land or sea beyond territorial limits.

3.4 The delegation of the responsibility to provide ATS

Having explained that the ATS jurisdiction can derive from bilateral agreements, this section explores the delegation of the responsibility to provide ATS between Contracting States of the Chicago Convention. The aforementioned Singapore FIR is an example as such. The delegation of the responsibility to provide ATS is consistent with the Chicago Convention, because Article 28 (b) of the Chicago Convention predicts new operational practices and rules to be adopted by ICAO from time to time. Accordingly, ICAO adopted Annex 11 to the Chicago Convention, which specifies the delegation of ATS through mutual agreements. Standard 2.1.1 of Annex 11 prescribes the following:

Contracting States shall determine, in accordance with the provisions of this Annex and for the territories over which they have jurisdiction, those portions of the airspace and those aerodromes where air traffic services will be provided. They shall thereafter arrange for such services to be established and provided in accordance with the provisions of this Annex, except that, 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.¹³⁶

Mutual agreements as such include air transport agreements and other agreements to regulate ANS.¹³⁷ ATS authorities of one State thereby collaborate with that of neighboring States in ensuring the cross-border provision of ATS. For instance, as mentioned in the previous section, prior to the new agreement between Singapore and Indonesia in 2022, the Riau Archipelago, a province of Indonesia, was within the Singapore FIR.¹³⁸ The airspace over the Riau Archipelago, until January 2022, was under the jurisdiction of the Singapore aviation authority as far as ATS is concerned.¹³⁹ In this case, Indonesia is the 'delegating State' and Singapore is the 'providing State'.

¹³⁶ Standard 2.1.1 of Annex 1.

¹³⁷ See Section 5.3 of this chapter on the *Qatar 'blockade' case (2017-2021)*.

¹³⁸ See <https://gis.icao.int/icaofir/>. The ICAO GIS Services is an electronic database based on the geographical (FIR's) from around the world. This Information is gathered from each state from regional offices and approved amendments dating back to 1947.

¹³⁹ ICAO, SG briefing of 13 April 2015, C-WP/10768, LC/29-WP/81, para. 10. Chappy Hakim, "A Strange Anomaly in Management of Airspace", *Strait Times*, 21 March 2016. <https://www.straittimes.com/opinion/a-strange-anomaly-in-management-of-airspace>.

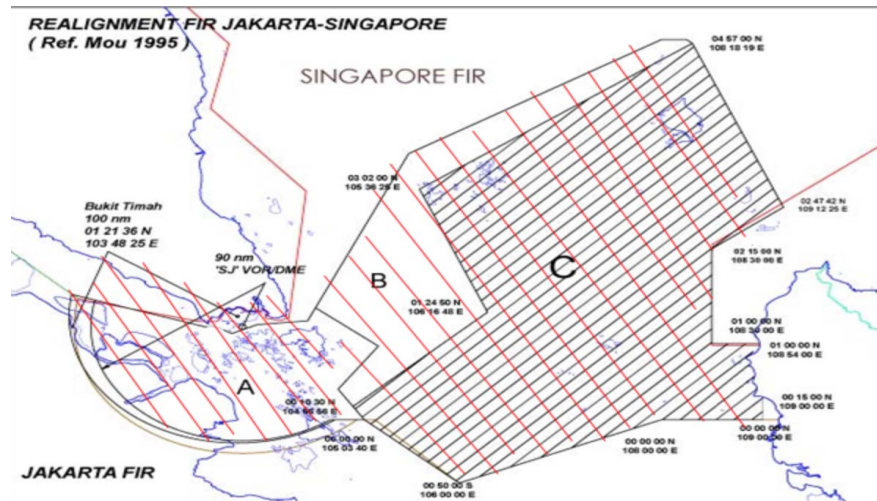


Figure 11: Singapore FIR¹⁴⁰

With respect to the termination of delegation, Standard 2.1.1 of Annex 11 is followed by a Note saying that

Note. – ...[T]he providing State in providing air traffic services within the territory of the delegating State will do so in accordance with the requirements of the latter which is *expected to* establish such facilities and services for the use of the providing State as are jointly agreed to be necessary. *It is further expected* that the delegating State would not withdraw or modify such facilities and services without prior consultation with the providing State. Both the delegating State and the providing State *may* terminate the agreement at any time.¹⁴¹

This Note specifies how to terminate a delegation agreement. Prescription as such was not included in Standard 2.1.1 but attached as a 'note'. Chapter I has explained that notes and attachments in Annexes to the Chicago Convention are of normative value.¹⁴² The legal force of a Note in an Annex to the Chicago Convention is to be examined in light of the words it used.¹⁴³ This Note to Standard 2.1.1 uses words such as "expected to" and "may" and avoids strong words such as 'should' or 'shall' which could implicate legal obligations.

¹⁴⁰ Source: <http://masyarakathukumudara.or.id/wp-content/uploads/2016/02/FIR.png>, last accessed 10 January 2022.

¹⁴¹ Note to Standard paragraph 2.1.1 of Annex 11.

¹⁴² See Chapter I, Section 3.4.2. The approval of notes is an item under the exclusive authority of the ICAO Council, not be delegated to Air Navigation Commission. See ICAO, Air Navigation Commission Procedures and Practices, 8th ed., May 2014, B-4.

¹⁴³ *ibid.*

As explained in Chapter II,¹⁴⁴ the word “may” denotes a sense of right, so the said Note does not impose legal obligations, but emphasize the right to terminate the agreement. The said Note is designed to explain that, unless otherwise prescribed by the contracting parties, the principle of sovereignty is paramount, overriding all other considerations of air navigation planning. After consultations, if the delegating State insists on terminating the delegation of ATS over its territory, the providing State has to return the responsibility of providing ATS to the delegating State.¹⁴⁵

The mentioned Note highlights that a delegating State is entitled to terminate the delegation of ATS provision over its sovereign territory; meanwhile, pursuant to Article 65 of the VCLT,¹⁴⁶ or as prescribed in bilateral agreements, the termination of agreement may have to follow certain procedures such as the issuance of notices and conduct of consultations.

Following the termination of a delegation agreement, new FIRs, meaning FIRs with new boundaries may be established; the delegating State is entitled to resume control over its sovereign airspace in accordance with Article 1, in conjunction with Article 2 of the Chicago Convention. For example, Qatar and Bahrain terminated their bilateral delegation agreement after consultations;¹⁴⁷ Qatar took back control of its sovereign airspace and the ICAO Council announced to establish a new Doha FIR in July 2021.¹⁴⁸ State practices as such reinforce the legal force of this Note to Standard 2.1.1 because future cases will make a reference to a precedent as such. It would be difficult to argue that this Note has no legal force, considering that both Contracting States and the ICAO Council repeatedly refer to Annex 11 with *opinion juris* and implement this Note with State practices.¹⁴⁹

In conclusion, despite technical considerations and arrangements,¹⁵⁰ it is unequivocal that a delegating State continues to have sovereignty over its

¹⁴⁴ See Chapter II, Section 2.2.2.

¹⁴⁵ See further in Section 5.3 of this chapter regarding the newly established Qatar FIR taking back the Qatar sovereign airspace from the Bahrain FIR.

¹⁴⁶ See Article 65 of the Vienna Convention of the Law of Treaties: “A party which, under the provisions of the present Convention, invokes either a defect in its consent to be bound by a treaty or a ground for impeaching the validity of a treaty, terminating it, withdrawing from it or suspending its operation, must notify the other parties of its claim. The notification shall indicate the measure proposed to be taken with respect to the treaty and the reasons therefor.”

¹⁴⁷ For example, the ICAO Council acknowledged during its meeting the right of Qatar to request the establishment of a Doha FIR/SRR over its sovereign territory and contiguous airspace consistent with Article 1 of the Chicago Convention and in accordance with Assembly Resolution A40-4, Appendix G. See <https://www.icao.int/Newsroom/Pages/New-decisions-at-ICAO-Councils-223rd-Session-support-aviations-recovery-and-development.aspx>, last accessed 30 July 2021. See further the case study on *Qatar ‘blockade’ case (2017-2021)* in Section 5.3.

¹⁴⁸ *ibid.*

¹⁴⁹ See further the case study on the *Qatar ‘blockade’ case (2017-2021)* in Section 5.3.

¹⁵⁰ On technical considerations of establishing FIRs, see Section 3.3 of this chapter.

airspace, while a providing State may exercise the ATS jurisdiction to different extents: it depends on the bilateral agreement to determine the extent to which a providing State prescribes the rules or enforces the operations regarding airspace restrictions. A bilateral agreement can make a reference to the Note to Standard 2.1.1 of Annex 11 or include an article in the delegation agreement.¹⁵¹

If [State A] delegates to [State B] the responsibility for providing air traffic services over its territory, it does so without derogation of its national sovereignty. [State B]'s responsibility is limited to technical and operational considerations and does not extend beyond those pertaining to the safety and expedition of aircraft using the concerned airspace. Furthermore, [State B] in providing air traffic services within the territory of the [State A] will do so in accordance with the requirements of [State A] which is expected to establish such facilities and services for the use of [State B] as are jointly agreed to be necessary. It is further expected that [State A] would not withdraw or modify such facilities and services without prior consultation with the [State B]. Both [State A] and [State B] may terminate the agreement between them at any time.

Inter-governmental negotiations may further specify the details of a delegation agreement, in particular, the competences and obligations of a providing State with respect to airspace restrictions. During the consultations, the two States can also discuss technical cooperation¹⁵² and capacity development¹⁵³ and revenue allocation,¹⁵⁴ alongside the competence to establish prohibited airspace.¹⁵⁵

3.5 Interim conclusions

Article 28(a) of the Chicago Convention prescribes the responsibility of a Contracting State to provide ATS within territories, thereby establishing the

151 See it can make reference to the Note under Standard 2.1.1 of Annex 11.

152 ICAO Doc 10084, *Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones*, 2nd ed., 2018, Appendix D.

153 Briefing of UN Security Council's 8057th Meeting, SC/13009, 27 September 2017.

154 As to the revenue allocation, for instance, Oceanic flights over the sovereign airspace of pacific states are been managed from the NADI Air Traffic Management Centre in Fiji. ICAO has been offering support to the consultations on revenue sharing arrangements between these Island States. The relevant underlying principles have been further addressed by ICAO in Assembly Resolution A37-20, Appendix F, Consolidated statement of continuing ICAO policies in the air transport field, and additional guidance material is provided in DOC 9082 ICAO's Policies on Charges for Airports and Air Navigation Services, ICAO Doc 9161, Manual on Air Navigation Services Economics.

155 Peter Shaw Smith, "Qatar Airways Wants Compensation for Lost Airspace Access", <https://www.ainonline.com/aviation-news/air-transport/2020-07-17/qatar-airways-wants-compensation-lost-airspace-access>, last accessed 26 July 2018.

sovereign jurisdiction; and Article 28(b), read in conjunction with Annex 11 to the Chicago Convention, allows for the possible extension of a Contracting State's ATS jurisdiction to areas beyond territories. One example is that Contracting States can conclude agreements *inter se* to delegate the provision of ATS over sovereign territories. A sovereign State is entitled to terminate a delegation agreement, on the basis of Articles 1 and 2 of the Chicago Convention; unless otherwise prescribed by the contracting parties, the principle of sovereignty is paramount, overriding all other considerations of air navigation planning.

The phrase "so far as it may find practicable" in Article 28 does not mean to affect the compulsory nature of ICAO SAPRs in relation to safe ATS, but works to accommodate a customary rule that a State can invoke the caveat of "impossibility of performance" to preclude wrongfulness for not complying with Article 28 of the Chicago Convention. ICAO regulations concerning the procedures, implementation and measures for safe ATS establish legal obligations for Member States to comply with.

4 RESPONSIBILITY OF THE APPROPRIATE ATS AUTHORITIES RELATING TO PROHIBITED AIRSPACE

4.1 Introductory remarks

On the basis of State responsibility to provide ATS as prescribed in Article 28 of the Chicago Convention, this section explores the responsibility of ATS authorities in relation to the establishment of prohibited airspace. Annex 11 to the Chicago Convention details contingency measures such as the establishment of prohibited airspace.

4.2 Responsibility to assess risks of air routes

4.2.1 *The competence to assess risks of air routes*

The appropriate ATS authority, as explained in Section 2.2 of this chapter, is envisaged to supplement and update information on weather, navigation aid status, and *anything else likely to affect safety*.¹⁵⁶ Arguably, *anything else likely to affect safety* includes information relevant to hazards to aviation, such as missile strikes in a military exercise. Operators of flight information centers or area control centers collect all information pertinent to a state of emergency

¹⁵⁶ ICAO Air Traffic Services Planning Manual, Doc 9426-AN/924 (1st ed., 1984), Chapter 2, 2.2.1.1. See also, Annex 11, Standards 4.2.1 & 4.2.2.

of an aircraft.¹⁵⁷ A new amendment to Annex 11 (50-B, applicable as of 5 November 2020)¹⁵⁸ prescribes that the arrangements for activities potentially hazardous to civil aircraft, whether over the territory of a State or over the high seas, shall be coordinated with the appropriate air traffic services authorities.¹⁵⁹ Hence, the appropriate ATS authorities of an FIR are *competent* to collect and provide information used for risk assessment and decisions for contingency measures.¹⁶⁰

Furthermore, ICAO clarified that “charged with responsibility of ATS” means the competence to conclude further arrangements and define implementation plan and operation details for contingency plans.¹⁶¹ Annex 11 emphasizes that it is the competence of appropriate ATS authorities to assess the risk to civil air traffic due to military conflict or acts of unlawful interference with civil aviation,¹⁶² as well as a review of the likelihood and possible consequences of natural disasters or public health emergencies.¹⁶³ Therefore, the *responsibility* of the appropriate ATS authorities as prescribed in Annex 11 encompasses the competence to assess risk levels of air routes.

4.2.2 The obligation to assess risks of air routes

In addition to the competence dimension of the responsibility to assess risk levels of air routes, it is necessary to clarify the *obligation* dimension as well. Annex 11 and Annex 17 have repeatedly required the appropriate ATS authorities to undertake risk assessments of air routes: ICAO revised Annex 17 in 2018 and added a new requirement that appropriate authorities *shall* establish and implement procedures to share with stakeholders, in a practical and timely manner, relevant information to assist them in conducting effective security risk assessments relating to their operations.¹⁶⁴ Annex 11 was also amended

¹⁵⁷ Annex 11, Standard 5.1.2.

¹⁵⁸ See ICAO, Twelfth Air Navigation Conference, AN-Conf/12, Recommendation 6/4, and the Secretariat, with the assistance of the Fatigue Risk Management System Task Force (FRMSTF), 19–30 November 2012.

¹⁵⁹ Annex 11, Standard 2.19.1.

¹⁶⁰ ICAO working paper, “ICAO provisions related to access to the High Seas”, presented by the Secretariat at European Air Navigation Planning Group (EANPG) Flexible Use of Airspace (FUA) Task Force (FUA-TF/3), third meeting, Paris, 10 to 11 February 2009. As said in Chapter I, Section 2.3.4, competence of a State organ is determined by State law; a State’s rules and procedures on ATS are supervised by ICAO, see Chapter I, Section 3.2.2, so this chapter discusses the competence in light of ICAO regulations, and does not examine each individual national laws.

¹⁶¹ See the correspondence between Minister of Transportation of Bahrain and ICAO Secretary General, 22 January 2013 on the subject of “Bilateral Agreement for the delegation of the responsibility for the provision of ATS Services.”

¹⁶² Annex 11, Attachment C, para. 4.2. As to coordination due to armed conflicts, see Chapter IV of this study.

¹⁶³ *ibid.*

¹⁶⁴ Annex 17, Standard 3.1.5.

in 2018 to strengthen ATS authorities' capacity for safety assessments.¹⁶⁵ appropriate ATS authorities *shall* conduct a risk assessment of airspace concerned for hazardous activities to civil aircraft and take mitigating actions when necessary.¹⁶⁶

The use of "shall" in legal texts denotes a positive legal duty – *obligations to act*.¹⁶⁷ Arguably, ICAO Member States which endorse these Standards in Annex 11 and Annex 17 are obliged to comply with it; otherwise, as explained in Section 3.2.2 of Chapter I, a Member State is obliged under Article 38 of the Chicago Convention to file the differences.¹⁶⁸ The non-compliance with these Standards, meaning ATS authorities failing to conduct risk assessments, is detailed in ICAO audit results; and the results can be invoked to suspend or change bilateral air service arrangements.¹⁶⁹

With respect to the legal force of Attachment C to Annex 11,¹⁷⁰ there have been different opinions as to the legal enforceability of attachments to an Annex to the Chicago Convention;¹⁷¹ nonetheless, the ICAO attachment at least have normative value for States to look up to for international coordination processes.¹⁷² As argued in section 3.4.2 of Chapter I, Annex 11 Attachment C's legal force is no less than Annex 11 itself.

This conclusion is further supported by ICAO proceedings on the *Qatar 'blockade'* case.¹⁷³ During the aforementioned ICAO proceedings, States parties to the dispute invoked ICAO guidelines, such as Attachment C to Annex 11, and technical manuals to provide justifications for their actions;¹⁷⁴ there was no counter-arguments questioning the applicability or legal force of ICAO technical guidance in this regard.¹⁷⁵ States parties to the dispute chose to

165 Annex 11, Section 2.19.

166 As of the end of 2021, an amendment is being progressed for a new Standard 2.19.3: "The appropriate ATS authority shall ensure that a safety risk assessment is conducted, as soon as practicable, for activities potentially hazardous to civil aircraft and that appropriate risk mitigation measures are implemented." See Dutch Safety Board, *Flying over conflict zones: Follow-up recommendations MH17 Crash investigation*, February 2019, p.83.

167 See Chapter II, Section 2.2.2.

168 See Chapter I, Section 3.2.2.

169 *ibid.*

170 Attachment C to Annex 11, 'Material Relating to Contingency Planning', Part I.

171 See Chapter I, Section 3.4. Prof. Huang discussed the different opinions as to the legal force of ICAO guidance documents, see *Aviation Safety Through the Rule of Law ICAO's Mechanisms and Practices*. Wolters Kluwer law & business 2009, p. 62-65.

172 *ibid.*

173 The ICAO proceedings on the *Qatar 'blockade' case (2017-2021)* is presented in Section 3.3.1 of Chapter II.

174 See Request of The State of Qatar for Consideration by the ICAO Council Under Article 54 (n) of The Chicago Convention, (Supplement to the letter reference no. 2017/15995, dated 15 June 2017), submitted by H.E. Abdulla Nasser Turki Al-Subaey, Chairman, Civil Aviation Authority of the State of Qatar. ICAO Doc 10092-C/1186, Council – Extraordinary Session on 31 July 2017 (Closed), Summary Minutes, 22/8/17, paras 37 and 86.

175 *ibid.*

follow Attachment C to Annex 11 as the applicable binding law for their dispute and take it upon themselves as an legal obligation to conduct a risk assessment of airspace concerned for hazardous activities to civil aircraft.¹⁷⁶ The adherence to Attachment C of Annex 11 reflects the *opinio juris* of those State Parties.¹⁷⁷ If Attachment C to Annex 11 is optional for Contracting States, it would be difficult to explain why the States and the ICAO Council spent time arguing and deliberating on the consistency of their actions with Attachment C to Annex 11. This chapter further argues, in Section 4.4 of this chapter, that Attachment C to Annex 11, guidelines for contingency measures for application in the event of disruptions of ATS, has crystalized customary international law in this regard.

4.3 Responsibility to take contingency measures

4.3.1 Contingency response to establish prohibited airspace

Due to the competence to assess risks is entrusted to the appropriate ATS authorities,¹⁷⁸ such authorities are competent to conduct risk evaluation; Annex 11 to the Chicago Convention further requires that ‘appropriate ATS authorities’ *shall* develop and promulgate contingency plans for implementation in the event of disruption of air traffic services in FIRs under its ATS jurisdiction.¹⁷⁹ In this connection, Attachment C to Annex 11 and technical manual Doc 4444 prescribe that the appropriate ATS authorities are responsible for implementing safety management systems (SMS) for the airspace under its ATS jurisdiction.¹⁸⁰

To implement safety management, the appropriate ATS authorities are responsible for making a contingency plan which details recommended contingency responses to events such as meteorological and geological phenomena, pandemics, national security, and industrial relations issues.¹⁸¹ The contingency plan may give notice that particular portions of airspace should be avoided avoidance of under certain circumstances.¹⁸² The appropriate ATS authorities have the competence to declare air routes as not safe/secured/

¹⁷⁶ *ibid.*

¹⁷⁷ *North Sea Continental Shelf*, Judgment, I.C.J. Reports 1969, pp. 3, 45, para. 78. See further Section 4.4 of this chapter.

¹⁷⁸ Annex 11, Attachment C, para. 4.2 (b).

¹⁷⁹ Annex 11, Standard 2.32.

¹⁸⁰ ICAO, Doc 4444, *Air Traffic Management*. 16th ed., 2016, para. 2.1.3. More on the jurisdiction of ATS authorities, see Section 3.3 of Chapter III.

¹⁸¹ *ibid.*, para. 2.2.

¹⁸² Annex 11, Attachment C, para. 4.2 (b). See also ICAO ATM Contingency Plan (AFI) Africa and Indian Ocean, version 1, July 2019, para. 12.1. See Section 2.1 of this chapter on the use of NOTAMs.

available, as introduced at the beginning of this chapter. This is the competence dimension of the responsibility to take contingency measures.

4.3.2 The obligation to take contingency measures

In addition to the competence dimension,¹⁸³ the appropriate ATS authorities are *obliged* to take contingency measures. Annex 11 uses “shall” in prescribing the responsibility to take contingency measures.¹⁸⁴ As held by the Italian Supreme Court and other courts,¹⁸⁵ this use of ‘shall’ in Annex 11 entails legal obligations.

On 24 February 2004, a Cessna 550 inbound to Cagliari, Italy, at night requested and was approved for a visual approach without crew awareness of the surrounding terrain; it was subsequently destroyed by terrain impact and all on board were killed.¹⁸⁶ The investigation concluded that the accident was mainly because the crew were in the absence of adequate visual references; nonetheless, two Italian Air Force air traffic controllers were convicted of negligence and failing to exercise a sufficient duty of care during the course of providing air traffic service.¹⁸⁷

The Italian Supreme Court of Cassation took the view that, even if the plane was flying according to visual flight rules (VFR), the duty of controllers to separate the aircraft from terrain and the duty to do everything to ensure a safe flight still exists, based on their ‘guarantee position’ towards aircraft occupants. In terms of negligence, irrespective that ICAO Annex 11 paragraph 2.2 does not include prevention of collision of obstacles as a function of air traffic control in the circumstances which prevailed in the accident, they were nonetheless negligent and careless because they did not promptly appreciate the abnormality and danger of the pilot’s route and underestimated the existence of conditions which could be thought of as non-standard and improper for the safe conduct of aircraft navigation.¹⁸⁸

183 See Section 3.2 of this chapter on the two dimensions of responsibility – competence and obligation.

184 See Chapter I, Section 3.2.2.

185 Eurocontrol, “The 2004 Cagliari accident and its aftermath”, *Hindsight* 18, 2013 Winter, pp. 76-77.

186 The Final Report of the investigation carried out under ICAO Annex 13 with the sole objective of preventing accidents and specifically excluding any assessment of guilt and responsibility, published on 1 July 2009 was not made available in English translation but an unofficial and partial translation into English may be found on SKYbrary. [http://www.skybrary.aero/index.php/C550_vicinity_Cagliari_Sardinia_Italy,_2004_\(CFIT_HF\)](http://www.skybrary.aero/index.php/C550_vicinity_Cagliari_Sardinia_Italy,_2004_(CFIT_HF)), last visited: 8 January 2015.

187 *ibid.*

188 Eurocontrol, “The 2004 Cagliari accident and its aftermath”, *Hindsight* 18, 2013 Winter, pp. 76-77.

The Italian Supreme Court held that, even when the pilot flies under VFR (Visual Flight Rules),¹⁸⁹ the appropriate ATS authorities are obliged to guarantee the safety of aircraft occupants, on the basis of a duty of care, as a threshold of negligence.¹⁹⁰ The said judgment clarifies that, even if Annex 11 does not spell out the word *obligation*, ATS authorities is obliged to evaluate risks, to take contingency actions, and to separate the aircraft from danger.¹⁹¹

Cases from various jurisdictions also corroborate that national authorities should discharge the *obligation* of ensuring passenger safety in a reasonable and prudent fashion. A number of court decisions emphasized the obligations of the ATS authority to separate aircraft from dangers.¹⁹² For example, the reasoning of the judges in *Swanson and Peever v. Canada* supports the understanding that State authorities are charged with a duty of care towards safeguarding passenger safety and ANSPs will be held accountable if their negligence is the *condition sine qua non* of the accident.¹⁹³

These *national* jurisprudences illustrate the *opinio juris*¹⁹⁴ of various States towards the connotation of contingency measures in Annex 11. The aforementioned court judgments have consistently upheld the obligation of an ATS authority to separate civil aircraft from dangers. It is difficult to argue against these jurisprudences that ICAO regulations on contingency measures are just

189 In comparison with Visual Flight Rules (VFR), courts are even more likely to accept the responsibility of the ATS authorities for flights under Instrument Flight Rules (IFR). See Chatzipanagiotis, M. (2007). Liability Aspects of Air Traffic Services Provision. *Air & Space Law*, 32(4), pp. 328-329.

190 *ibid.* Commentators debated how and why a common law concept 'duty of care' is applied by the Italian Supreme Court. The duty of care is linked to the civil law's threshold of negligence. See Eurocontrol, "The 2004 Cagliari accident and its aftermath", *Hindsight* 18, 2013 Winter, pp. 76-77.

191 Eurocontrol, "The 2004 Cagliari accident and its aftermath", *Hindsight* 18, 2013 Winter, pp. 76-77.

192 See J. Korzeniowski, (2000) *Liability of Aviation Regulators: Are the Floodgates Opening?* 25(1) *Air and Space law* 31-34. Pablo Mendes de Leon, *An Introduction to Air Law*, Kluwer 2017, Chapter 8, Section 2.2.

193 In *Swanson and Peever v. Canada* ((1991) 124 N.R. 218), Canada paid compensation to the families of those killed in the crash of an airplane owned by Wapiti Aviation. Transport Canada was well aware of Wapiti's past safety violations but did not take sufficient measures to force Wapiti to correct its system. See also *Chadwick v. Canada* (2010), reported by Carlos Martin Newsletter of 26 January 2011, International Law office; www.internationallawoffice.com. See Pablo Mendes de Leon, *An Introduction to Air Law*, Kluwer 2017, Chapter 8, Section 2.2.

194 It is widely held that national court decisions can constitute both *opinio juris* and State practices. See ICJ, *Jurisdictional Immunities of the State (Germany v. Italy: Greece intervening)*, Judgment, I.C.J. Reports 2012, paras. 55, 77, 83-5 where ICJ examines many national court decisions and holds that there is no exception to state immunity either for acts of war or for violations of *jus cogens* norms. See H. Lauterpacht, Decisions of Municipal Courts as a Source of International Law, 10 *British Yearbook of International Law* 65, pp. 84-85.

guidelines for voluntary abidance.¹⁹⁵ The next section continues to explain the legal force of ICAO regulations on contingency measures.

4.4 Customary international law status of ICAO regulations on contingency responses

The previous sections explained the *opinio juris* expressed by States in complying with ICAO regulations on contingency responses, that is, Annex 11 to the Chicago Convention and its Annex C. This section argues that these regulations constitute customary international law.

With respect to customary international law, traditional writings maintain that customary international law consists of two elements: (1) usage, states' practice, and (2) *opinio juris*, a sense of legal obligation.¹⁹⁶ On the basis of the ICJ judgment for *North Sea Continental Shelf* cases,¹⁹⁷ Professor Bin Cheng introduced the concept of instant custom.¹⁹⁸ Cheng's theory emphasizes the prominence of *opinio juris* in establishing a new customary international law:¹⁹⁹ *opinio juris* means the acceptance or recognition of, or acquiescence in, the binding character of a rule in question implied in a State's action or omission.²⁰⁰ It is no longer necessary that State practices have to be repeated or prolonged, provided that the *opinio juris* of the states concerned can be established clearly.²⁰¹ State practice, instead of being a constitutive and indispensable element, merely provides evidence of the existence and contents of the underlying rule and of the requisite *opinio juris*.²⁰²

Despite criticism to the instant custom theory,²⁰³ this theory found supporters in explaining the customary law status of those "value-loaded norms" – norms reflecting common values, those upholding human rights and humanitarian protection, can and should survive notwithstanding contrary *de facto*

195 See Chapter I, Section 3.

196 *North Sea Continental Shelf*, Judgment, *I.C.J. Reports* 1969, para. 74-77.

197 *ibid.*

198 Bin Cheng, "United Nations Resolutions on Outer Space: 'Instant' International Customary Law?" First published in 5 *Indian JIL* (1965), pp. 23-48; reprinted in Cheng, *Studies in International Space Law*, Clarendon Press 1997, pp. 125-149.

199 *ibid.*

200 *ibid.*, p. 138.

201 *ibid.*

202 *ibid.*, p. 146.

203 G.J.H. van Hoof, *Rethinking the Sources of International Law*, p. 86 (1983). and more recent.... Legal scholar G.J.H. van Hoof contends that customary international law as a method of law creation conveys the idea that rules are based on states' practice. According to van Hoof, Cheng's theory of instant custom conveys precisely the opposite idea, suggesting that such practice is irrelevant to customary international law.⁴⁴ Abandoning altogether the traditionally required usage element, Cheng's theory may be considered an extreme version of the notion that customary international law can form rapidly.

practices.²⁰⁴ Instant custom, in this regard, is no mere acceleration of the custom-formation process, but a veritable revolution in the theory of custom.²⁰⁵ This revolution means to uphold universal values in a way that strong *opinion juris generalis* is able to compensate the lack of actual repetitive practices.²⁰⁶ Because of the strong support of *opinion juris generalis* in upholding human rights and humanitarian protection, those norms, despite the existence of contrary practices, are still recognized as customary international law.²⁰⁷

In terms of safety standards laid down within the framework of the Chicago Convention, according to Professor Huang, those regulations are designed to protect the common interests of the international civil aviation community and to enhance the global normative system for the safety of civil aviation.²⁰⁸ ICAO regulations are not pronounced on the basis of *quid pro quo*, under which States could derogate from obligations *inter se*.²⁰⁹ Considering the inherent link between aviation safety and the elementary considerations of humanity,²¹⁰ the obligation to provide safety oversight has arguably acquired an *erga omnes* character, due to “the importance of the rights involved.”²¹¹

Considering that all Member States have a legal interest in upholding ICAO regulations designed to protect the common value of aviation safety,²¹² this section argues that State practices thereof provide evidence of the existence of *opinion juris*. For example, during ICAO proceedings in 2017, Member States argued for the application of Annex 11 to the Chicago Convention and those statements delivered by government representatives expressed the *opinio juris* in conforming with Annex 11 to the Chicago Convention in case of ATS dis-

204 B Schlütter, *Developments in Customary International Law*. Nijhoff 2010, pp. 25-29.

205 See Prosper Weil, “Towards Relative Normativity in International Law?”, 77 *American Journal of International Law* (1983), pp. 413-435.

206 Birgit Schlütter, *Developments in Customary International Law*. Nijhoff 2010, pp. 25-29. Rein Müllerson, “On the nature and scope of customary international law”, *Austrian. Review of International & European Law*, vol. 2 (1997), pp. 341-360.

207 See Annual reports of the United Nations Human Rights Council, the President’s statements adopted at the organizational session of the Human Rights Council held on 7 and 16 December 2020 and the resolutions and decisions adopted by the Council at its twenty-ninth special session, held on 12 February 2021, its forty-sixth session, held from 22 February to 24 March 2021, its thirtieth special session, held on 27 May 2021, and its forty-seventh session, held from 21 June to 14 July 2021: <https://www.ohchr.org/EN/HRBodies/HRC/Pages/Documents.aspx>, last accessed 1 November 2021.

208 Jiefang Huang, ‘Aviation Safety, ICAO and Obligations Erga Omnes’, *Chinese Journal of International Law*, Volume 8, Issue 1, March 2009, pp. 76-79.

209 Huang, p. 166.

210 On the element consideration of humanity, See the ICJ, *Corfu Channel* case, in Chapter V, Section 3.2 of this study.

211 Huang, p. 166-168.

212 *ibid.*

ruption.²¹³ This *opinio juris* is also demonstrated through national judicial decisions.²¹⁴ In addition to judicial organs, civil aviation authorities such as FAA,²¹⁵ EASA²¹⁶ and others²¹⁷ have promulgated information for risk assessment and contingency measures, in line with Annex 11, Attachment C's paragraphs 4.2 and 4.3.²¹⁸

Furthermore, in case of ATS disruption, the appropriate ATS authorities undertake to implement Attachment C to Annex 11,²¹⁹ by declaring route changes. Thus the flights took detours.²²⁰ Violations of these contingency arrangements lead to legal consequences, such as monetary fines or suspension of license.²²¹ In 2021, many airlines suspended flights to Israel amid rising violence in the conflict between Israel and Palestine.²²² Contingency arrangements were in place pursuant to Annex 11 because of the "potentially hazardous situation created by the armed conflict in Israel and Gaza".²²³ Legal consequences as such testify the binding nature of the underlying rules with respect to contingency arrangements for ATS disruption. States' practices are carried out in such a way as to be evidence of a belief that this practice is

213 See Request of The State of Qatar for Consideration by the ICAO Council Under Article 54 (n) of The Chicago Convention, (Supplement to the letter reference no. 2017/15995, dated 15 June 2017), submitted by H.E. Abdulla Nasser Turki Al-Subaey, Chairman, Civil Aviation Authority of the State of Qatar. ICAO Doc 10092-C/1186, Council – Extraordinary Session on 31 July 2017 (Closed), Summary Minutes, 22/8/17, paras 37 and 86.

214 See Section 4.3.2 of this chapter.

215 FAA, 'Prohibitions, Restrictions and Notices', https://www.faa.gov/air_traffic/publications/us_restrictions/, last accessed 1 Nov 2021.

216 European Aviation Safety Agency, List of Safety Information, <http://ad.easa.europa.eu/sib-docs/page-1>.

217 See for example, UAE General Civil Aviation Authority, <https://www.gcaa.gov.ae/en/epublication/pages/safetyalerts.aspx>. Uses can refer to the system of CNMS (China NOTAM Management System) to check whether Chinese airlines detour certain areas. All information are published via the CNMS system regarding international flights' destination and overflown areas. See Aeronautical Information Service Center of Air Traffic Management Bureau of Civil Aviation Administration of China, <http://www.aishina.com/EN/EnDefault.aspx>, 'Flight Routes for International Flights from Mainland of China (EFF201702011600UTC)'.

218 *ibid.*

219 *ibid.*

220 *ibid.* databases from civil aviation authorities. For example, US Department of Transportation Office of the Secretary Washington, D.C. Order 2016-11-11. 'Qatar Airways Q.C.S.C. Violations of 49 U.S.C. §§ 41301 and 41712. 'Docket OST 2016-0002.

221 US Department of Transportation Office of the Secretary Washington, *ibid.*

222 The three United States carriers with scheduled service to Israel – Delta Air Lines, United Airlines and US Airways – quickly canceled their flights and were later joined by Air Canada and a number of Western European airlines, including Air France, Lufthansa and KLM. Turkish Airlines and the Russian carrier Aeroflot also suspended flights. <https://www.nytimes.com/2014/07/23/world/middleeast/faa-halts-us-flights-to-israel.html>, See also <https://www.haaretz.com/israel-news/.premium-most-foreign-airlines-suspend-flights-to-israel-over-gaza-rockets-1.9813022>, last accessed 29 October 2021.

223 New York Times, "Airlines Suspend Flights to Israel After Hamas Rocket Falls Near Main Airport", <https://www.nytimes.com/2014/07/23/world/middleeast/faa-halts-us-flights-to-israel.html>, last accessed 1 November 2021.

rendered obligatory for contingency measures. The practices of ICAO and Member States provide evidence of the existence and contents of the underlying customary rules enshrined in Attachment C to Annex 11.

On the basis of the theory of instant custom, considering State practices proving *opinio juris*, either through judgments of courts or decisions of civil aviation authority, this section argues that ICAO regulations on the contingency responses in Annex 11, including Attachment C, have crystalized customary international law in this regard.

4.5 Interim conclusions

The appropriate ATS authorities, as prescribed in Annex 11, are *responsible* for assessing risk levels of air routes and taking contingency measures. Responsibility as such encompasses two dimensions: competence and obligation.

On the one hand, an appropriate ATS authority is entrusted with the competence to manage traffic flows, including determining the access and level of service provided to civil aircraft. The scope of this competence, meaning the jurisdiction of the appropriate ATS authority, is marked through individual Flight Information Regions (FIRs). The appropriate ATS authority in its FIR in charge have the competence to take appropriate action to monitor any of any developments that might lead to events requiring contingency arrangements, such as announcing airspaces as “not available”.

On the other hand, establishing prohibited areas is more than merely a technical function of the concerned ATS authority. The responsibility thereby accepted by the appropriate ATS authority establishes the primary obligations as such: the obligation to assess risk levels of air routes and the obligation to take contingency measures. Even if Annex 11 does not specifically emphasize the obligation dimension, various court judgments and civil aviation authorities have confirmed that an appropriate ATS authority is obliged to assess risks, close airspace, and re-assign air routes. State practices as such testify the existence of such *opinio juris*. Considering that Attachment C of Annex is designed to protect the common values, applying the instant custom theory, no matter how short the amount of time that elapses since its adoption, those particular air rule in Annex 11 should be considered as customary international law, in light of the fact that Member States consistently follow and endorse these rules.

5 PROHIBITED AIRSPACE IN BILATERALLY DELEGATED AIRSPACE

5.1 Introductory remarks

Based on the international rules for ATS, this section will explore how to establish a prohibited area in bilaterally delegated airspace. As aforementioned in Section 3.4 of this chapter, once a portion of airspace is delegated to another State, it is the responsibility of the providing State to seek and collect timely information regarding the airspace. Nonetheless, a delegating State still retains sovereignty over the airspace in accordance with Article 1 of the Chicago Convention: it remains a question who and how to establish prohibited airspace.

5.2 The '(non)-use' of sovereign airspace

According to Annex, the appropriate ATS authority of the providing State are responsible for developing ATM contingency plans and closing airspace.²²⁵ However, Annex 11 also highlights an exception to this competence. Attachment C to Annex 11 emphasizes the following:

In developing a contingency plan, sovereign airspace can be *used* only on the initiative of, or with the agreement or consent of, the authorities of the State concerned regarding such use. Otherwise, the contingency arrangements must involve bypassing the airspace and should be developed by adjacent States or by ICAO in cooperation with such adjacent States.²²⁶

This paragraph is to be read in conjunction with Article 1 of the Chicago Convention, confirming that a State enjoys and exercises exclusive jurisdiction in its sovereign airspace. Even if jurisdiction over a portion of national airspace is delegated to another State, the *use* of this portion is subject to the consent of the delegating State.²²⁷ An interpretation is that the word *use* encompasses the situation of 'non-use': specifically, the closure of a portion of airspace. In developing contingency plans for delegated airspace, the appropriate ATS authority of the providing State is competent and obliged to plan to establish

²²⁵ Annex 11, Standard 2.32. Such contingency plans shall be developed with the assistance of ICAO as necessary, in close coordination with the air traffic services authorities responsible for the provision of services in adjacent portions of airspace and with airspace users concerned. According to Annex 11, the responsibility for appropriate contingency action in respect to delegated airspace rest with the State providing the services until, and unless, the delegating State temporarily terminates the delegation; upon termination, the delegating State assumes responsibility for appropriate contingency action. See Attachment C to Annex 11, 'Material Relating to Contingency Planning', Sections 3 & 4.

²²⁶ Attachment C to Annex 11, 'Material Relating to Contingency Planning', para.6.1.

²²⁷ See Section 3.4 of this chapter.

prohibited/restricted areas,²²⁸ but this plan must be approved or consented to by the sovereign State, which is the delegating State. The word ‘use’ is interpreted as including ‘non-use’ or closure of airspace.

ICAO Assembly Resolution A37-15 supported this interpretation,²²⁹ in line with the sovereignty principle. This Assembly Resolution clarifies that a State which delegates the responsibility for providing ATS within the airspace over its territory to another State does so without derogating its sovereignty,²³⁰ reflecting a consensus on the delegation of ATS among ICAO Member States. The responsibility of a providing State is limited to those competences and obligations²³¹ prescribed in Annex 11 as supported by Article 28(b) of the Chicago Convention; to discharge responsibility as such is to follow the requirements of the providing State as are jointly agreed to be necessary.²³² In this way, the providing State’s competence is limited by bilateral agreements in a way which is consistent with the Chicago Convention and Annex 11; matters not jointly agreed to are still subject to territorial sovereignty: the use or non-use of sovereign airspace is to be determined by the delegating State who retains sovereignty.

5.3 Case study of the Qatar blockade in 2017-2021

As presented in Chapter II Section 3.3 on the case study of the Qatar blockade,²³³ Qatar delegated the provision of ANS, including ATS, above its territorial airspace to another country, namely Bahrain. Qatar and Bahrain signed an agreement under which Qatar delegated the provision of ANS within its

²²⁸ See Section 4.2 and 4.3 of this chapter.

²²⁹ ICAO Assembly Resolution A37-15, ‘Consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation’, published at https://www.icao.int/Meetings/AMC/Assembly37/Documents/ProvisionalEdition/a37_res_prov_en.pdf, last accessed 6 June 2021.

²³⁰ ICAO Assembly Resolution A37-15: Delegation to a foreign organization is not an abandonment of sovereignty; sovereign competences are not impacted. On the contrary, delegation of service provision is an act of sovereignty. There are examples of successful cross-border air navigation services provision in all regions of the world. There is a mutual delegation between the USA and Canada; Tonga and Samoa have a delegation to New Zealand; there are various delegations in Europe from and to Finland, France, Norway, Sweden, and Switzerland. See ICAO working paper, ‘Airspace Sovereignty’, ATConf/6-WP/80, 4/3/13. See also, P.F. Schubert, ‘Limits in the Sky: Sovereignty and Air Navigation Services’, in Pablo Mendes de Leon & Niall Buissing. (2019). *Behind and beyond the Chicago Convention: The evolution of aerial sovereignty*, Wolters Kluwer 2019, pp. 147-160.

²³¹ See Section 4 of this chapter on the responsibility to assess risks and the responsibility to take contingency measures.

²³² See Note to Standard 2.1.1, Annex 11.

²³³ See Section 3.3 of Chapter II.

sovereign airspace to Bahrain from April 2000 onwards.²³⁴ When Bahrain and Qatar became independent from the UK in 1971, they maintained the FIR shapes in the region, which had previously been determined according to where radars had initially been installed.²³⁵ The large Bahrain FIR was thus preserved, which was seen as a superior option to equally distributing FIRs to each State.²³⁶ As a result, the Bahrain FIR encompasses the airspace over Qatar's territory.²³⁷

In 2017, Bahrain cut off Qatar's air corridors to the outside world,²³⁸ triumphing over Qatar's sovereignty with technical arrangements.²³⁹ At ICAO meetings, Qatar questioned the legality of the closure of its sovereignty airspace by Bahrain.²⁴⁰

The legality of the airspace closure depends on the type of jurisdiction that Bahrain enjoys in the airspace over Qatari territory. It is a matter of comparing sovereign jurisdiction and ATS jurisdiction. For that purpose, it is necessary to examine the Qatar–Bahrain's *Air Transport Agreement* 2007²⁴¹ which contains a special provision stating that Qatar would always need to use the airspace under Bahrain's jurisdiction:

In the event of armed conflict or political unrest, and if they occur, unusual developments or circumstances under which the institution designated by one of the parties is unable to operate on the agreed routes or in the airspace segment, the other party shall do everything in its power to facilitate the continuation of air transport

234 ICAO Council working paper C-WP/14641, Request of the State of Qatar for consideration by the ICAO Council under Article 54 n) of the Chicago Convention], presented by Qatar (restricted), para. 1.3.

235 *ibid.*

236 Alex Macheras, "Here for the long haul: How Qatar is overcoming the aviation blockade", <https://www.alaraby.co.uk/english/comment/2018/1/8/how-qatar-is-overcoming-the-aviation-blockade>, last accessed 26 July 2018.

237 *ibid.* <https://www.alaraby.co.uk/english/comment/2018/1/8/how-qatar-is-overcoming-the-aviation-blockade>, last accessed 26 July 2018.

238 Bahrain closes Qatari air corridors, see <https://www.corporatejetinvestor.com/articles/bahrain-closes-qatari-air-corridors-324/>, last accessed 26 July 2018.

239 ICAO Council working paper C-WP/14641, Request of the State of Qatar for consideration by the ICAO Council under Article 54 n) of the Chicago Convention], presented by Qatar (restricted).

240 ICAO Doc 10092-C/1186, Council – Extraordinary Session on 31 July 2017 (Closed), Summary Minutes, 22/8/17, para.17.

241 See the ICAO WAGMAR database for scanned copies of the agreements: <https://dna.icao.int/WAGMAR/Search/InitAgreementSearchModel>, last accessed 29 January 2021.

through proper arrangements of air routes.²⁴² [loose translation from Arabic by the author]

This provision says that both parties have to do their best to arrange air routes, even in the event of armed conflict, political unrest, or unusual circumstances. Armed conflict or political unrest can give rise to military necessity or public safety concerns as written in Article 9 of the Chicago Convention.²⁴³ This article can be interpreted as putting forward that airspace can be closed in the event of armed conflict or political unrest by either Qatar or Bahrain. In this connection, the quoted paragraph can be interpreted in two ways: the first is to state that Qatar can close its airspace by invoking Article 9 of the Chicago Convention, meaning Qatar retains both jurisdiction and jurisdiction; the second interpretation is that Bahrain can close Qatari national airspace as a contingency measure in face of the disruption of ATS, meaning Qatar retains jurisdiction but Bahrain is to exercise jurisdiction through the Bahrain ATS authority. Nonetheless, in both circumstances, parties shall jointly seek new proper arrangements of air routes.

This bilateral Air Transport Agreement in 2007 between Qatar and Bahrain is not clear about prohibited areas: parties did not specify who and how is to establish prohibited areas in Qatar's sovereign airspace; it is necessary to further break down the ATS jurisdiction: who is to prescribe ATS rules, as a matter of jurisdiction; and who is to execute the ATS rules, as a matter of jurisdiction.

During the proceedings at ICAO,²⁴⁴ both parties also refer to the *Agreement to Regulate Air Navigation Services* signed in 2019 between the State of Qatar and the State of Bahrain.²⁴⁵ Its Article 3 and 4 reads as follows:

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؛ شودح لطيف و عيسى ايسل تا بار طض الى و اة حل س الم ات اع ازن لا ق ل اح ي ف¹
ن ي ف ر ط ل ا د ح ا ل ب ق ن م ق ن ي ع م ل ا ق س س و م ل ا ه ب ج و م ب ز ج ع ت ع ي د ا ع ر ي غ ف و ر ط و ا ت ا ر و ط ت
ف ر ط ل ا ل ذ ب ي ، د ن د ح م ل ا ق ر ط ل ا ي ل ع ا م ي ل ع ق ف ت م ل ا ط و ط خ ل ا ل ي غ ش ت ن ع ن ي د ق ا ع ت م ل ا
ل ا ل خ ن م ط و ط خ ل ا ه ذ ه ر ا ر م ت س ا ل ي س ر ت ل ه ع س و ي ف ا م ع ي ا غ ر خ ا ل د ق ا ع ت م ل ا
ق ر ط ل ا ه ذ ه ي ل ع ق س ا ن م ل ا ل ي غ ش ت ل ا ت ا ب ي ت ر ت

Translation: In the event of armed conflict or political unrest, and if they occur, unusual developments or circumstances under which the institution designated by one of the parties is unable to operate on the agreed routes or in the airspace segment, the other party shall do everything in its power to facilitate the continuation of air transport through proper arrangements of air routes.

243 See Chapter II, Section 2.4 on the conditions to establish prohibited airspace – military necessity, public safety, emergency and exceptional circumstances.

244 The ICAO proceedings on the *Qatar 'blockade' case (2017-2021)* is presented in Section 3.3.1 of Chapter II.

245 This agreement signed by Qatar and Bahrain in 2019 is presented as Exhibit 46 by Qatar at ICAO the proceedings. More on the proceedings, *ibid*.

Article (3)

The Contracting Parties have agreed that Bahrain's Center for Aviation Information shall be responsible for monitoring air traffic in the airspace above the State of Qatar and its territorial waters, excluding these airways or below those altitudes whose monitoring is the responsibility of the State of Qatar within the framework of the technical arrangements between the Civil Aviation Authorities of the two countries according to Article (4) of this agreement. This agreement shall be subject to review between the Parties as and when operationally required.

Article (4)

The Contracting Parties have authorized specialists representing both Civil Aviation Authorities to sign a technical arrangement (letter of agreement) determining the specific Terminal Control Area (TMA) for Doha's International Airport, and all other relevant matters within Bahrain's Flight Information Region in accordance with the rules and regulations specified by the International Civil Aviation Organization.

The two articles further testify that Qatar delegated to Bahrain *technical and operational* functions to monitor air traffic in Qatar's national airspace, more like the scope of jurisdiction. Bahrain does not have the jurisdiction to prescribe, but is to enforce what has been prescribed in bilateral agreements: Bahrain is responsible for providing safe and efficient ANS in the delegated airspace. However, the problem is that this *bilateral Agreement to Regulate Air Navigation Services* in 2019 between Qatar and Bahrain did not address the *jurisdiction* to establish prohibited areas in Qatar's airspace within the Bahrain FIR; meanwhile, its Article 4 says that "all other relevant matters" are to be arranged in accordance with the rules and regulations specified by ICAO. "All other relevant matters", arguably, refer to all matters that is relevant to the provision of ATS, including the responsibilities specified in Annex 11, to be explained in the next paragraph.²⁴⁶

Those responsibilities laid down in Annex 11 include taking contingency measures and closing airspace by an appropriate ATS authority under its *jurisdiction*.²⁴⁷ Since the bilateral agreement in 2019 directs attention to ICAO regulations for "all other relevant matters", it is necessary to examine Annex 11 to the Chicago Convention. Annex 11 prescribes these responsibilities with one exception: in developing contingency plans for delegated airspace, if ATS authorities of the delegated State plan to establish prohibited/restricted areas in sovereign airspace, this plan must be approved or consented to by the delegating State. This interpretation of "use of airspace" includes *non-use*. Said interpretation is confirmed by the ICAO Council proceedings.²⁴⁸

During ICAO Council meetings, all four blocking countries, namely, Bahrain, the UAE, Egypt, and Saudi Arabia, made clear that they *never* intended to close

246 See Section 4 of this chapter on the responsibilities of ATS authorities.

247 See Section 4.3 of this chapter.

248 ICAO Doc 10092-C/1186, Council – Extraordinary Session on 31 July 2017 (Closed), Summary Minutes, 22/8/17, para.40.

Qatar's national airspace, nor did they ever argue they have the competence to do so.²⁴⁹ Bahrain emphasized that from the outset, Qatari traffic had never been stopped by any of the said four Member States from using any of the routes which depart from and arrive into Qatari airspace.²⁵⁰ Saudi Arabia stated that the four Member States wished to focus on *technical* issues and that it fully respects every Member State's complete and exclusive sovereignty over the airspace above its territory under Article 1 of the Chicago Convention.²⁵¹

The proceedings at the ICAO Council demonstrate that sovereign airspace can be used only on the initiative of, or with the agreement or consent of, the delegating State concerned regarding such use. Bahrain's competences to take contingency measures is limited by the exception prescribed in Annex 11 and its bilateral agreements with Qatar: none of the bilateral agreements grant Bahrain the jurisdiction to unilaterally execute airspace closure nor the jurisdiction to prescribe new rules for "all other relevant matters". Thus, Bahrain is not entitled to establish prohibited areas in Qatar's sovereign airspace without Qatar's consent. Qatar retains the final say over prohibited areas in its sovereign airspace, by default, even if the airspace has been delegated to Bahrain; in this sense, Qatar retains both the jurisdiction and jurisdiction as to the closure of its sovereign airspace. The sovereign jurisdiction defeats ATS jurisdiction in Qatari sovereign airspace.

As of July 2021, the ICAO Council has agreed, in principle, with the establishment of a Doha Flight Information Region (FIR) drawing on Qatar's proposal, which would include Qatar's sovereign airspace and, to optimize safety and efficiency of the regional airspace, other contiguous airspace over the high seas.²⁵² The proposal of Qatar also included its intention to withdraw from the current arrangement whereby it has delegated to Bahrain the provision of ANS over its sovereign territory in accordance with paragraphs 2.1.1 of Annex 11 to the Chicago Convention.

Built on this latest ICAO Council decision, Qatar and Bahrain will probably go through the process of terminating their bilateral delegation agreement. As such, the aforementioned Qatar-Bahrain bilateral agreements will be of historical value. This research provides an examination of the situation during

249 ICAO Doc 10092-C/1186, Council – Extraordinary Session on 31 July 2017 (Closed), Summary Minutes, 22/8/17, para.40.

250 *ibid.*

251 ICAO Doc 10092-C/1186, Council – Extraordinary Session on 31 July 2017 (Closed), Summary Minutes, 22/8/17, para.48.

252 See New decisions at ICAO Council's 223rd Session, <https://www.icao.int/Newsroom/Pages/New-decisions-at-ICAO-Councils-223rd-Session-support-aviations-recovery-and-development.aspx>, last accessed 31 July 2021; announcements from Qatar Ministry of Transportation and Communication, <https://www.motc.gov.qa/en/news-events/news/icao-council-agrees-qatar%E2%80%99s-proposal-establish-doha-flight-information-region-fir>, last accessed 31 July 2021.

that limited period of time as a precedent. In this way, this research is relevant to airspace closure in delegated airspace arising in future.

5.4 Interim conclusions

In accordance with Article 1 in conjunction with Article 28 of the Chicago Convention, the provision of ATS is a national prerogative by virtue of its sovereignty. Meanwhile, appropriate ATS authorities have the competences and obligations to make risk assessments of air routes and take contingency measures, including declaring a segment of airspace as “not safe/secure/available”.

Lacking consent from the territorial State, any pending technical or operational operations will have to be addressed outside of the sovereign airspace of a State, unless otherwise agreed by concerned States. In the context of cross-border ATS provision, a delegating State, by default, retains both jurisdiction and jurisdiction with respect to prohibited airspace; the ATS jurisdiction to manage traffic flows are subject to bilateral agreements. Unless otherwise prescribed, sovereign airspace is to be used or closed, on the initiative of, or with the agreement or consent of, the delegating State: in establishing prohibited areas, the ‘use’ of sovereign airspace is to be interpreted as including ‘non-use’; this interpretation is supported by Member States interventions at the ICAO Council meetings.

A bilateral delegation agreement can specify the possible division of jurisdiction and jurisdiction between a delegating State and a providing State. For example, a delegating State is to prescribe the conditions for airspace closure and a providing State is to execute only: upon suggestions from the appropriate ATS authorities of a providing State, a delegating State has the final say as to the closure of its sovereign airspace.

6 CHAPTER SUMMARY AND CONCLUSIONS

This chapter examines the ‘how’ of establishing prohibited areas within a State’s territory, in light of the technical aspects of ATS. Article 28 (a) of the Chicago Convention prescribes that the provision of safe ATS *can and should* be done by the sovereign State.

The concept of responsibility of an appropriate ATS authority encompasses two dimensions: competence and obligation. In connection with prohibited airspaces, ICAO regulations specify that, an appropriate ATS authority is competent to assess risks, and the authority is also obliged to do so, because Attachment C to Annex 11 crystalized customary international law on contingency measures. An appropriate ATS authority is both competent and obliged to make contingency plans, announcing that portions of airspace are not

available/secure/safe', in cases of ATS disruption as elaborated in Attachment C to Annex 11.

By virtue of mutual agreements, a State can delegate to another State the responsibility for the provision of ATS over its territory. The delegation of responsibility to provide ATS does not entail the derogation of national sovereignty of the delegating State. A contingency plan made by the providing State can involve airspace restrictions, but if it concerns sovereign airspace, the execution of this plan must be approved or consented to by the delegating State, unless otherwise prescribed in bilateral agreements.

Article 28 (b) allows for new standards and procedures to be established, and Annex 11 was thereby produced by ICAO. According to Annex 11, an appropriate ATS authority is responsible for managing FIRs under its *jurisdiction*, within or beyond the territorial State's sovereign airspace. This chapter explained the expanding ATS jurisdiction in the context of cross-border ATS provision and the next chapter continues elaborating airspace closure beyond territorial limits.