

**NEGOTIATING BRIEF**

**REGARDING THE DEVELOPMENT OF AN AIR**

**CORRIDOR BETWEEN GAZA-WEST BANK**

**AND RELATING TO INTERNATIONAL AIR ACCESS**

**TO PALESTINE**

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## NEGOTIATING BRIEF

### REGARDING THE DEVELOPMENT OF AN AIR CORRIDOR BETWEEN GAZA- WEST BANK AND RELATING TO INTERNATIONAL AIR ACCESS TO PALESTINE

#### INTRODUCTION, BACKGROUND AND EXECUTIVE SUMMARY

This negotiating brief is delivered pursuant to a contract made between Adam Smith International and the International Services Division of the UK Civil Aviation Authority.

Under the Interim Agreement between the PLO and Israel signed in 1995, Israel provided limited privileged access to certain Palestinian aircraft travelling through its airspace. During permanent status negotiations between the two parties in 2000-01 Israel proposed that – in return for granting Israel access to Palestinian airspace for military operational and training purposes – the future Palestinian State would be granted privileged access to Israeli airspace.

The purpose of the work under the contract is to identify potential models for the establishment of a dedicated air corridor and other access rights between the West Bank and Gaza and for securing access by Palestine to the international air traffic networks that could serve Palestinian interests. Those interests consist of commercial and private aeroplane and helicopter operations; the movement of goods and services; emergency services for civil defence, search and rescue and disaster relief; and movement of security forces and personnel, including their equipment.

General Palestinian interests to keep in mind are:

- Free and unconstrained flight access between the West Bank and Gaza Strip;
- Economically feasible flight access;
- Ability of foreign aircraft to access the West Bank and Gaza Strip using the air corridor without Israeli limits or controls, particularly aircraft flying from and to states without diplomatic relations with (or otherwise disapproved by) Israel;
- Benefit economically from use of all international flights that could use Palestinian airspace; and not to be limited.

The work is based upon the following assumptions –

- Palestine will sign the Chicago Convention and will seek membership of ICAO;
- Palestine will have its own national airline(s);
- Palestine will have at least one major international airport - currently located in Gaza - and one or possibly two “hub and spoke” airports in West Bank, including possibly a new international airport at Jericho;
- Palestine will have its own civil aviation authority;
- Palestine will have a territorial link between West Bank and Gaza – which may follow a different route to the air corridor.

The brief will focus on the following principal subjects –

1. The Convention on International Civil Aviation signed at Chicago in December 1944 and the rights of sovereignty of airspace; management of airspace utilisation; provision of air traffic services; and bilateral and multilateral arrangements for management of international and national airspace.
2. Identification of the critical elements pertaining to the development of the proposed air corridor(s).

3. Analysis of relevant international precedents on which the model might be based, including the arrangements relating to access to Berlin.
4. Analysis of suitable models and options that best serve the Palestinian interests<sup>1</sup>.
5. Likely Israeli concerns and means of addressing the same.
6. Outline of arrangements for controlling the day-to-day use of the agreed airspace – which will be dependent upon the results under 4 above.

## SUMMARY

The principal purpose of this Brief is to provide sufficient information to enable Palestinian negotiators and international support units to consider all of the options and criteria to be taken into account in setting in place future airspace arrangements in Palestine and over the adjacent territory of Israel. These arrangements are intended to meet the needs of the State of Palestine for internal communicating air transport links and to facilitate international traffic seeking access to Palestinian airspace and to Palestinian airports.

In the context of the above, the brief provides an overview of the broader aeropolitical picture and an outline of the agreements that have been concluded in the region that would impact upon the exercise of air navigation rights under the Chicago Convention and associated agreements.

A secondary, but no less important, purpose is to identify the options for airspace control and the impact of each option upon all civil aviation issues including that of the air corridor(s). This means providing information upon which to base consideration as to whether there should be joint or separate air traffic control systems.

The study has identified five principal negotiating options that may be summarised as follows:

Option 1 – Reliance purely on Convention rights; no dedicated air corridor; both states exercising exclusive sovereignty over their own respective airspace.

Option 2 – Full sovereign control by Palestine over Palestinian airspace; air corridor with delegated ATS; air component to the Territorial Link.

Option 3 – Full sovereign control by Palestine of Palestinian airspace; air corridor and delegated ATS below Flight Level 100-150; delegation of ATS to Israel over Palestinian airspace above Flight Level 100-150; air component to the Territorial Link.

Option 4 – As for 2 and 3 above but without air component to the Territorial Link.

Option 5 – Designation of the airspace above both states as a single block with either (a) full joint control over both state's airspace; or (b) full Israeli control subject to agreed rules and restrictions.

Having regard to the above, the brief identifies all of those elements of an air traffic management and control system that would need to be put in place depending upon which of the options is adopted.

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<sup>1</sup> Subject to receipt of full information as the facilities available for the control of civil and military air traffic.

## **A. Principal considerations to be taken into account for the utilisation of airspace and Findings**

In the negotiations for the use of Israeli and Palestinian airspace, there appear to be a number of material considerations deserving of particular attention if the best possible outcome is to be achieved.

As a matter of international law, policy and practice it is accepted that if one State does delegate to another State the right to provide air traffic services within its territory it does so without derogation of its national sovereignty. The issue of sovereignty and the protection by a State of its national security and other interests will undoubtedly influence the outcome of the negotiations. Against that background some of the more significant criteria are detailed below.

(a) The Chicago Convention establishes the complete and exclusive sovereignty of every State over the airspace above its land and sea territory (section 1.1.1).

(b) The Convention applies to civil aircraft and not state aircraft, for which specific arrangements need to be made or agreed (1.1.2).

(c) The Convention recognises the fundamental right of aircraft from one State to fly over the territory of other States and, subject to conditions, to land and take off. As a matter of principle, therefore, States are obliged to allow access to their airspace for the purpose of transit to the aircraft of other Contracting States and, subject to the provisions of Article 9 of the Convention, are prevented from discriminating against such aircraft on the grounds of their nationality. The ability of a State to prevent the civil aircraft of other States from using the designated airways within its sovereign airspace is strictly limited by the provisions of the Convention (1.1.4). As a matter of practice, however, it is difficult to enforce the basic right of flight over another State's airspace.

(d) Article 9 of the Convention enables States to impose restrictions on the use of its airspace for reasons of public safety, national security or military necessity (1.1.5).

(e) The presence of Early Warning Stations or Air Defence Sites is not necessarily an impediment to the establishment of one or more air corridors through Israel's airspace or the development of arrangements for the provision of air traffic control services (1.7). Military sites might affect the actual route to be allocated.

(f) A Territorial Link is not likely to be contiguous with any air corridor arrangements created for the conduct of Instrument Flight Rules (IFR) flights. It is, however, considered desirable that any Territorial Link should have a contiguous vertical dimension in order to facilitate access by very light aircraft or helicopters (e.g. for search and rescue, medical evacuation, etc). (See Option###): This vertical dimension need not be more than 1000 feet above ground level and 1-2 miles wide. This should be for Visual Flight Rules (VFR) operations only (2.2 and 2.4).

(g) The principal air corridor should provide a direct connection from Gaza International Airport to the West Bank for all categories of flights, including IFR, which provides the maximum potential for connectivity to the existing regional network of airways (5.2).

(h) Typically, ICAO is involved in the process of designing procedures for the use of airspace, and ought to participate at the earliest opportunity (3.2).

(i) In general terms, principally in the interests of safety and operational efficiency, but excluding political considerations, a single control authority working

under joint arrangements, is likely to prove more beneficial than separate control authorities (3.5).

(j) Experience of the operation of the Berlin air corridors would appear to confirm that it is not necessary to exercise sovereignty in order to enjoy the rights associated with the use of a dedicated corridor (4.5). There is a range of possible options for delegation of the provision of ATS within the designated portion of airspace.

(k) Once Palestine attains sovereignty, it should seek full, voting membership of ICAO by signing and ratifying the Chicago Convention on International Civil Aviation in order to be able to take full advantage of the rights and privileges available under that Convention. This action should be taken as soon as possible consistent with the status of Palestine under international law and under the Treaty of the United Nations.

(l) In the context of the above, the Palestine authorities should identify any portions of their airspace in which, for reasons of military necessity, national security or public safety flights by aircraft of other States should be prohibited or restricted.

(m) In the negotiations with Israel, the Palestine authorities should develop a policy for airport(s) development within the West Bank. The choice of airport location has an impact on the negotiations.

(n) Negotiations and coordination with Egypt and with Jordan should take place concerning the arrangements for the use of the airspace of those States to facilitate access to and from Gaza International Airport (in the case of Egypt) and the principal existing or proposed international airport(s) in the West Bank (in the case of Jordan).

In addition to the above referenced principal considerations it is also important to emphasise that whichever of the Options set out in section 5 might be selected the critical elements detailed in section 3 will have to be applied and considered as appropriate to the circumstances.

One of the critical factors requiring consideration in any negotiations is the form of the arrangements to be addressed under any delegation of Air Traffic Services provision. If responsibility is delegated, it is necessary to consider:

- a) Liability issues – who is liable for the failure to provide an adequate or safe service and who has jurisdiction to deal with any claims arising from such failure?
- b) Regulation – which body regulates, or supervises the provision of, the services and to what standards?
- c) Cost of infrastructure (e.g. navigation aids (NAVAIDS), ATC equipment etc) and service provision - how and on what basis can or should the cost be recovered and from whom?
- d) Incident and accident reporting and investigation - conducted by whom and reporting to whom or what body?

## **B. Principles to be considered**

In negotiating the rights required by Palestine, it is suggested that the following principles should be applied.

- (a) Provided that Palestinian interests are not prejudiced, no unnecessary changes should be made to the air traffic management and control system that might adversely affect the overall international traffic flows within the region or are contrary to arrangements in the ICAO Regional Plan. As a general principle, the existing route structure should be utilised as much as possible.
- (b) Access arrangements should respect the principles of the Chicago Convention and the requirement to comply in particular with Annex 2 *Rules of the Air*.
- (c) Whatever airspace arrangements are put in place, they should be designed to facilitate safe conduct of flight operations in all operating conditions (day or night, VFR or IFR) in accordance with ICAO criteria.
- (d) The maximum use possible should be made of existing navigational aids and ATC/ATM facilities. There should be the minimum number of transfers of control points, as long as this does not conflict with Palestinian interests.
- (e) Existing arrangements agreed by Israel for access by Jordanian aircraft to Israel's airspace in the form of dedicated airways might provide a useful precedent in the negotiations.
- (f) The involvement of ICAO (the Cairo Regional Office) in the negotiations may assist the conclusion of an agreement and help to resolve any operational or other difficulties that might be encountered during the negotiations.
- (g) Economic feasibility (for commercial use of airspace) should also be a guiding principle. Economic feasibility analysis needs to be undertaken before negotiations for the Authorities to be aware of the type of air services they are likely to need, and the cost of operation and prospects for cost recovery through charges.

## **Background Facts Considered**

In preparing this brief, the following background facts have been considered based upon the information that has been provided.

- Palestine has observer status at ICAO, analogous to (and based upon) the status of the PLO within the political organs of the UN. Palestine has a permanent representative at ICAO headquarters in Montreal.
- The position of ICAO with respect to Palestinian status - Presently Palestine is occupied territory and, as such, any arrangements made for civil aviation are temporary (notwithstanding the fact, as evident in the 1998 Gaza Airport Protocol (GAP), the parties agreed to apply all relevant provisions of the Chicago Convention (CC) and ICAO rules, including SARPs). Once Palestine acquires sovereignty, then it would immediately qualify and accede to ICAO full membership. Therefore, Israel would not need to delegate rights and responsibilities to a temporary non-sovereign authority, as in the GAP.
- In light of the above, Palestine currently enjoys all the rights of ICAO members except the right to vote. Palestine has had good precedents in its relations with the ICAO.



- The Palestine Aviation Authority is in regular contact with ICAO regional offices.
- Palestine is presently a full member of all aviation-related organisations that do not have a political character, including IATA, ACI, ACAC, and the Euro-Mediterranean Transport Forum.
- The Arab Civil Aviation Commission (ACAC) represents all its members in negotiations with other states.
- Both Israel and the Palestinian Authority (PA) are full members of the Euro-Med Transport Forum.

Any arrangements made between the two parties will be capable of being endorsed by ICAO and incorporated into any Regional Air Navigation Agreements applicable in that region.

It is also assumed that negotiations in relation to the establishment of air links will take place contemporaneously with the wider political negotiations between the parties and against a background of each side needing to ensure its own security and its right to participate in all international markets and forums. In particular, it is assumed that the wider negotiations will include the issue of recovery by the Palestinians of territory occupied by Israel since 1967 especially those areas that encompass the site of the Jerusalem (Qalandia) Airport. In this context the following can be noted:

- In 1988 the Palestinians were successful in obtaining an ICAO decision to close Qalandia airport in the West Bank (located on the way from Jerusalem to Ramallah) when Israel used it to bring Russian Jews to Israel. The decision was made based on the status of the Qalandia Airport as an airport in occupied territories which Israel is not entitled to operate for its own benefit under international law. (See Appendix ###)
- Another recent precedent occurred when the Council of ICAO held Israel responsible for all the damage caused by its attacks on the Gaza International Airport. (see appendix ###)

### ***Glossary of terms used***

**Aerodrome control service** - air traffic control service for aerodrome (local) traffic.

**Aerodrome traffic** – all traffic on the manoeuvring area of an aerodrome and all aircraft flying in the vicinity of an aerodrome.

**Aerodrome Traffic Zone (ATZ)** – airspace of defined dimensions established around an aerodrome for the protection of aerodrome traffic.

**Aeronautical fixed service (AFS)** – a telecommunications service between specified fixed points provided primarily for the safety of air navigation and for the regular, efficient and economical operation of air services.

**Aeronautical fixed telecommunications network (AFTN)** – a worldwide system of aeronautical fixed circuits.

**Aeronautical Information Service (AIS)** – a service established within the area of coverage responsible for the provision of aeronautical information and data necessary for the safety, regularity and efficiency of air navigation.

**Air navigation services (ANS)** – includes air traffic services (ATS), aeronautical telecommunications service (COM), meteorological services for air navigation (MET), search and rescue (SAR) and aeronautical information services (AIS) which are provided to air traffic during all phases of operations (approach, aerodrome control and en-route).

**Air traffic control (ATC)** – a service provided for the purpose of: 1) preventing collisions: a) between aircraft; and b) on the manoeuvring area between aircraft and obstructions; and 2) expediting and maintaining an orderly flow of traffic.

**Air traffic control unit (ATC unit)** – a generic term meaning variously area control centre, approach control unit or aerodrome control tower.

**Air Traffic Management (ATM)** – the aggregation of the airborne functions and ground-based functions (air traffic services, airspace management and air traffic flow management) required to ensure the safe and efficient movement of aircraft during all phases of operations exercised by the sovereign state and under which responsibility for the provision of an ATS or ATC function may be delegated to a unit within the state or a unit in another state.

**Air traffic services (ATS)** – a generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service.

**Approach control service (APP)** – air traffic control service for arriving or departing controlled flights.

**Area Control Centre (ACC)** – a unit established to provide air traffic control service to controlled flights in control areas under its jurisdiction.

**Flight Information Region (FIR)** – a region of airspace of defined dimensions within which flight information service and alerting service are provided.

**Flight information service (FIS)** – a service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.

**Instrument flight rules (IFR)** – a set of rules governing the conduct of flight under **instrument meteorological conditions (IMC)**, i.e. conditions expressed in terms of visibility, distance from cloud and ceiling, less than the minima specified for visual meteorological conditions (specified in Chapter 4 of Annex 2).

**NOTAM (Notice to airmen)** – 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.

**Visual flight rules (VFR)** – rules for the conduct of a flight in different categories of airspace under **visual meteorological conditions (VMC)** expressed in terms of visibility, distance from cloud and ceiling equal to or better than specified minima.

## 1. THE CHICAGO CONVENTION AND OTHER INTERNATIONAL LAWS AND AGREEMENTS

### 1.1 The Convention on International Civil Aviation done at Chicago 7<sup>th</sup> December 1944

The development of civil aviation as a major component of international transport made it necessary to co-ordinate and standardise operational practices, laws and procedures on a worldwide basis. The Convention was formulated and agreed by the international community in order to facilitate international air navigation and the International Civil Aviation Organisation (ICAO) was founded in order to promote international co-ordination, which is achieved through a series of multilateral legal instruments. ICAO is a specialist agency of the United Nations.

Under the Convention, Contracting States agree to adopt certain principles and arrangements for the development of international civil aviation. The emphasis of the Convention is to create a framework designed to facilitate the development of international air transport services and to provide a regulatory regime to secure the safe operation thereof. Of fundamental importance in that context is the agreement for the exchange of commercial rights on the basis of equality of opportunity.

The Convention concluded at the Conference provided as follows:

“THEREFORE, the undersigned governments having agreed on certain principles and arrangements in order that international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically Have accordingly concluded this Convention to that end.” (*Preamble to the Convention*)

The Convention establishes the responsibilities and obligations of Contracting States (i.e. States that have signed and ratified the Convention) to provide for the free movement of international air transport services; the creation of a management system to secure safe operation thereof and the formulation of regulations as uniform as possible with those established under the Convention. The detailed provisions are contained in the 18 technical Annexes to the Convention, which establish Standards (recognised as necessary) and Recommended Practices (recognised as desirable) designed to achieve the highest degree of uniformity of practice and procedure (including regulation) and consistency in supervisory and administrative procedures, particularly in the areas of safety supervision and facilitation.

It is not necessary to examine all of the provisions of the Chicago Convention. However, in the present context, it is necessary to emphasise some of the more significant provisions.

#### 1.1.1 Sovereignty of airspace

First and foremost the Convention confirms the complete and exclusive sovereignty of every State over the airspace above its territory<sup>2</sup>. A State's sovereign airspace includes all of the airspace above the land territory of a State and also its territorial waters<sup>3</sup>. The territorial waters of a State would normally comprise the waters around a State extending to a distance of twelve miles or such other distance as might be

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<sup>2</sup> Article 1 Chicago Convention 1944

<sup>3</sup> Article 2 *ibid*

agreed by international treaty. For example some States claim portions of a continental shelf as being within their territorial waters. Many such claims are dealt with under the UN Law of the Sea (LOS) or the Geneva Conventions on the High Seas and on the Continental Shelf as a part of international treaty arrangements.

The concept of the sovereignty of airspace existed long before the signing of the Chicago Convention. The Paris Conference of 1910 was convened to deal with frequent incursions of German balloons into French airspace. The Conference did not adopt the “freedom of the air” concept advocated by many jurists and inclined more towards the concept of sovereignty of states in the space above their territories.

Following the First World War, on 8<sup>th</sup> February 1919, the first scheduled air service was established between London and Paris and it was considered necessary for the then existing regulations to be incorporated into a Convention. A choice now had to be made between free airspace analogous to the principles of maritime law and airspace governed by the sovereignty of the underlying states. There were strong tendencies prevailing to defend national interests and the latter principle prevailed.

The Paris Convention 1919 was the first legal instrument in the field of international air law and was ratified by 32 nations, but not the United States. Complete and exclusive sovereignty of states over the airspace above their territory was recognised. This was the already accepted principle that was carried forward in the Chicago Convention.

### **1.1.2 Civil aircraft, not state aircraft**

It should be stressed at this stage, however, that the Convention is applicable only to civil aircraft and is not applicable to “state” aircraft<sup>4</sup>. The interpretation of the term “state aircraft” can sometimes cause difficulties. Aircraft used in military, customs and police services are, by article 3(b), deemed to be state aircraft. State aircraft require special authorisation to fly over, or land in, the territory of another State.

Civil aircraft acquire the nationality of the State in which they are registered and bear that State’s registration mark. They can, therefore, be identified as belonging to that State.

On becoming a Contracting State, Palestine would be in a position to establish an aircraft register and to register thereon aircraft that are intended for use by Palestinian operators, whether private or commercial. There is, however, no obligation upon a State to establish an aircraft register and some States avoid the burden (see below) of doing so by permitting their air operators to utilise foreign registered aircraft.

Registration of an aircraft brings with it the responsibility for monitoring its continuing airworthiness and for issuing Certificates of Airworthiness. Annex 8 determines the basis upon which Certificates of Airworthiness are issued and it is important that the standards adopted in a State are compliant with the Annex in order that other States may rely upon the validity of the certificate.

A State that maintains an aircraft register must therefore have the resources available to enable it to provide airworthiness oversight on an ongoing basis. This can be an expensive exercise and may often involve the engagement of outside specialists to undertake the task.

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<sup>4</sup> Article 3 *ibid*

### **1.1.3 Unlawful activity relating to aircraft**

As a result of the Montreal Protocol of 1984, the Chicago Convention was amended by the addition of Article 3bis<sup>5</sup>. Shortly after the shooting down of the Korean Airlines aircraft by the Russians, the General Assembly of ICAO resolved to bring into force more specific rules regarding the use of weapons against aircraft in flight.

Article 3bis governs the issue of the use of weapons against civil aircraft and provides as follows:

*The contracting States recognise that every State must refrain from resorting to the use of weapons against civil aircraft in flight and that, in case of interception, the lives of persons on board and the safety of the aircraft must not be endangered. This provision shall not be interpreted as modifying in any way the rights and obligations of States set forth in the Charter of the United Nations.*

Paragraph b) of article 3bis further provides that the contracting States recognise the right of every State, in the exercise of its sovereignty, to require a civil aircraft that is flying above its territory without authority, or if there are reasonable grounds for believing that it is being used for any purpose inconsistent with the aims of the Convention, to land at a designated airport. It may also give such aircraft instructions to put an end to such violations. For this purpose, contracting States may resort to any appropriate means consistent with the relevant rules of international law, including the Convention, and each State agrees to publish its rules for the interception of aircraft within its airspace.

In the above context, the provisions of article 4 need to be borne in mind. That article provides that each contracting State agrees not to use civil aviation for any purpose inconsistent with the aims of the Convention.

Issues arising in relation to the manner in which some States have exercised their sovereignty have resulted in Resolutions of the United Nations as well as ICAO, to which reference has been made earlier. For example, United Nations Security Council Resolution 1067 of July 1996 noted that the unlawful downing of two (US registered) civil aircraft on 24 February of that year by the Cuban Air Force violated the principle that States must refrain from using weapons against airborne civil aircraft. The Security Council condemned such use as being incompatible with the rules of customary international law contained in article 3bis of and the annexes to the Convention as well as with elementary considerations of humanity.

### **1.1.4 Freedom to fly**

Respecting the aims of the Convention and the above referenced provisions, the Convention recognises the fundamental right of aircraft from one State to fly over the territory of other States and, subject to conditions, to land and take-off<sup>6</sup>. These rights are more explicitly detailed in the Multilateral Transit and Transport Agreements signed at the same time as the Convention.

In terms of the right of passage for foreign aircraft through Israeli airspace, the Transit Agreement as read with the Convention itself is of critical importance. Israel is a signatory to both the Convention and the Transit Agreement and therefore bound by the provisions of those documents.

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<sup>5</sup> Amendment approved 10<sup>th</sup> May 1984 and came into force under article 94(a) on 1<sup>st</sup> October 1998 in respect of states that have ratified it.

<sup>6</sup> Article 5 *ibid*

The *International Air Services Transit Agreement 1944* states in article 1, section 1 -  
“Each contracting State grants to the other contracting States the following freedoms of the air in respect of scheduled international air services:  
(1) The privilege to fly across its territory without landing;  
(2) The privilege to land for non-traffic purposes.”

Section 4 of that same article permits each State to designate the route(s) to be followed within its territory by any international air service and airports which any such service may use and to impose charges for the use of such airports and other facilities e.g. air traffic control services.

As a matter of principle, therefore, states are obliged to allow access to their airspace for the purpose of transit to the airlines of all other contracting states and, subject to the provisions of article 9 of the Convention referred to below (1.1.5), are prevented from discriminating against such airlines on the grounds of their nationality.

It is also worth noting, in this context, the provisions of the *Geneva Convention on the High Seas 1958* and in particular article 3 thereof (now largely superseded by the *UN Convention on the Law of the Sea 1982 (UNCLOS) - article 125*) that recognises the right of states having no sea-coast to have access to the sea. To that end the signatory states situated between the sea and states having no sea-coast shall by common agreement with the latter and in conformity with existing international conventions accord to that state, on the basis of reciprocity, free transit through their territory. To the extent that a part of the future state of Palestine, namely the West Bank, will have no sea-coast, then the provisions of the Conventions might be considered applicable to the future relationship between Palestine and Israel, even though the latter is not yet a signatory to the UNCLOS1982.

Article 6 to the Convention provides, however, that no scheduled international air service may be operated over or into the territory of another State except with special permission or other authorisation of that State and in accordance with the terms of such permission or authorisation.

Furthermore, by article 7 each State has the right to refuse permission to the aircraft of other States to take on in its territory passengers, cargo and mail for remuneration or hire for carriage to another place within its territory (Cabotage).

In summary, therefore, the ability of a Contracting State to prevent the civil aircraft of another Contracting State from using the designated airways within its sovereign airspace is strictly limited by the provisions of the Convention and may only be exercised in circumstances in which its national security is threatened by such operations. That being the case, it is in practice difficult to enforce this right if a State takes a purely political decision to deny access to its airspace to another state. In this context one could cite the position of Gibraltar and the refusal by Spain to permit the use of its airspace by aircraft approaching to land at Gibraltar airfield. Attempts at arbitration were not pursued at ICAO. Arbitration requires the consent of all parties to be binding.

### **1.1.5 Restrictions on access to and the use of airspace**

Article 68 of the Convention provides that a state may, subject to the provisions of the Convention, designate the route(s) to be followed within its territory by any international air service and the airports that any such service may use.

Article 9 contains prohibitions and restrictions on the use of airspace in exceptional circumstances and for reasons of public safety or national security and military necessity. Thus:

*“Article 9(a) – Each contracting state may, for reasons of military necessity or public safety, restrict or prohibit uniformly the aircraft of other states from flying over certain areas of its territory....”;*

*Article 9(b) – Each contracting state reserves also the right, in exceptional circumstances or during a period of emergency, or in the interest of public safety, and with immediate effect, temporarily to restrict or prohibit flying over the whole or any part of its territory...”;*

*Article 9(c) - Each contracting state, under such regulations as it may prescribe, may require any aircraft entering the areas contemplated in subparagraphs (a) or (b) above to effect a landing as soon as practicable thereafter at some designated airport within its territory”.*

### **1.1.6 Management of airspace**

Having regard to what is said above in relation to articles 9 and 68 of the Convention, it is clear that States have the right not only to impose restrictions on the use of their airspace but also to nominate or determine the routes that may be used by aircraft of other States when navigating through their sovereign airspace. This right gives rise to the need to seek prior authorisation for over-flights and is reflected in the provisions of the bilateral air services agreements whereby States exercise the right for their air carriers to carry traffic into and out of other States (see 1.5 below).

Annex 11 (see below) to the Convention addresses the need for the establishment by States of an Authority for the management/control of their airspace (paragraph 2.1).

Contracting States shall determine, in accordance with the provisions of Annex 11 and for the territories for which they have jurisdiction, those portions of the airspace and those aerodromes where air traffic services will be provided. States will thereafter arrange for such services to be established and provided in accordance with the provisions of the Annex except that a State may delegate to another State the responsibility for establishing and providing air traffic services in flight information regions (FIR), control areas or control zones within their territories.

It should be emphasised, however, that if one State does delegate to another State the responsibility for the provision of air traffic services over its territory it does so without derogation of its nationality sovereignty. In other words, any arrangements concluded between States for the provision of air traffic services or facilities do not affect the fundamental principles relating to sovereignty and jurisdiction over national airspace embodied in the Convention. The extent of delegation may be extensive, and can approximate to delegation of sovereignty, without legal delegation.

Similarly, when such arrangements are concluded, the providing State'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 relevant airspace. However, arrangements could include responsibility for airspace policy and airspace utilisation that is the prerogative of the sovereign state.

Furthermore, the providing State in providing air traffic services within the delegating State will do so in accordance with the requirements of the latter which shall provide such facilities and services for the use of the providing State as the parties shall agree to be necessary. It is expected that the delegating State would not withdraw or modify such facilities and services without prior agreement. (Examples of

agreements in Appendix ####- European Common Form letter of Agreement). Alternative degrees of delegation are further discussed in section 3.3 below).

### **1.1.7 Air traffic services in international airspace**

Those portions of the airspace over the high seas or in airspace of undetermined sovereignty where air traffic services will be provided shall be determined on the basis of regional air navigation agreements. Such agreements are concluded through the auspices of ICAO and approved by the Council of ICAO on the advice of Regional Air Navigation Meetings.

A Contracting State having accepted the responsibility for providing air traffic services in such portions of airspace shall arrange for the services to be established and provided in accordance with the provisions of Annex 11. In providing such services a Contracting State may apply the Standards and Recommended Practices in a manner consistent with that adopted for airspace under its own jurisdiction. Furthermore, states are expected to provide such services on a non-discriminatory basis in terms of the nationality of aircraft wishing to utilise such services.

### **1.1.8 Infrastructure and regulation**

The Convention sets out a number of basic provisions designed to facilitate the international movement and navigation of aircraft, including the following:

*"Each contracting state undertakes to adopt measures to insure that every aircraft flying over or manoeuvring within its territory and that every aircraft carrying its nationality mark, wherever such aircraft may be, shall comply with the rules and regulations relating to the flight and manoeuvre of aircraft there in force. Each contracting state undertakes to keep its own regulations in these respects uniform, to the greatest extent possible, with those established from time to time under this Convention....." (Article 12)*

*"Each contracting state agrees to adopt all practicable measures, through the issuance of special regulations or otherwise, to facilitate and expedite navigation by aircraft between the territories of contracting states....." (Article 22)*

*"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 standards and practices recommended or established from time to time, pursuant to this Convention;" (Article 28)*

*"Each contracting state undertakes to collaborate in securing the highest practicable degree of uniformity in regulations, standards procedures and organisation in relation to aircraft, personnel, airways and auxiliary services in all matters in which such uniformity will facilitate and improve air navigation." (Article 37)*

Article 37 goes on to provide that, to this end, the International Civil Aviation Organisation (ICAO) shall adopt and amend from time to time, as may be necessary, international standards and recommended practices and procedures dealing with a range of matters such as rules of the air, airworthiness of aircraft, licensing of operating and mechanical personnel and registration of aircraft and such other matters concerned with the safety, regularity and efficiency of air navigation as might appear appropriate.



In furtherance of the objectives of the Convention, and of article 37 in particular, ICAO has established standards and recommended practices and procedures covering the matters referred in a series of Annexes to the Convention, which form part of the Convention and with which states are expected to comply.

### **1.1.9 ICAO Arbitration**

Chapter XVIII of the Convention contains provisions dealing with disputes and default.

Article 84 in that chapter relates to settlement of disputes. It provides that if any disagreement between two or more contracting states relating to the interpretation or application of the Convention and its Annexes cannot be settled by negotiation it shall, on the application of any state involved in the disagreement, be decided by the Council of ICAO. The article further provides that any contracting state may, subject to Article 85, appeal from the decision of the Council to an ad-hoc arbitral tribunal agreed upon with the other parties to the dispute or to the Permanent Court of International Justice.

Article 85 sets out various procedures for dealing with arbitration requests, including procedures for appointing an arbitrator or for the President of the Council to nominate an arbitrator in the event that the parties are unable to reach an agreement.

Article 86 deals with appeals and provides that if a decision of the Council is appealed to the Court of International Justice or an arbitral tribunal the decision shall be suspended until the appeal has been decided. The decisions of the Court and of an arbitral tribunal shall be final and binding.

The only penalty that appears to be available against a state that is in default under this chapter is that the Assembly of ICAO shall suspend that state's voting power in the Assembly under the provisions of Article 88. Otherwise there appears to be no effective way for a state's obligations under the Convention to be enforced through ICAO.

ICAO has published Rules for the Settlement of Differences in its Document 7782/2 that was approved by the Council on 9 April 1957 and amended on 10 November 1975. (See Appendix ####)

## **1.2 Annexes to the Chicago Convention**

A Contracting State is obligated by the Chicago Convention to implement the Standards and Recommended Practices (SARPs) contained in the 18 Annexes to the Convention and administered by ICAO, so far as it is practicable for it to do so.

Annex 1	Personnel Licensing
Annex 2	Rules of the Air
Annex 3	Meteorological services
Annex 4	Aeronautical Charts
Annex 5	Units of measurement for use in air/ground ops
Annex 6	Operation of Aircraft
Annex 7	Aircraft Nationality and Registration Marks
Annex 8	Airworthiness of Aircraft
Annex 9	Facilitation
Annex 10	Aeronautical Telecommunications
Annex 11	Air Traffic Services
Annex 12	Search and Rescue

Annex 13	Aircraft Accident Investigation
Annex 14	Aerodromes
Annex 15	Aeronautical Information Services
Annex 16	Environmental Protection
Annex 17	Security
Annex 18	Safe Transport of Dangerous Goods by Air.

The role of ICAO under the Convention is, however, advisory and it has no power to compel Contracting States to comply with its policies, standards and recommendations. Despite the lack of enforcement powers on the part of ICAO, the majority of states recognise that, by signing the Convention, they assume the obligation to adopt and implement the policies, standards and recommendations as far as their circumstances permit.

A major incentive to comply with the standards and practices established by ICAO is that failure to provide an adequate and effective system of regulation could lead to an adverse safety oversight audit report<sup>7</sup> and a consequential loss of air transport services by international airlines and the possible loss of revenue to be derived from the provision of air navigation services, including those for over-flights.

Article 38 of the Convention does permit a state that finds it impracticable to comply in all respects with any such standard or procedure to give notification to ICAO of the differences between its own regulations and practice and the internationally established standards.

This situation may be of considerable relevance in relation to any agreement between states regarding the management of airspace and the provision of air traffic services. Clearly, arrangements between states in this area will only work effectively if both states are applying common standards, practices and procedures. Differences between states in controlling the movement of aircraft could lead to uncertainty or confusion on the part of operators with a possible impact upon the safety of operations.

As a general principle of sovereignty the rules and procedures of a State (the Delegating State) that delegates authority to another State (the Providing State) for the provision of air traffic services continue to apply in its territory. As a matter of practice, in the interests of safety and for the sake of efficiency, the rules and procedures of the Providing State will often be applied by the air traffic control service and its individual, employed controllers. These principles will have to be addressed in the formulation of the proposals for the provision of air traffic services within the agreed air corridor.

### ***Annex 2 Rules of the Air***

In the context of any proposed arrangements, particular attention should be paid to Annex 2 *Rules of the Air*. Air travel must be safe and efficient; this requires, among other things, a set of internationally agreed rules of the air for the safe navigation and manoeuvre of aircraft in the airspace of different States as well as in international airspace.

The rules developed by ICAO – which consist of general rules, visual flight rules and instrument flight rules – are set out in Annex 2 and apply without exception over the high seas and over national territories to the extent that they do not conflict with the

<sup>7</sup> ICAO Universal Safety Oversight Audit Programme (USOAP) - established in 1997 under which all of the contracting states are now audited by ICAO and in respect of which Summary Audit Reports are published.

rules of the State being overflowed. It is clear, therefore, that the rules of the States in this area, more than any other, should be as consistent as possible with those contained in Annex 2.

Right of way rules in the air are similar to those on the surface but, as aircraft operate in three dimensions, some additional rules are required. It is important that these be adhered to as far as is practicable. It is especially important to have regard to the rules relating to the interception of aircraft and the recommendations that are contained in Attachment A to Annex 2.

### **1.3 ICAO Regional Air Navigation Plans**

As noted above, under Article 28 of the Convention each contracting State is responsible for the provision, in its territory, of facilities and services and the application of appropriate procedures. The ICAO General Assembly has stipulated that the facilities, services and regional supplementary procedures set forth in the regional air navigation plans constitute such facilities, services and procedures pursuant to article 28. The plan may include services to be provided in portions of airspace over the high seas and associated facilities and supplementary procedures. The State accepting responsibility for providing such services should apply the provisions of ICAO in a manner consistent with that adopted for airspace under its exclusive jurisdiction.

Regional air navigation meetings are held periodically to consider the requirements of air operations in specified areas. Facilities and services and the formulation of supplementary procedures necessary to support increases in traffic density, new air routes and the introduction of new types of aircraft are considered.

These meetings result in the identification of the numerous facilities and services to be provided by States in the nine regions of ICAO. Air Navigation Plans provide the details of the facilities, services and procedures required for international air navigation within its specified area and contains recommendations for the provision of air navigation facilities and services within the region.

Governments work on the basis that if the recommended facilities and services are furnished in accordance with the plan they will form, with those furnished by other states, an integrated air navigation system adequate for the foreseeable future. The plans are amended periodically to reflect changes in the requirements and in the status of implementation of the facilities and services.

It should be noted, however, that the plan does not list all facilities and services existing in the region but only those required as approved by the ICAO Council for international civil aviation operations. It does not contain information on the level of implementation and the operative status of any facility or service and should not therefore be used for operational purposes.

Aeronautical Information Publications, NOTAM and other State documents should be consulted for the information on facilities and services required for operational purposes. Implemented in this context means, "facilities and services specified in the air navigation plan provided, installed, functioning and operated in accordance with appropriate ICAO specifications and procedures".

## **1.4 Other International Conventions and Protocols**

Apart from the Chicago Convention there are a number of international conventions and agreements that are applicable to civil aviation. Leaving aside those that relate to the liability of air carriers, the principal instruments relate to the issue of the security of international civil air navigation. Foremost among these latter instruments are the Security Conventions (detailed below) that address issues such as the hijacking of aircraft and unlawful acts against the security of civil aircraft and aviation infrastructure, such as airports and air navigation services.

Those Conventions include principally the following -

### **The security conventions**

#### **1.4.1 The Tokyo Convention 1963 on Offences and Certain other Acts Committed on board Aircraft**

- ❑ Applies in respect of offences against penal law and acts which may jeopardise the safety of aircraft and to offences committed by a person on board any aircraft registered in a Contracting State whilst in flight (Article 1);
- ❑ State of registration of the aircraft has jurisdiction over offences and acts committed on board (Article 3);
- ❑ Other States have limited jurisdiction in respect of offences that has an effect on the territory of such State or its security or an offence has been committed against a national of that State (Article 4);
- ❑ Aircraft commander has authority to restrain a person who is believed to be about to commit or who has committed an offence (Article 6) and to disembark such a person in the state in which the aircraft lands (Article 8);
- ❑ Aircraft commander has power to deliver up a person to the authorities of the state in which the aircraft lands (Article 9);
- ❑ States have responsibility for taking offenders into custody and for notifying the State of registry of the aircraft and the State of which the offender is a national (Article 13);
- ❑ Offences shall be deemed to have been committed not only where they happened but also in the territory of the State of registry of the aircraft (Article 16).

#### **1.4.2 The Hague Convention 1970 for the Suppression of Unlawful Seizure of Aircraft**

- ❑ Any person who on board an aircraft unlawfully by force or the threat thereof seizes or exercises control of that aircraft or attempts to perform any such act or is an accomplice of any such person commits an offence (Article 1);
- ❑ Each Contracting State undertakes to make the offence punishable by severe penalties (Article 2);
- ❑ Flight is the period from “doors closed” following embarkation to “doors open” prior to disembarkation (Article 3);
- ❑ Each Contracting State undertakes to establish jurisdiction over offences committed on board aircraft registered in that State or when the aircraft lands in its territory or where the offender is present in its territory (Article 4);
- ❑ State where the offender is must either extradite the offender or institute proceedings against him in a competent court (Article 7).

### **1.4.3 The Montreal Convention 1971 for the Suppression of Unlawful Acts against the Safety of Civil Aviation**

A person commits an offence if he unlawfully and intentionally (Article 1):

- ❑ Performs an act of violence against a person on board an aircraft in flight if the act is likely to endanger the safety of the aircraft;
- ❑ Destroys an aircraft in service or causes damage to it which renders it incapable of flight or which is likely to endanger its safety;
- ❑ Places on board an aircraft a device or substance likely to destroy the aircraft or render it incapable of flight or so as to endanger the safety of the aircraft;
- ❑ Destroys or damages air navigation facilities or interferes with their operation if any such act is likely to endanger the safety of an aircraft in flight; communicates information which he knows to be false thereby endangering the safety of an aircraft in flight;
- ❑ Attempts to commit any of the above;
- ❑ Is an accomplice of a person who commits any of the above offences.

Article 5 requires each State to take measures as necessary to establish its jurisdiction over the offences when the same occur in the following circumstances:

- ❑ When the offence is committed in the territory of the State; or
- ❑ On board an aircraft registered in that State; or
- ❑ When the aircraft on board which the offence is committed lands in the territory with the alleged offender still on board; or
- ❑ When the offence is committed against or on board an aircraft leased without crew to a lessee who has his principal place of business or permanent residence in that State.

States are obliged to either prosecute an offender or extradite him to a State that does have jurisdiction.

### **1.4.4 Montreal Convention 1991 on the Marking of Plastic Explosives for the Purpose of Detection**

Introduced post Lockerbie in recognition of the implications of acts of terrorism for international security and the increasing use of plastic explosives in such terrorist acts. It was agreed that the marking of such explosives for the purpose of detection would contribute significantly to the prevention of such unlawful acts. The Convention was agreed in pursuance of the UN Resolution 635 of 14 June 1989 and UN General Assembly Resolution 44/29 of 4 December 1989 that urged ICAO to intensify its work on devising an international regime for the marking of plastic or sheet explosives for the purposes of detection.

The Convention requires each State to take the necessary and effective measures to prohibit and prevent the manufacture in its territory of unmarked explosives (Article II) and the movement into and out of its territory of unmarked explosives (Article III). Furthermore each State is required to take the necessary measures to exercise strict and effective control over the possession and transfer of such explosives.

The Convention set up a Technical Commission appointed by the Council of ICAO to exercise supervision over technical developments relating to the manufacture, marking and detection of explosives. The Technical Annex to the Convention contains descriptions of the explosives and of the Detection Agents to be used in the process of identification thereof.

### **1.4.5 Annex 17 to the Chicago Convention – Safeguarding international civil aviation against acts of unlawful interference**

The dramatic increase in crimes of violence that adversely affected the safety of civil aviation during the late 1960's led to the adoption by ICAO in 1974 of Annex 17 to the Chicago Convention. This Annex sets out the basis for the ICAO civil aviation security programme and seeks to safeguard civil aviation and its facilities against acts of unlawful interference.

Annex 17 is primarily concerned with administrative and coordination aspects, as well as with technical measures for the protection of the security of international air transport and requires each Contracting State to establish its own civil aviation security programme (NAVSEC) incorporating such additional security measures recommended by other appropriate bodies.

Annex 17 also seeks to coordinate the activities of those involved in civil aviation and in security measures generally. This means that the State's arrangements must involve not only the police and security services but also the airport operators and airlines and the programme is very much focussed on the manner in which passengers and their baggage are handled at airports. Responsibilities are also placed upon airlines to establish effective procedures for checking and searching aircraft.

The Aviation Security Panel (AVSEC) - to ensure that the specifications are kept current and effective, keeps annex 17 under constant review. The Panel includes representatives of States appointed by the Council of ICAO and includes representation by Airports Council International, IATA and the International Criminal Police Organisation (ICPO-INTERPOL). ICAO conducts security audits to ensure that States are meeting their obligations under the Annex.

Prior to 1985, the significant threat to civil aviation was seen as hijacking. As a result Annex 17 tended to focus on hijacking rather than sabotage. Changes were made in 1988 that included specifications to further assist in fighting sabotage and provided for further clarification of the standards concerning reconciliation of passengers with their baggage and controls over items left on aircraft and on cargo.

The Council of ICAO adopted the latest amendment – number 10 - to Annex 17 on 7 December 2001 in response to the events of September 11 2001. It became applicable on 1 July 2002 and includes new provisions extending the applicability of the Annex to domestic operations; international cooperation relating to threat information; national quality and access control; and measures related to passengers and their hold and cabin baggage. The amendment requires that all passenger hold baggage should be screened, a process that was previously only required for hand (or cabin) baggage. The amendment also included requirements for the fitting of intruder-resistant cockpit doors to larger aircraft; for the fitting of equipment to enable pilots to observe the area outside the cockpit and for the management of the response to acts of unlawful interference.

ICAO has published, restrictively, its *Security Manual for Safeguarding Civil Aviation against Acts of Unlawful Interference* that provides details on how States can comply with the various standards contained in the Annex. The Manual has more recently been amended for the purpose of assisting States to promote safety and security in civil aviation through the development of legal frameworks, practices, procedures and material, technical and human resources to prevent and respond to acts of unlawful interference.

The requirements imposed by Annex 17 will have to be taken into account in the development of appropriate measures to manage the use of Palestinian airspace and airports.

### **1.5 Impact of bilateral agreements and unilateral restrictions on the implementation of the international laws**

The Chicago Convention establishes the general framework within which international air navigation operations take place. The implementation of that general framework in the case of individual States is governed by bilateral or multilateral agreements that determine how the rights granted under the Convention are to be exercised and the conditions applicable thereto.

Bilateral agreements can also be used instead of the Chicago Convention where a non-signatory party to the convention may establish aviation relations with other states through exclusively bilateral arrangements. The case of Taiwan is a current example. Taiwan is an Administrative Region of the People's Republic of China and has no seat as an independent state at the UN nor is it a signatory to the Chicago Convention. However, despite that, it has entered into more than 40 bilateral air services agreements with other states under which some 40 foreign carriers provide services to Taiwan and Taiwanese carriers serve 63 cities in 30 countries around the world. There are, however, practical constraints, such as actual control and use of the airspace, as evidenced by the dispute between the US and China regarding the right of the former to undertake surveillance flights in Taiwanese airspace. This dispute arose following a collision on 1 April 2001 between a Chinese F-3 fighter and a US Navy surveillance plane.

The air services agreements will contain a number of standard provisions that address, inter alia, the following issues;

- ❑ Applicability of the Convention;
- ❑ Grant of Rights – the right to fly across its territory without landing and the right to operate international air services on the routes specified;
- ❑ Designation and authorisation of airlines to exercise the rights granted – this to include restrictions by reference to the “nationality and effective control” of the designated airlines;
- ❑ Principles governing the operation of agreed services;
- ❑ Tariffs;
- ❑ Customs duties;
- ❑ Security;
- ❑ Transfer of earnings and rights of representation;
- ❑ User charges;
- ❑ Consultation and settlement of disputes.

These provisions are meant to give effect to whatever policies have been agreed to by the parties. Therefore, they may be tailored flexibly to reflect the intention of the parties.

The Agreement will have attached to it an Annex that will identify the routes that may be operated by the airlines of each side and any other terms or conditions applicable such as limitations on capacity, frequency, passenger numbers and periods or times of operation. In modern practice most such agreements would be relatively liberal allowing airlines to decide commercially what and how to operate and the tariffs to be charged.

## 1.6 Precedents of other Middle East Treaties involving Israel

The Peace Accords signed between Israel on the one part and both the Arab Republic of Egypt and the Hashemite Kingdom of Jordan on the other part contain provisions dealing with air transportation and communications. The process of normalisation of relations between the respective States involves the reaffirmation of the basic principles embodied in the Convention. This is an essential ingredient of any agreements touching upon the creation of specific rights of access over each other's airspace and those agreements are embodied into the regional air navigation plans referred to above.

Against the above background, the Peace Treaty between Israel and Egypt (dated 26 March 1979) establishes a number of fundamental principles, including the following:

- ❑ The parties agree to apply between them the provisions of the United Nations Charter and the principles of international law governing relations between states in times of peace (Article III);
- ❑ The parties therefore recognise and agree to respect each other's sovereignty;
- ❑ Each party recognises the freedom of movement of the nationals and vehicles of the other into and within its territory according to the general rules applicable (Annex III, article 4);
- ❑ The parties recognise as applicable to each other the rights, privileges and obligations provided for by the aviation agreements to which they are both party, particularly the Chicago Convention and the International Air Services Transit Agreement (Annex III, article 6);
- ❑ Any declaration of national emergency by a party under Article 89 of the Chicago Convention will not be applied to the other party on a discriminatory basis;
- ❑ Egypt agreed that the use of certain airfields left by Israel shall be for civilian purposes only, including possible commercial use by all nations;
- ❑ The parties agreed that within six months of the completion of Israeli withdrawal from Egypt they would enter into negotiations to conclude a civil aviation agreement.

The Peace Treaty between Israel and Jordan contains similar provisions relating to air transportation as those contained in the treaty with Egypt. Additionally, the Treaty contains specific provisions in Article 23 whereby the parties agree to enter into negotiations on arrangements that would enable the joint development of the towns of Aqaba and Eilat with regard to such matters as, inter alia, joint tourism development and cooperation in aviation. The air routes that provide access consistent with the provisions agreed are reflected in the regional air navigation plan as shown on the copies annexed to this Brief.

Additionally, examination of the Israel AIP indicates that there are two Special Over-flight Routes to and from Jordan through Israeli airspace.

One eastbound route follows Airway J19 between Siron-Izhar-Zafon-Salam at 11,000 feet and the other one westbound at 12,000 feet follows Airway J10 between Talmi-Addva and then over-flying Tel Aviv - Ben Gurion.

These routes transit both the Jerusalem and the Tel Aviv (Ben Gurion) control sectors and provide direct access between Jordan and the Mediterranean Sea. Tel Aviv (Ben Gurion) remains the Area Control Centre.



## 1.7 Impact of Early Warning stations and Air Defence sites

Consideration has been given to the issue of the extent to which Early Warning sites might have an impact on the operation of civil air traffic control facilities in the region.

A lot depends on the purpose for which the Early Warning (EW) or Air Defence (AD) sites are to be utilised:

- Are they to allow Israel to 'monitor' activity in the Gaza / West Bank areas?
- Are they to provide EW / AD warning to Israel?
- Are they to provide EW / AD to the whole of the Israeli/Palestinian airspace?

The answer to this question will determine the degree of interaction that will be required with the civilian ATC structure.

The physical presence of EWS facilities does not impact on the manner of utilisation of the airspace.

Presence of Early Warning (EW) stations may provide a positive aspect in some respects in that they provide or ensure a fully recognised air picture (RAP) that raises confidence that all traffic is 'known' from both a safety of flight point of view and the from the national security perspective. In the Palestinian-Israeli context, EWS is not likely to be integrated with civilian ATC structures.

In a fully co-operative environment, EW facilities are normally linked to the national Air Defence (AD) network that uses the RAP to maintain the integrity of the national airspace. Liaison between the AD network and the ATC network is achieved through the use of some form of air defence notification structure or centre (an ADNC).

The use of such arrangements invariably requires additional resources/processes to be put in place. For example:

- (a) Specific flight planning or reporting requirements may be required to achieve this, both pre-flight and in-flight.
- (b) Pre-flight arrangements will need to be agreed. The nature of pre-flight notification or approval is required. This might be the filing of a Flight Plan only or additional measures may be required.
- (c) In-flight arrangements will need to be established in much the same manner as was agreed between the Allied Powers for Berlin. 2-way Radio Telegraphy (RT) coverage may be a pre-requisite under all conditions. These arrangements will determine, when an aircraft is operating under IFR and receiving an ATC service, whether this is sufficient or whether additional special procedures required, e.g. establishment of RT contact with the monitoring agency prior to entry into designated airspace. If so, additional infrastructure may be required to ensure full RT coverage is available to predetermined heights and range and over what periods of time. It will be necessary to establish if internationally agreed frequencies available to achieve this

NOTE: It is not in the civil aviation interest of Palestine to accept any civil air traffic control function for Israeli EWS in the WB. There is no reason from a civil aviation perspective for such arrangements.

Another downside to such arrangements is the introduction of another agency, or agencies, into the equation, in this case in an area of relatively small overall dimensions. It will need to be determined if one notification centre or two is appropriate – one for Palestinian side and one for Israel. This takes one back to the issue of single or joint air traffic control arrangements within the assigned areas of airspace.

In the highly unlikely case that it is determined that such an organisation is necessary, and the security situation demands it, one unified Air Defence Flight Notification and Approval Centre may be adequate or workable.

The situation identified above raises several questions or issues that will have to be addressed at the appropriate time once the basic parameters of the arrangements have been agreed. Those questions or issues include the following:

- If such a centre/unit were to be required it should be co-located with the ATCC(s) serving the area.
- Whoever is the airspace controlling authority must be clearly understood and identifiable by all parties concerned.
- Robust communications are essential. Co-location with an ATCC ensures that even if landline communications fail the direct (face-to-face) approach is the fallback option.
- Intended course of action if aircraft identity unknown must be established and agreed and conform to international recognised practice.

## 2. OPTIONS DERIVED FROM PREVIOUS NEGOTIATIONS

There are three potential scenarios identified from previous negotiation rounds, each of which needed to be studied and assessed against the background of recognised international procedures and agreements. In the course of that study a number of variations or alternatives to the original options were identified and those have been incorporated into this report and are presented for consideration in section 5 below.

Those previously identified options are as follows:

1. **Air corridor without sovereignty** over the airspace – i.e. delegated authority over airspace given by Israel to Palestine to use a portion of Israel's airspace whilst it remains under the control of Israel – and ideally coupled with arrangements for access to the international air route network. This option covers an array of possible arrangements, with limited delegation of air traffic services at one end to complete delegation of airspace (tantamount to sovereignty) at the other. The details of delegation are precisely the issues that need to be agreed upon in permanent status negotiations with Israel.

This corridor would be unconnected with, and separate from, any surface Territorial Link and would be for the benefit of all types of operations.

2. **Air Corridor contiguous to a Territorial Link (TL)**. If sovereignty over the TL were to belong to Palestine then it would, by virtue of the provisions of the Convention, normally include the airspace above the surface link. In the current case, the TL is not likely to exceed 100 meters in width, so the minimum width of the territorial link may be less than the minimum air corridor width required from an operational point of view. Hence, this scenario may be hypothetical at best, even without taking in consideration the political difficulties associated with issues of sovereignty. The route of the proposed territorial link is shown on the plan in Appendix 2.

Airport officials in Gaza indicate that a portion of airspace having a width of 1 mile may be sufficient for small planes. The standard width in the international precedents referred to below (Berlin, India) seems to be 20 miles. The questions raised in this respect appear to include the following:

- What is the minimum width required for different types of aircraft under various operating conditions?
- Is it feasible/practicable to tie the air corridor to TL?
- Could ATS and technical procedures be tailored so as to accommodate the route of the TL?

However, the possibility does exist for establishing a limited corridor of airspace contiguous to the TL to facilitate the movement of small aircraft in support of surface activity (e.g. police and security surveillance) and to handle activities such as medical emergency evacuation/recovery and search and rescue operations. This corridor could be restricted in height and for use by small aircraft and helicopters operated by the state services or those with whom they have contracted for the provision of various services. This possibility is addressed more fully below in Options 2, and 3

**3. Simple membership in ICAO and accession to the Chicago Convention – i.e. no dedicated corridor:**

There may be both advantages and disadvantages in simply agreeing with Israel on allowing access to Israeli airspace for scheduled international air services pursuant to art. 6 and non-scheduled flights pursuant to art. 5. A number of questions and issues would however arise including:

- Are there any benefits to simply applying the provisions of the CC, the annexes and all relevant ICAO regulations to handle Palestinian civilian flights over Israeli territory without obtaining a dedicated corridor?
- This would apply equally to flights transiting between Gaza and the West Bank as well as international flights destined for either Gaza or an international airport in the West Bank;
- To what extent is Israel entitled, pursuant to the Convention and ICAO regulations, to refuse Palestinian and other national civil (scheduled / non-scheduled) flights over its airspace? Even if not legally entitled, to deny access, can Israel still in fact do so?
- To what extent may Israel impose specific flight paths / routes on Palestinian civil aircraft?
- How would flights by Palestinian State aircraft be treated?
- How would flights from states without diplomatic relations with Israel be dealt with?

### 3. CRITICAL ELEMENTS TO AIR CORRIDOR(S) BETWEEN GAZA – WEST BANK

The development of an air corridor, or air corridors, between Gaza and the West Bank involves consideration of a whole range of issues, and likely constraints, that will influence not only the actual route chosen for any air corridor but also the basis for its management and operational use. These issues include:

1. Political
2. Technical: Operational procedures; Notification procedures; and infrastructure provision
3. Levels of delegation
4. Airport access
5. Connectivity to international network

#### 3.1 Political

The political difficulty of creating a multinational block of airspace, or a block of airspace in which one State is given “protected or exclusive rights” in respect of a portion of the sovereign airspace of another State, cannot be overstated.

Sovereignty of a State’s airspace is a very sensitive matter involving, as it does, issues of national security and defence as well as the whole question of control by States of their territorial land, sea and air borders and control of the management of economic and other activity within such borders.

Among the many issues that negotiators should keep in mind in the political or quasi-political context are the following:

**3.1.1. The status of existing international agreements** i.e. multilateral or bilateral treaties governing civil aviation in the region dealing with (inter alia) -

- Access to various portions of airspace within the region;
- Rights of passage for air carriers of different nationalities; and
- The basis for control of any portions of national or international airspace.

Such agreements will include any arrangements concluded through the auspices of the ICAO Regional office with regard to Flight Information Regions (FIR) and the provision of air traffic services therein.

**3.1.2. The 1995 Interim Agreement and associated agreements** regarding, in particular, the right of passage for travel between Gaza and West Bank for Palestinians. This should serve as a background and negotiators should be aware of the different context when agreeing to arrangements between two sovereign states – unlike the context of the interim agreement.

**3.1.3. Wishes of international community:** In this context one would need to take account of the expressed wishes and intent of the principal parties and of those other parties involved in the negotiations, in particular members of the Quartet (USA, EU, UN and Russia).

In this respect the following should be mentioned –

- At a meeting on 21 June 2005, Prime Minister Sharon authorised Prime Minister Abbas to prepare Gaza airport for reopening and announced that

- Israel would transfer control of Bethlehem and Qalqilyah to the Palestine Authority;
- On 23 July US Secretary of State Rice declared that the United States is “committed to connectivity between Gaza and the West Bank” and to the “freedom of movement for the Palestinian people”;
  - The erection by Israel of the Separation Wall in the West Bank and the purported annexation within Israeli territory of both East Jerusalem and the adjacent areas that include the site of Qalandia Airport.

**3.1.4. The arrangements to be addressed under any delegation of Air Traffic Services provision.** If responsibility is delegated, it is necessary to consider:

- a) Liability issues – who is liable for the failure to provide an adequate or safe service and who has jurisdiction to deal with any claims arising from such failure?
- b) Regulation – which body regulates, or supervises the provision of, the services and to what standards?
- c) Cost of infrastructure (e.g. navigation aids (NAVAIDS), ATC equipment etc) and service provision - how and on what basis can or should the cost be recovered and from whom?
- d) Incident and accident reporting and investigation - conducted by whom and reporting to whom or what body?

An example of a Letter of Agreement is attached in Appendix F.

**3.1.5. Negotiation and co-ordination arrangements** that would need to be adopted in the event of operational issues remaining unresolved.

**3.1.6. Procedures for operational use of the corridor during times of tension or crisis** within the region – e.g. what procedures would be adopted in the event that conflict arose between Israel and a neighbouring state or any other state that would have its end destination in Palestine through the Israeli airspace resulting in revised or restricted use of national airspace?

**3.1.7. Procedures for temporary suspension of arrangements,** for example in the event of increased tensions or even conflict.

**3.1.8. Relationships between air and ground corridors** – to what extent would any connection be necessary or desirable?

**3.1.9. Over-flight of certain sensitive towns, cities, military areas or religious sites** – is this unrestricted or do restrictions need to be applied? How are any such restrictions to be promulgated and enforced and by whom?

3.1.10. Effect of agreements between Israel and other states.

3.1.11. Potential trade-offs regarding Israeli use of Palestinian airspace.

3.1.12. Controlling authority: who will be the controlling authority and under what auspices?

## **3.2 Technical issues: Operational, Notification, and Infrastructure**

### **3.2.1 Operational issues**

Once the political questions have been addressed then it will be necessary to turn to the operational and procedural issues that will need to be considered in the process of developing the arrangements that are capable of meeting the aspirations and objectives of the parties.

In this context the involvement of ICAO in the negotiations would be of benefit but even if ICAO is not directly involved then it should be consulted at an appropriate time and full details of the agreed arrangements should be made available to the ICAO regional office. Advice can be provided on these issues by the authors once decisions have been made as to the arrangements to be put in place.

Some of the questions that will need to be addressed and some of the issues requiring consideration include the following -

#### 3.2.1.1 The application of ICAO procedures (SARPS)?

- Filing of differences. It is the obligation of Contracting States to file Differences with ICAO against the SARPs contained in the Annexes to the Convention insofar as they apply to that State's aircraft and operators and within that State's airspace (see section 1 above).
- Role of ICAO Regional Office.

#### 3.2.1.2. Regarding notification of airspace arrangements:

- NOTAM arrangements for temporary changes or modification.
- Periods of activation.
- Status of airspace when not activated or not available permanently or temporarily.
- Classification of airspace. It is the responsibility of a State to classify its airspace according to the level of air traffic or flight information service that is supplied and under what circumstances. Appendix E contains details of Airspace Classification.

#### 3.2.1.3. Regarding Air Traffic Services (ATS):

- Design authority – to what criteria should the airspace be designed and approved by whom?
- What Required Navigation Performance will be required by the design?
- What requirement will there be to submit the design to a safety management system?
- How will connectivity be maintained to existing airspace structures (airport and en-route). (This issue may have a political dimension).
- Language of communications – it will be critical, in terms of safety, that only one language be used in all communications between pilots and controllers and between controllers themselves.

#### 3.2.1.4. Terrain considerations: physical terrain, such as mountains, and man-made obstacles and possible obstructions.

3.2.1.5. What contingency arrangements will be put in place, and by whom, to take account of the following situations?

- Failure of communications and failure of NAVAIDS.
- Emergency procedures (aircraft emergency).

3.2.1.6. Regulation of potential Military access requirements: this will vary depending on access requirements and circumstances under which military aircraft will be permitted to enter the corridor itself and the adjacent airspace?

In this context it is necessary to bear in mind that the provisions of the Convention do not apply to State aircraft, including military aircraft. It is not uncommon for States to restrict access to their airspace by military aircraft of other States, particularly those with whom they may have an uneasy or hostile relationship. Normally any arrangements relating to access are based upon bilateral exchanges of rights and on the principles of equality in terms of access to and use of each others' airspace.

3.2.1.7. What intercept arrangements and procedures that are to be followed by aircraft operators and pilots?

3.2.1.8. What impact will there be on adjacent State's airspace activity (in particular Danger or Prohibited or Restricted Areas)?

3.2.1.9. Types of aircraft and flight profiles to be accommodated:

- Fixed-wing aircraft only.
- High performance jets - cruising levels required.
- Helicopters.
- Equipment (radio and NAVAID) requirements for various types of aircraft.

3.2.1.10. Type(s) of service is to be provided – depending upon the classification of airspace:

- Air traffic Control service
  - Area Control Service
  - Approach Control Service
  - Radar or non-radar - availability of Primary and/or secondary radar.
  - Aerodrome control service assumed.
- Flight Information service
- Alerting Service

3.2.1.11. Search and Rescue Arrangements - in the event of accidents or the loss of aircraft within the corridor or adjacent territory, what SAR arrangements will apply? In this context there is a need for coordination between neighbouring states?

It should also be borne in mind that the State where an accident occurs is responsible under Article 26 of the Convention for carrying out an accident investigation.

3.2.1.12. Requirements for linkage or alignment of air corridors with ground corridors and other areas.

### **3.2.2 Notification Procedures**

Once the authority and responsibility for the provision of air traffic services within the corridor and adjacent areas has been determined, then it will be necessary to



consider the notification procedures that should be applied in relation to the movement of air traffic.

The procedures that will be required to be detailed include the following -

- Flight Plan requirements and recipient(s).
- Diplomatic clearance requirements.
  - What constitutes an approved flight or category of flight?
  - Flights by “State” aircraft as opposed to civil aircraft
- Pre-flight approval mechanisms.
- Co-ordination mechanisms and techniques for controlling authorities within the corridor and adjacent airspace.
- Emergency procedures for short notice and non-routine notification of movements.
- Categorisation and Prioritisation of flights.
- Flow control – for example if demand exceeds capacity.
- Diversion Arrangements.
- Charts – production and publication.

### **3.2.3 Infrastructure**

Whilst the political and operational issues are being addressed and, hopefully, resolved it will be necessary to ascertain full details of the infrastructure that will be required in order to support the arrangements. The infrastructure comprises in the main technical equipment suitable and fit for the purposes of the proposed operations, much of which will need to comply with the technical standards of ICAO that are embodied in Annex 10 to the Convention.

The infrastructure requirements will include some or all of the following -

- ATC surveillance and communications systems suitable for the required task (airport, terminal area or en-route)
- Supporting infrastructure (NAVAIDS etc) - owned, operated, flight checked and calibrated by whom?
- NAVAIDS appropriate to task - frequency and operational coverage - availability of:
  - VOR (VHF Omni-directional Range)
  - DME (Distance Measuring Equipment)
  - NDB (Non-Directional Beacons)
  - GNSS (Global Navigation Satellite Systems)
- Integration with airports, e.g. SID (Standard Instrument Departure) and STAR (Standard Terminal Arrival Route).
- Communications infrastructure appropriate to the task:
  - VHF,
  - UHF,
  - HF,
  - Data link.
- Landline connectivity between air traffic control centres (ATCC) and control points.

Consideration of the above noted operational and infrastructure requirements, lends support to the view that, in planning airspace utilisation, as much use as possible should be made of existing facilities and arrangements, unless it is contrary to Palestinian political interests.

### 3.3 Levels of Delegation

#### 3.3.1 Delegation of ATC:

In the context of safety and operational efficiency, and disregarding political arguments, it is also necessary to consider the merits or otherwise of having separate control centres or units to handle traffic transiting any agreed corridor(s) that utilise Israeli airspace. The merits or otherwise of single or joint control are set out briefly below.

#### Benefits of Single Control:

- Common operating procedures and rules under one organisational structure. Even though standards should be the same, procedures may vary as between different control authorities.
- Likely to reduce the need for co-ordination. Widely accepted that internal co-ordination is simpler and more effective than external co-ordination.
- Less requirement for a transfer of control. Each and every transfer of control point introduces additional complexity and the potential for something to go wrong (loss of RT, failure to make contact with the next unit, etc)
- Cost – cheaper to construct facilities, although this has the down side of no redundancy.

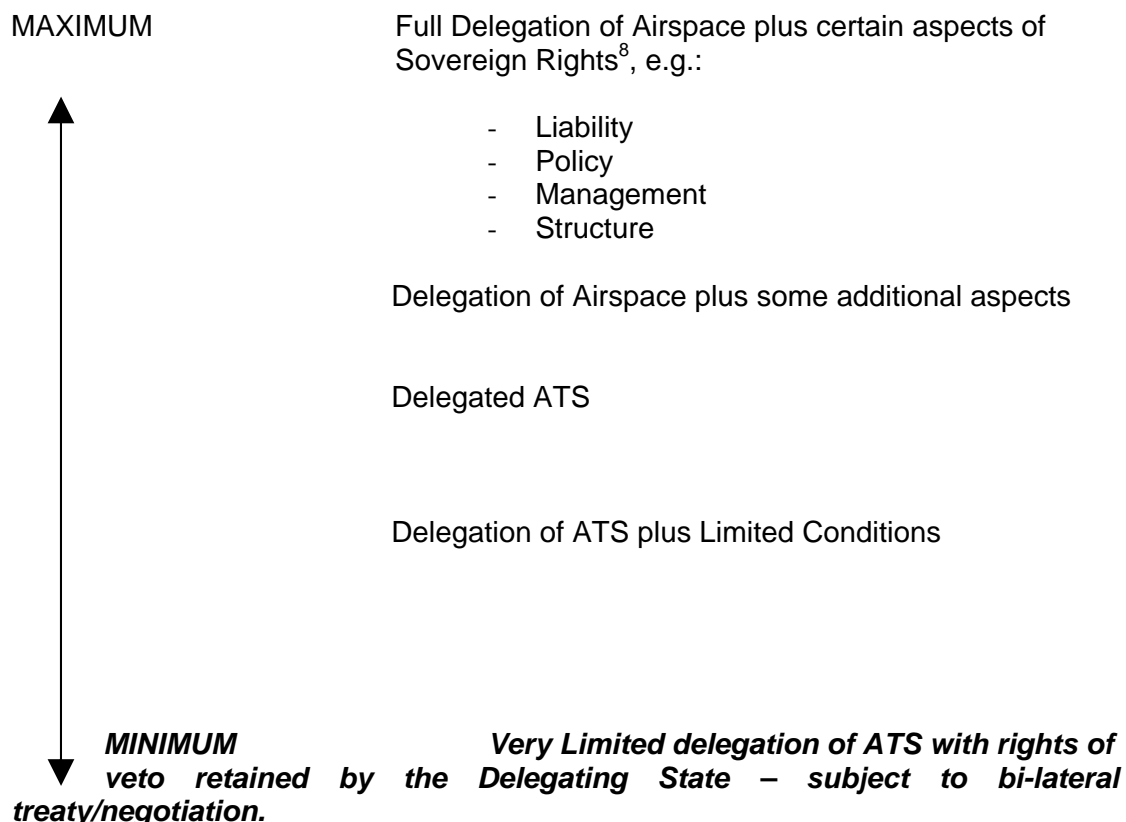
#### Disadvantages of Single Control:

- Political potential for one organisation to be considered as being in charge of the airspace of another state. Especially given the history of the conflict, Israeli control is may be used as a political tool, and is therefore unacceptable without agreed binding rules on the exercise of control.
- If relationships deteriorate in future there will be no structure in place to replicate the arrangements.
- Lack of redundancy / single point of failure unless contingency is built in to the system.

The experience of the operations to and from Berlin through the agreed corridors tends to support the view that it is advisable to have a multilateral high-level agreement on the process for management of a defined portion of airspace coupled with a single control authority working under the terms of the agreement. In this way the basic criteria for the use of the airspace are clearly established, whilst a single designated authority handles the day-to-day air traffic operations. The Berlin example, however, did not include the Soviet authorities in the joint control of the movement of aircraft in the corridors.

### 3.3.2 Range of delegation

#### **LEVELS OF DELEGATION (FOR A SET BLOCK OF AIRSPACE)**



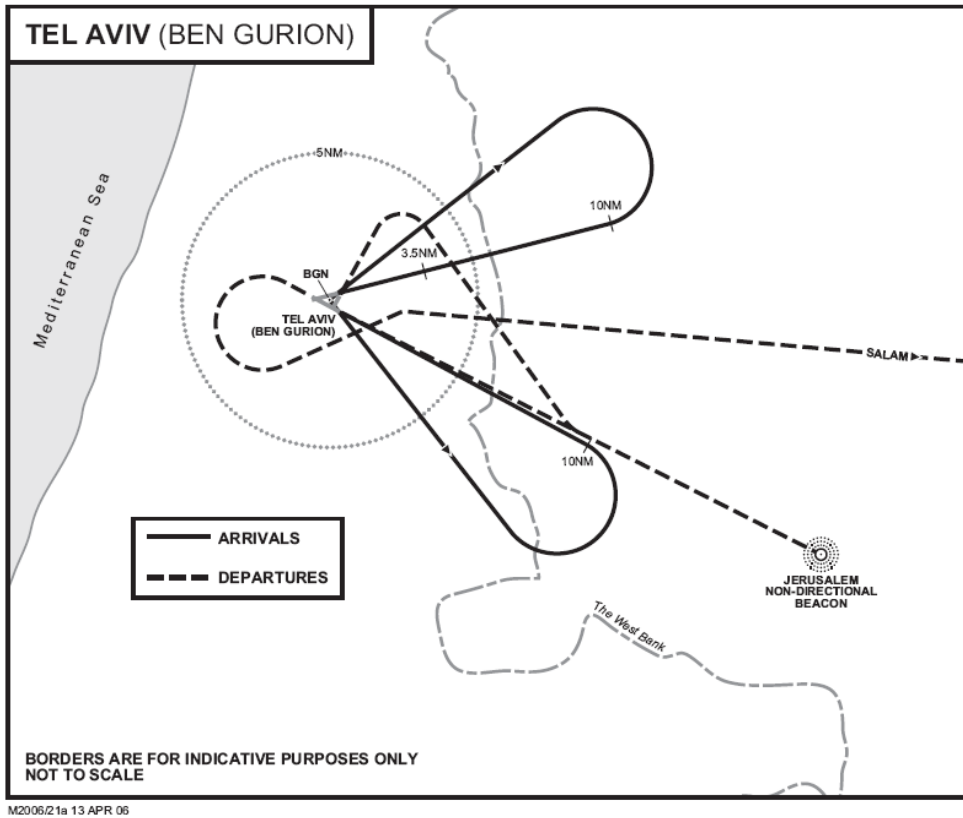
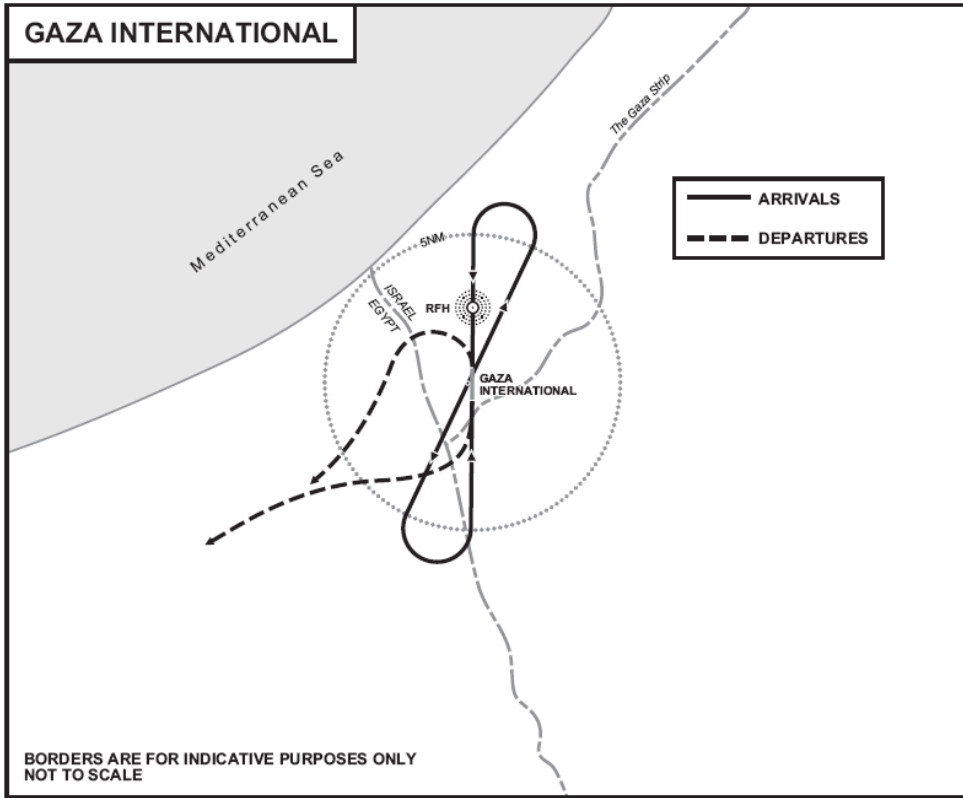
### 3.4 Airport access.

Operational arrangements at airports that are situated close to the territorial borders of states can give rise to additional complications, particularly in relation to the approach and landing patterns and those provided for aborted landings. Those additional issues necessitate the establishment of cross-border agreements for use and control of each other's airspace. Those issues are relevant in the current case both with regard to Gaza International Airport and Tel Aviv Ben Gurion Airport (TABG) as indicated in the charts below. The issues requiring attention and/or agreement include the following:

- Safe Access (viable Flight Progress) GAZA/TABG
- Ability to operate in neighbouring States' airspace during procedures
  - GAZA INTL (Israel/Egypt)
  - Tel Aviv (West Bank)
- Charging Arrangements (Landing/Navigation)
- Control Zones (CTR) around airport (see sketch)
- Availability of NAVAIDS

<sup>8</sup> Chicago Convention places certain obligations on a State that can not be ceded.

- Flight Planning/Route Arrangements (agreement to existing arrangements by PA)



### **3.5 Connectivity to international networks**

An important element of the study has been to identify the present air traffic management (ATM) system pertaining within the region in order to establish which of the options selected makes the maximum and most efficient use of the existing infrastructure.

During the course of the study an examination has therefore been undertaken of –

- ❑ The Regional Air Navigation Plans covering Israel, Palestine and surrounding States;
- ❑ The Aeronautical Information Publications (AIP) published by Israel and the Arab Republic of Egypt;
- ❑ Operational Procedures for Yaser Arafat International Airport (YAIA), Gaza during the Interim Period;
- ❑ Operations Manual for YAIA, Gaza including the Visual Approach Procedures and the Go-Around Procedures applicable at the airport;
- ❑ Aeronautical Charts of the Upper and Lower Airspace of the region;
- ❑ Israeli charts showing the prohibited, restricted and danger areas within Israeli controlled airspace.

#### **Existing international agreed airways**

Examination of the above documents discloses a significant number of internationally agreed air traffic airways that criss-cross the whole region, providing the opportunity for Palestine to gain access to the international network or system of airways that would facilitate the establishment of both domestic and international operations within and to or from the State of Palestine.

Copies of some of the aeronautical charts are contained in Appendix C. These show the pattern of upper-level and lower-level airways through Israeli and Egyptian airspace and, in particular, those airways (coloured pink) that basically provide access to Gaza International Airport by way of a link (coloured brown) from the South-westerly direction, though Egyptian controlled airspace, including in particular the airway between the PASOS and NADAL reporting points.

The charts also identify a number of reporting and control points that may be used for the purpose of making connections to the existing network of airways.

Reporting and control points indicated on aeronautical charts indicate where equipment is provided to facilitate air navigation by aircraft. In the main the points indicate the position of unmanned equipment comprising, for example, non-directional radio beacon (NDB), VHF omni-directional radio range (transmitter) (VOR) or distance measuring equipment (DME) that enable the on-board instruments to communicate electronically by sending and receiving signals in order to check course, height and location within an approved airway.

Reporting points indicate where the pilot of an aircraft is required to report to the appropriate air traffic control unit the position of the aircraft for control purposes.

One of the most important of those points is that of BEER-SHEBA, which is situated conveniently close to Southern Gaza and midway between Gaza Airport and the West Bank and is on the principal airway transiting from the North West to the South East linking the Eastern Mediterranean, at the junction of the Nicosia and Tel Aviv FIRs, with the ports at the head of the Gulf of Aqaba.

Examination of the Gaza Airport Operations Manual would appear to indicate that the go-around routing is driven by a need for aircraft using Gaza Airport to remain wholly within Palestinian and Egyptian airspace and to avoid making use of Israeli airspace. Whilst politically this arrangement may make sense, it may not do so from a purely operational and safety perspective.

Note: Once Palestine joins ICAO and participates in the regional planning group, it would have a say in the future design and development of airspace utilisation, including the establishment of FIRs, infrastructure provision and control points.

### **Possibilities for connectivity**

On the basis of the examination of the existing airways, there appear to be a number of possibilities for making convenient connections from Gaza Airport to the international network and for providing a possible routing from Gaza to the West Bank that would not interfere with the existing network to any significant effect.

The routes that may be adopted are indicated by green colouring on the charts in Appendix C and provide the following operational links:

- (a) Northbound from Gaza over the coast and Mediterranean but within Israeli controlled airspace (Tel Aviv FIR) connecting to the principal North-South airway at the SHIRA reporting point;
- (b) Eastbound to BEER-SHEBA and then North-East to Jerusalem and other points within the West Bank;
- (c) Eastbound to BEER-SHEBA and then Eastbound to the METZADA reporting point or Southbound along airway J/UJ12.

The use of these linkage points would avoid the need for any changes to the existing structure of airways within the region and facilitate any agreements that may be required with Israel and other adjacent States.

## **4. INTERNATIONAL PRECEDENTS**

The work of developing an air corridor between Gaza and West Bank may be guided by reference to other examples of similar exercises undertaken currently or in the past. Some of these examples are used in this report to identify the criteria to be applied in the present task.

The examples to which reference is made in this report are as follows:

- ❑ Berlin Corridors Agreement
- ❑ India-Pakistan agreement on Indian access to Afghanistan
- ❑ EUROCONTROL Common Format Cross-Border Agreement, Maastricht UAC and CEATS
- ❑ Joint air navigation control arrangements in Bosnia-Herzegovina

Of the examples referenced, the Berlin Corridors Agreement probably provides the most direct relevance to the current situation.

### **4.1 Berlin Air Corridor**

Prior to the end of the Second World War the four Allied Powers had agreed that, following the German surrender, the country would be divided into four zones of occupation. Berlin was, however, to be open to all four powers despite the fact that the city was to be incorporated in the Soviet zone and agreements therefore had to be reached on access for the three Western Allies (USA, UK and France) to those areas of West Berlin falling within their occupation.

The arrangements for managing the situation were to be undertaken by a quadripartite organisation to be named the Allied Control Authority (ACA) and the matter of air access by the Western Allies to West Berlin was delegated to the Air Directorate within the ACA.

The arrangements relating to the Berlin Corridors are set out in detail in Appendix A to this brief.

### **4.2 India-Pakistan Agreement**

After the conclusion of the Second World War, negotiations began for the granting by the United Kingdom of independence to India. The negotiations for independence were complicated by the then existing political and religious divisions in the Indian Sub-Continent between the Muslim and Non-Muslim communities.

As a result of the divisions referred to, independence was finally granted in August 1947 on the basis of partition of the Sub-Continent between the newly created State of India and the Islamic State of Pakistan comprising East and West Pakistan that were separated from each other by India. Very much later (1971) East Pakistan separated from West Pakistan to become the independent State of Bangladesh.

Partition of the Indian Sub-Continent caused tremendous dislocation of populations and led to continuing discord between the two newly independent states with much inter-communal violence that cost more than one million lives. As a result there existed an almost continuous state of conflict between the two states that had an impact on many aspects of life, not least in the field of transportation.

Whilst the Chicago Convention was signed, as we have noted, in order to facilitate international air navigation it is fair to say that rights of access by Contracting States in favour of other States with whom they may be in conflict are not always readily available. This was true in the case of India and Pakistan.

The Government of India was anxious to secure rights through Pakistani airspace in order to be able to develop air services between Delhi and Bombay, on the one hand, and Kabul and Kandahar in Afghanistan, on the other hand. The shortest routes, and those that were least obstructed and most suitable operationally, were through parts of the then West Pakistan that were particularly sensitive. The Government of Pakistan proclaimed an area bordering on Afghanistan to be a restricted zone and was not prepared to allow Indian airlines access to that area, although access was permitted to Iranian airlines.

In 1953 agreement was reached between the two Governments, following mediation by the Council of ICAO on a complaint of discrimination by India<sup>9</sup>, as to terms upon which Indian airlines gained access to certain clearly defined air corridors through Pakistani airspace in order to provide services to and from the destinations identified. The agreement had a number of fundamental elements as follows:

- (a) The provision by Pakistan of two air corridors for the operation of services by Indian aircraft –
  - India- Lahore and then along a corridor 20 miles wide with its centre line on the direct rhumb line track between Lahore and Kandahar with an agreed turn-off point on to a direct track to Kabul over Afghan territory;
  - India- Karachi and thence along a corridor 20 miles wide with the centre line on the direct rhumb line track between Karachi and Kandahar.
- (b) The provision by Pakistan of landing facilities at Multan as an alternate to Lahore provided that such facilities could not be used for traffic purposes, i.e. the embarkation and disembarkation of passengers and cargo.
- (c) Operations on the routes would be permitted in daytime only.
- (d) Air traffic Control within the boundaries of the Karachi Flight Information Region would be exercised by Karachi and the communication and navigation facilities at Karachi, Lahore and Multan would be available to Indian aircraft.
- (e) Check and clearance procedures were to be promulgated in the form of a Notice to Airmen (NOTAM) and information as to when the corridors were to be open to civil aircraft.

Once concluded, details of the agreement were communicated to ICAO for registration.

### **4.3 EUROCONTROL Common Format Agreement**

#### **4.3.1 EUROCONTROL**

The European Organisation for the Safety of Air Navigation (“EUROCONTROL”) was established by the Brussels Convention of 1960 and has responsibility for many aspects of air traffic management in European airspace. It also has responsibility on behalf of its members for the billing and collection of charges for the provision of air traffic services and for the development of Rules governing the provision of such services.

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<sup>9</sup> The Council of ICAO exercised its mediation/arbitration role under article 84 of the Convention in a number of other cases including *Jordan v. UAR* (concerning a ban on over-flying UAR territory); *UAR v. Lebanon* (concerning the establishment of a danger zone); *Lebanon v. UAR* (concerning a temporary ban on flying) and *UAR v. Israel* (concerning an attack on an aircraft).



### **4.3.2 Maastricht Upper Area Control Centre**

In addition to its primary roles, as indicated above, EUROCONTROL also undertakes the provision of some air traffic control facilities directly. In particular, EUROCONTROL is responsible for the operation of the Maastricht Upper Area Control Centre (UAC) that ensures the safe, efficient and expeditious flow of civil aircraft in the upper airspace (i.e. above 24,500 feet) of Belgium, the Netherlands, Luxembourg and the North-West of Germany.

The airspace controlled by the Maastricht UAC is one of the busiest and most complex air traffic areas of the European continent. The operation has been in place since 1972 and involves a major political commitment by the four Governments concerned to delegate responsibilities for air traffic control in their sovereign airspace to a multinational organisation. The Maastricht UAC was set up in response to European developments in the 1960s, which called for a common, consolidated and more efficient approach to the provision of air traffic control services that transcend national borders.

The four Contracting States have delegated the provision of air navigation services to EUROCONTROL but retained their regulatory competence. The Maastricht Coordination Group (MCG) is the executive body responsible for determining a common position for the four States with regard to the operation of air traffic services in the airspace of the parties. The competences of the MCG include, for example, airspace organisation, operational and technical concepts, daily operations, budgetary issues and contingency planning. The funding of the Maastricht UAC operating and investment expenditure is derived from the recovery of air navigation service provision costs from airspace users.

### **4.3.3 Central European Air Traffic Services (CEATS)**

Under the auspices of EUROCONTROL other multilateral developments are taking place, including the establishment of the Central European Air Traffic Services (CEATS) Programme involving a total of eight states in Central and Eastern Europe. The programme will lead to the creation of a single, unified air traffic control system for the upper airspace over the eight nations – Austria, Bosnia & Herzegovina, Croatia, Czech republic, Hungary, Slovak Republic and Slovenia and the northern part of Italy (Padua). The CEATS UAC will manage the upper airspace of the region in much the same way that the Maastricht UAC has directed the skies in its area over the past 30 years.

In the light of the above developments and other cross-border arrangements, EUROCONTROL has developed its **Common Format, Cross-Border, Inter-Centre Letter of Agreement** that is to be used as a comprehensive resource document for European States in the production of their operational Letters of Agreement (LOA) (See Appendix ###).

The format of the LOA is as follows:

- General.
- Areas of responsibility and delegation of responsibility for the provision of air traffic services (ATS).
- Procedures.
- Revisions and deviations.
- Cancellation.
- Interpretation and settlement of disputes.
- Validity.

- Appendices with maps describing delegations of ATS.

Attached to the LOA will be a series of Appendices or Annexes, as follows:

- Annex A – Definitions and abbreviations.
- Annex B – Areas of common interest
  - Airspace structure and classification.
  - Sectorisation.
  - Special areas.
  - Non-published coordination points.
  - Appendices with maps describing sectors and Special Areas.
- Annex C(1) – Exchange of flight data (Automatic)
  - General
  - Means of communication and their use
  - Failure of ground to ground voice communications
  - Appendix with details for Automatic Data Exchange
- Annex C(2) – Exchange of flight data (Verbal)
  - General
  - Means of communication and their use
  - Failure of voice communications
- Annex D – Procedures for coordination
  - General conditions for acceptance of flights.
  - ATS-Routes, Coordination Points and Flight Level Allocation.
  - Special procedures.
  - Coordination of status of Special Areas in the Area of Common Interest.
  - VFR Flights.
- Annex E – Transfer of control and transfer of communications
- Annex F – Radar based coordination procedures
  - SSR Code assignment.
  - Radar coordination procedures.
  - Reduced Longitudinal Separation
- Annex G – Supplementary procedures.

Whilst the Common Format provides much useful guidance it should be recognised that it has not been designed with the sort of arrangements that are now proposed in mind. Therefore, some elements of the document may not be appropriate but may provide a useful basis for the development of draft instruments to cater for the present requirements. A copy of the format may be located on the EUROCONTROL website from where it can be downloaded for future use or reference if thought appropriate.

#### **4.4 Bosnia-Herzegovina arrangements**

Before the conflict in the Balkan region, Bosnian airspace was controlled jointly by Belgrade and Zagreb. When the conflict ended Bosnia did not have the funds nor the technical expertise to assume responsibility for the management and control of its own airspace. Accordingly, joint air traffic control arrangements were put in place as part of the peace agreements that ended the conflict. Under those arrangements, the lower layer of airspace, below 3,000 metres, is in the hands of the French contingent in the NATO-led Stabilisation Force, SFOR. Serbian and Croatian air traffic controllers continue to be responsible for everything above that level.

The arrangement was agreed with the Bosnian state bodies at the beginning of 1997, when civil traffic was restored at Sarajevo. Pursuant to the arrangement, some 80% of the revenue from over-flights goes to Serbia and Croatia with only some 22% being received by Bosnia.

In due course, it is the intention of the Bosnian Government to take over the control of all of its own sovereign airspace when it has the equipment, resources and expertise to do so. This intention is, however, conditioned by the future participation of Bosnia in the Central European Air Traffic System (CEATS) being developed under the auspices of EUROCONTROL. CEATS is due to assume control over the airspace of Bosnia and seven other countries in 2010 and the deal provides for Serbia and Croatia to continue controlling Bosnian airspace until then.

The circumstances pertaining in Bosnia are somewhat different to those pertaining in Palestine and it is not thought that the Bosnian case offers any particularly useful pointers for dealing with the Palestinian situation.

#### **4.5 Relevance of precedents to the Palestinian situation**

A number of useful pointers may be obtained from an analysis of the precedents referred to, some of which may be directly relevant to the situation of Palestine.

- The first point to note that is of critical importance is that in none of the cases cited was there a transfer of sovereignty involved in the arrangements. In each case the state, or states (Russia and East Germany in the case of Berlin), retained their sovereignty rights over their airspace.
- Secondly, the arrangements recognised the basic rights of passage available to all states under the Convention and the Transit Agreement. This was especially important in the India-Pakistan case in which India had been denied access to a portion of Pakistani airspace for access to Afghanistan in a discriminatory manner contrary to the principles of the Convention. It was on this issue that ICAO arbitrated and upon the basis of which the matter was resolved.
- The third point to note is that even in the case of Berlin, where overall management of the airspace comprising the three corridors was under the jurisdiction of the quadripartite ACC, responsibility for the control of air traffic through the corridors was under a single authority which was largely operated by the Americans but with the support of the British and French. Even in that situation it was not thought appropriate from a safety of air navigation perspective to have more than one air traffic control authority.
- The Berlin agreement restricted the use of the corridor to aircraft registered within the signatory states. It is therefore possible to agree to restrictions on national origin of aircraft using the corridor.
- Precedents are not dictated by economic consideration, although their relevance may be an element in negotiations.

## 5. POSSIBLE NEGOTIATING SCENARIOS AND RECOMMENDATIONS

On the basis of the information and issues considered earlier in this Brief and having regard to the likely political and other arguments it is possible to present six options for final consideration by the negotiators. These options take full account of the realities of political negotiations and the particularly sensitive matters of sovereignty and national security.

In the above context we have made the assumption that it is unlikely that Israel would cede sovereignty over any portion of its sovereign airspace. There are no known examples of states ceding sovereignty over their airspace. The likelihood of any State ceding sovereignty is extremely remote even under the most favourable circumstances. The current state of the relationship between Israel and Palestine is not favourable or conducive to the prospect for Palestine being able to obtain exclusive sovereignty over any portion of Israeli airspace.

Whilst each of the options presents significant benefits, there are also serious disadvantages attaching to some of the options, not least in relation to their operational effectiveness.

Ultimately the option chosen will reflect what is politically achievable and most operationally effective. Also it is essential to keep in mind the real cost of creating new or additional arrangements and infrastructure requirements that involve significant capital investment or expenditure in equipment and resources and in training of personnel.

The six options all assume that Palestine will sign the Chicago Convention and be entitled to all rights and privileges that flow from adherence to the Convention. Signature and ratification of the Convention automatically brings with it the basic rights of access to the airspace of the other Contracting States, as has already been noted.

It is also assumed that operations conducted under whichever of the options is finally selected or agreed will be conducted in accordance with Annex 2 (Rules of the Air), Annex 11 (Air Traffic Services) and ICAO PANS-OPS in so far as the latter are applicable under the approved regional air navigation plans and agreements.

### Option 1: Full Control over sovereign airspace

#### A. Description:

##### **ICAO rights / equal status (reciprocal rights and obligations)**

**Limitations: no dedicated corridor that would allow Israel to restrict flights between the West Bank and Gaza.**

There may be both advantages and disadvantages in simply agreeing with Israel on allowing access to Israeli airspace for scheduled international air services pursuant to article 6 and non-scheduled flights pursuant to article 5 of the Convention. However, such an agreement would not necessarily address the requirement for the movement of state aircraft nor deal with the issue of the conditions that Israel might seek to impose in respect of prior notification of flights, routing of flights and other such matters.

Under this option the following considerations will arise:

- Application of the provisions of the Convention, the annexes and all relevant ICAO regulations to handle Palestinian civilian flights over Israeli territory without obtaining a dedicated corridor would enable operations to take place.
- This would apply equally to flights transiting between Gaza and the West Bank as well as international flights destined for either Gaza or an international airport in the West Bank.
- Israel is not entitled, pursuant to the Convention and ICAO regulations, to refuse Palestinian civil (scheduled / non-scheduled) flights over its airspace.
- However Israel is entitled to impose specific flight paths or routes on Palestinian civil aircraft.
- One could not be sure how flights by Palestinian State aircraft would be treated or what restrictions might be placed upon such aircraft.
- Israel may in fact breach the terms of the Convention; if so, and it does not agree to binding ICAO arbitration, it would be difficult to force Israel to comply.

## **B. Advantages**

**Note on negotiation strategy:** The strategic advantage of explicitly laying out this option from the outset is that it provides the negotiators with a viable, if not entirely satisfactory, alternative to a bilateral agreement. Should Israel refuse to grant Palestine reasonable access to a corridor between WB and GS, Palestine can fall back on exercising convention rights as outlined in section ### above.

The major advantage arising from the adoption of this option would be that it does not involve any major capital investment in expensive air navigation equipment or resources or systems other than those required for use in the immediate vicinity of the aerodromes in Palestinian territory. It would also enable Palestinian aircraft to use the existing network of airways and infrastructure on a pay as used basis.

## **C. Constraints**

The major disadvantage is that Palestinian aircraft operations would, to a significant extent, be subject to the effects of policy shifts within the Israeli Government and the exercise of arbitrary decisions that restricted or prevented the use of Israel's airspace.

It may be thought, therefore, that this is very much a fall-back option in the event that negotiations do not lead to a satisfactory agreement along the lines suggested in options 1 and 2 above.

**Option 2: Full sovereign control over Palestinian airspace**  
**Description: With Air Corridor and delegated ATS in the Corridor**  
**(range of delegation see ###)**  
**[and Air Component to TL – see #####]**

**[introduction]**

**Air corridor without sovereignty** over the airspace – i.e. delegated authority over airspace given by Israel to Palestine to use a portion of Israel's airspace whilst it remains under the control of Israel – and ideally coupled with arrangements for access to the international air route network.

This option covers an array of possible arrangements, with limited delegation of air traffic services at one end to complete delegation of airspace (tantamount to sovereignty) at the other. The details of delegation are issues that need to be agreed upon in final permanent status negotiations with Israel. Section ##### addresses and describes the range of possible delegation of control over airspace.

This corridor would be unconnected with, and separate from, any surface Territorial Link (TL) and would be for the benefit of all types of operations, including those conducted under Instrument Flight Rules (IFR). An air component can separately be established for limited purposes.

**Option 3: Full Sovereign Control over Palestinian airspace**  
**With air corridor and delegated ATS (range) below FL 100-150**  
**Delegation of ATS over Palestinian airspace above FL 100-150 to Israel**  
**[Air component see ###]**

Description: Direct access to West Bank from the East via Jordan, below an agreed flight level - possibly Flight Level 150. Access from the west/south-west direct to Gaza and via the corridor to the West Bank.

This solution envisages Palestine providing air traffic control services within its own aerodrome control areas and within those portions of airspace that are wholly within its own sovereign territory below the chosen FL, but except insofar as control services are not otherwise provided within the regional air navigation plan(s).

This would mean that en-route ATC services below a specific altitude within the West Bank and Gaza are provided from a dedicated ACC or an area control function located at one of the Palestinian airports. Tel Aviv ACC would continue to provide area control services for the State of Israel, except for the dedicated corridor together with the airspace above Gaza and the West Bank above the selected Flight Level.

- Having regard to the relatively short distances involved within the West Bank area, a suitable level might be at or below Flight Level 100 (i.e. 10,000 feet).
- Appropriate transfer of control arrangements would be required between the two ACC / control functions.

Terminal ATC services at each airfield would be provided within Control Zones and Control Areas (CTR/TCA) surrounding each airfield in Israel and Palestine.

- Airspace will be of sufficient dimensions to safely accommodate the nature of the airport activity. It will be designed using ICAO criteria and guidance material.
- This arrangement will require detailed Letters of Agreement or Memoranda of Understanding to be in place between adjacent ATC units in both Palestine and Israel. Existing letters of agreement with neighbouring states will need to be reviewed where they apply to the West Bank or Gaza.
- There will be a need for coordination between the airport control services at Gaza and Ben Gurion with the other state's ATC for the purpose of landing, departure and go-around procedures within each other's portion of airspace (See section ###)

### **Benefits**

- Full Palestinian control over the airspace below the agreed Flight Level.
- Independent operations between the West Bank and Gaza.
- Cost reduced in comparison to Option 2.
- Simplification of arrangements for over-flying traffic in comparison to other options .
- Direct access into some portion of Palestinian airspace, not constrained by Israel in most cases.
- Free flow via the corridor between Gaza and West Bank not under Israeli control – subject to whatever conditions are agreed for the use of the corridor. Delegated ATS arrangements from Israel to Palestine.

### **Disadvantages**

- Set-up-costs are still likely to be significant but not as great as in Options 5 or 6.
- Transfer of control arrangements is likely to be complex.
- No full control of airspace above Palestinian territory.
- Potential limitations on corridor altitudes / dimensions/ availability subject to outcome of negotiations with Israel.

### **Ideal parameters:**

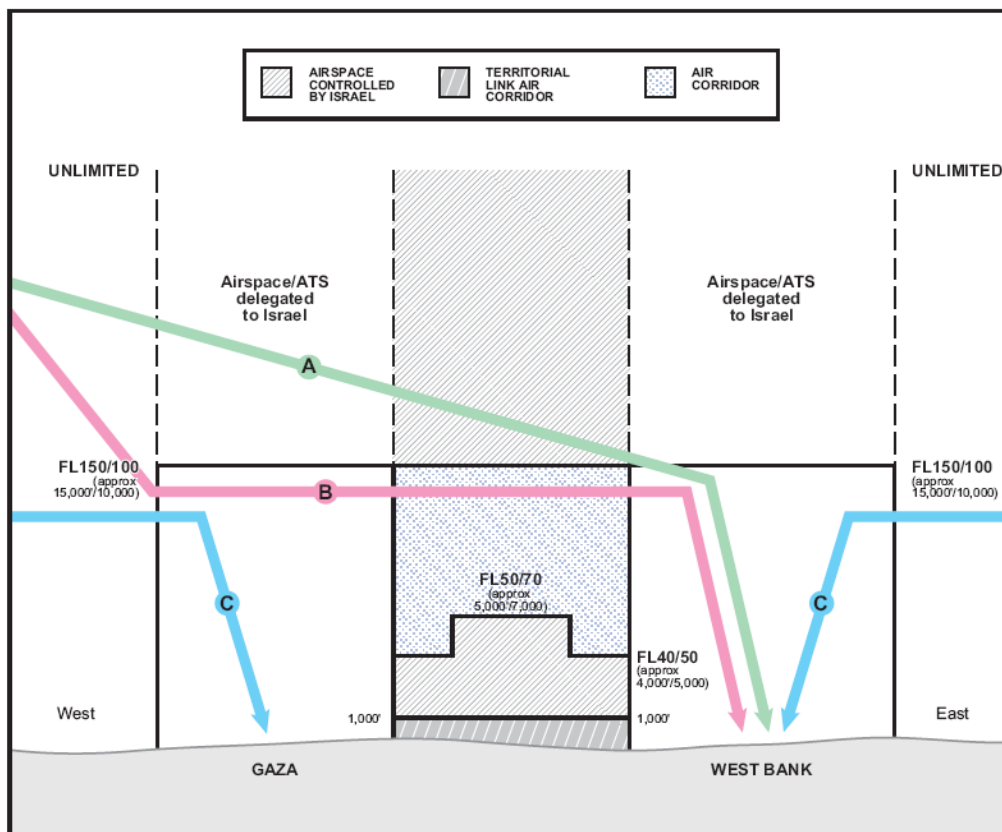
- Upper limits /Cruising altitudes appropriate to the nature of the traffic (type of aircraft (jet/turboprop); en-route via Gaza to/from West Bank or internal Gaza/West Bank only). Could be up to Flight Level 150 (approximately 15,000 feet AMSL). Up to FL 100 (approximately 10,00 feet) might be acceptable.
- Lower limits should be suitable to nature of flight and providing adequate terrain clearance for IFR operations. Stepped base, in particular at the Gaza end, would be helpful to facilitate climb gradient of lower performance aircraft.
- Ideal option 4000-5000' block of airspace that would cater for international arrivals / departures and intra-Palestinian territory flights. Minimum acceptable would be 2 Flight Levels 1000 feet apart that would permit simultaneous east/westbound flight with

procedural (non-radar separation). Lateral limits wide enough to accommodate either:

- Dual independent unidirectional routes (airway approximately 25nms wide). Good negotiating start point; requirement largely dependent upon nature and volume of traffic.
- Single bi-directional route centre-line (airway approximately 10 nautical miles wide). Probably acceptable as negotiating fallback having regard for likely volume of traffic.

**Implications arising in connection with adoption of any of above 3 options**

If any of the above 3 options is finally adopted as the basis for future operations then there will be certain clear results from an operational point of view. Those results are illustrated in the chart below and more specifically defined in the notes that follow.



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## **AIRSPACE STRUCTURES**

### **OPTION 1 – NO CORRIDOR OPTION (Flight profile (A) on attached chart)**

Description: Direct access to/from Gaza / West Bank airspace from any direction via existing (or new) Air Traffic Service (ATS) routes with only normal ATC restrictions in terms of, for example, flow control and slot times, irrespective of who is providing the service.

#### **Benefits:**

- Optimum climb/descent to cruising levels.
- Minimum delay – direct routings.
- Direct access to the international route network.

#### **Disadvantages:**

- Flights subject to possible restriction/constraint by Israel.
- No ability to operate without access to Israeli airspace.

### **OPTION 2 - CORRIDOR OPTION (Flight profile (B) on attached chart)**

Description: Direct access to West Bank from the East via Jordan, below an agreed flight level - possibly Flight Level 150. Access from the west/south-west direct to Gaza and via the corridor to the West Bank.

#### **Benefits:**

- Direct access into some portion of Palestinian airspace, not constrained by Israel in most cases.
- Free flow via the corridor between Gaza and West Bank not under Israeli control – subject to whatever conditions are agreed for the use of the corridor. Delegated ATS arrangements from Israel to Palestine.

#### **Disadvantages:**

- Potential limitations on corridor altitudes / dimensions/ availability subject to outcome of negotiations with Israel. Ideal would be:
  - Upper limits /Cruising altitudes appropriate to the nature of the traffic (type of aircraft (jet/turboprop); en-route via Gaza to/from West Bank or internal Gaza/West Bank only). Could be up to Flight Level 150 (approximately 15,000 feet AMSL). Up to FL 100 (approximately 10,00 feet might be acceptable).
  - Lower limits should be suitable to nature of flight and providing adequate terrain clearance for IFR operations. Stepped base, in particular at the Gaza end, would be helpful to facilitate climb gradient of lower performance aircraft.
  - Ideal option 4000-5000' block of airspace that would cater for international arrivals / departures and intra-Palestinian territory flights. Minimum acceptable would be 2 Flight Levels 1000 feet apart that would permit simultaneous east/westbound flight with procedural (non-radar separation). Lateral limits wide enough to accommodate either:
    - Dual independent unidirectional routes (airway approximately 25nms wide). Good negotiating start

point; requirement largely dependent upon nature and volume of traffic.

- Single bi-directional route centre-line (airway approximately 10 nautical miles wide). Probably acceptable as negotiating fallback position having regard to likely volume of traffic.

### **OPTION 3 – NON-CORRIDOR OPTION (Flight profile (C) on attached chart)**

Description: Flights to and from Gaza via Egyptian (south-west) and high seas airspace (west and north-west) only. Flights to and from the West Bank to and from Jordan only.

#### **Benefits:**

- No restrictions on traffic to and from Gaza and West Bank via certain routings – complete freedom of operation along these limited routes.
- Direct routings.

#### **Disadvantages:**

- No air connectivity from Gaza to West Bank other than perhaps by air component of Territorial Link (light aircraft/helicopters only).
- Significant fuel penalty to route around Israeli airspace.

### **Option 4: Same as 2 or 3 without Air Component to TL**

<b>Option 5: Designating the airspace above both states as one single block:</b>
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<b>5a: Full Joint control over both states' airspace</b>
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<b>5b: Full Israeli Control – subject to agreed rules and restrictions</b>
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#### **Introduction on airspace blocks:**

The Chicago Convention contains many rights and obligations that are designed to permit the passage of aircraft through the airspace of the contracting states as well as through international airspace. To that end it is recognised that airspace is a common resource. Growth of international air transport over the past fifty years has led inevitably to airspace congestion in some parts of the world, in particular within Europe. This has led to the development within Europe of new arrangements for the management of European airspace and the development by the European Union of the Single European Sky project.

Under the Single Sky programme there is a recognition that the key to a more rational organisation of airspace is integration across national borders through the development of “functional airspace blocks” (FAB) in order to improve capacity, enhance security and lower costs of air traffic services. The FABs are based upon operational requirements for managing air traffic flows and the control thereof without regard to the physical boundaries between states on the ground.

The development of FAB should respect certain criteria in particular the optimum use of airspace taking into account air traffic flows; technical and human resources; the need for fluent and flexible transfer of responsibility for air traffic control between air traffic services units and compliance with regional agreements concluded through ICAO.

In pursuit of their objectives the European institutions are actively developing, under the umbrella of the European Common Aviation Area Agreement, an FAB covering South East Europe. This would involve the creation of a single block of airspace covering Albania, Bosnia, Bulgaria, Croatia, Romania, Serbia and Montenegro, FYR Macedonia and the UN Interim Administration in Kosovo.

### ***Addressing the problem of Separate control centres***

Such arrangements envisage that each State controls its own portion of airspace, i.e. that Palestine has the right to provide air traffic control services within its own airspace and (potentially) that dedicated air corridor assigned to it and to determine what traffic might use the corridor.

This variant gives rise to a number of issues, including the following:

- (a) Area control services are provided from two, independent Area Control Centres (ACC), one located in Israel and one in the State of Palestine.
  - Each ACC is responsible for all of the airspace over the respective portion or portions of airspace of the two States' territory from the Surface to Unlimited altitude.
  - In the case of Gaza this will cause considerable difficulty due to the very small geographical area.
  - This solution will be the least efficient and introduce considerable operating difficulties and a commensurate flight safety risk.
- (b) Terminal ATC services at each airfield are provided within Control Zones and Control Areas (CTR/TCA) surrounding each airfield in Israel and Palestine.
  - Airspace will be of sufficient dimensions to safely accommodate the nature of the airport activity. It will be designed using ICAO criteria and guidance material.
  - This arrangement will require detailed Letters of Agreement or Memoranda of Understanding to be in place between adjacent ATC units which may be in either State concerned (Palestine / Israel) or in neighbouring states.

### **Benefits**

- Full Palestinian control over national and significant control over dedicated airspace.

### **Disadvantages**

- Timescale required for development of the infrastructure.
- Large set-up cost.
- Transfer of control arrangements likely to be complex – potentially unworkable due to short geographical distances involved and the relatively small size of the Gaza area.
- For over-flying traffic on upper ATS routes transfer of control arrangements would take as long as the overall transit time.
- Interface arrangements with neighbouring States are complex.

Politically this may be the most desirable option from the Palestinian perspective but in other respects it carries the greatest burden of cost and disruption with possibly the greatest risk to the maintenance of the safety of airspace within the region.

### **Joint control procedures**

Options 5 and 6 envisage that the majority of air traffic control services continue to be provided by the existing provider(s) so as to preserve the integrity of the system or network.

All En-route ATC services are provided from one centralised Area Control Centre (ACC). Rather than construct new and expensive ATC infrastructure it would make sense that this was based on the existing Tel Aviv (Ben Gurion) ACC.

- In future, this could be jointly funded and staffed. Alternatively staffing could remain an Israeli responsibility with funding provided by Palestine from over-flying charges received from the use of Palestinian airspace.
- Some form of inter-state agreement or treaty would be required to facilitate this arrangement.

Terminal ATC services at each airfield are provided within Control Zones and Control Areas (CTR/TCA) surrounding each airfield in Israel and Palestine.

- Airspace will be of sufficient dimensions to safely accommodate the nature of the airport activity. It will be designed using ICAO criteria and guidance material.
- This will require detailed Letters of Agreement or Memoranda of Understanding to be in place between adjacent ATC units in both Palestine and Israel and specifically between the Area Control Centre and airports in Palestine. (see samples in appendix ##)

### **Benefits**

- Reduced set-up cost and time taken to introduce new measures.
- This option optimises efficiency in ATM terms and makes the best use of the existing facilities.
- Minimises transfer of control arrangements.

- Consistent with current arrangements, therefore, degree of change or new procedures is minimal.

***Disadvantages***

- No full control over Palestinian airspace.
- This option would require a robust inter-State agreement on the practical operating arrangements and the financial arrangements for cost-recovery.
- Any deterioration in the political situation would have potential ramifications for ATM arrangements in the region.

## 6. AIR TRAFFIC MANAGEMENT COMMON FACTORS

Depending on the option, certain common features or requirements arise that will have to be considered in the negotiations. These are addressed in some detail in section 3 above but are summarised below.

An example of a Letter of Agreement is attached in Appendix F. This is a common format. Many of these issues do not need to be negotiated at the political level, other than the broad policy. Technical negotiations can be undertaken based on standard practices.

(1) The arrangements to be addressed under any delegation of Air Traffic Services provision.

If responsibility is delegated, it is necessary to consider:

- a) Liability issues – who is liable for the failure to provide an adequate or safe service and who has jurisdiction to deal with any claims arising from such failure?
- b) Regulation – which body regulates, or supervises the provision of, the services and to what standards?
- c) Responsibility for cost of infrastructure (e.g. navigation aids (NAVAIDS), ATC equipment etc) and service provision - how and on what basis can or should the cost be recovered and from whom?
- d) Incident and accident reporting and investigation - conducted by whom and reporting to whom or what body?

(2) Procedures for operational use of the corridor during times of tension or crisis within the region – e.g. what procedures would be adopted in the event that conflict arose between Israel and a neighbouring state resulting in revised or restricted use of national airspace?

(3) Notification of airspace arrangements – what will be the:

- NOTAM arrangements for temporary changes or modification.
- Periods of activation.
- Status of airspace when not activated or not available permanently or temporarily.
- Classification of airspace. It is the responsibility of a State to classify its airspace according to the level of air traffic or flight information service that is supplied and under what circumstances. Appendix E contains details of Airspace Classification.

(4) What contingency arrangements will be put in place, and by whom, to take account of the following situations?

- Failure of communications and failure of NAVAIDS.
- Emergency procedures (aircraft emergency).

(5) manner by which Military access arrangements impact civilian operations: under what circumstances will military aircraft be permitted to enter the corridor itself and the adjacent airspace?

In this context it is necessary to keep in mind that the provisions of the Convention do not apply to State aircraft, including military aircraft. It is not uncommon for States to restrict access to their airspace by military aircraft of other States,

particularly those with whom they may have an uneasy or hostile relationship. Normally any arrangements relating to access are based upon bilateral exchanges of rights and on the principles of equality in terms of access to and use of each other's airspace.

(6) What intercept arrangements and procedures are to be followed by aircraft operators and pilots?

(7) Type(s) of service is to be provided – depending upon the classification of airspace:

- Air traffic Control service
  - Area Control Service
  - Approach Control Service
  - Radar or non-radar - availability of Primary and/or secondary radar.
  - Aerodrome control service assumed.
- Flight Information service
- Alerting Service

(8) Search and Rescue Arrangements - in the event of accidents or the loss of aircraft within the corridor or adjacent territory, what SAR arrangements will apply? In this context there is a need for coordination between neighbouring states.

(9) The notification procedures that will be required to be detailed include the following:

- Flight Plan requirements and recipient(s).
- Diplomatic clearance requirements.
  - What constitutes an approved flight or category of flight?
  - Flights by "State" aircraft as opposed to civil aircraft
- Pre-flight approval mechanisms.
- Co-ordination mechanisms and techniques for controlling authorities within the corridor and adjacent airspace.
- Emergency procedures for short notice and non-routine notification of movements.
- Categorisation and Prioritisation of flights.
- Flow control – for example if demand exceeds capacity.
- Diversion Arrangements.
- Charts – production and publication.

## **6.1 Issues relating to route of Air Corridor**

The route of the air corridor is the subject of negotiation. From the Palestinian point of view the purpose of the corridor is to link Gaza with the West Bank for all traffic purposes and to gain access to the international network of approved airways.

There are two distinct possibilities so far as the route is concerned. The first possibility is that the route would follow the agreed TL, which appears to be as shown in Appendix B. Whilst this choice would appear to offer some advantages by joining the two elements in one route it is likely that the disadvantages would outweigh the benefits from having conjoined routes.

In the current case, the TL is not likely to exceed 100 meters in width, so the maximum width of the territorial link may be less than the minimum air corridor width required from an operational point of view. Hence, this scenario may be hypothetical

at best. Airport officials in Gaza indicate that a portion of airspace having a width of 1 mile may be sufficient for small planes, but would not be suitable for all types of operations, in particular international flights conducted under IFR conditions. The standard width in the international precedents referred to above (Berlin, India) seems to be 20 miles.

The second possibility, and the one to be preferred, is to negotiate an air corridor which stands alone from the TL and that is operationally more acceptable and in all respects. This would mean negotiating a more straight-line route from Gaza International Airport direct to the nearest point in the West Bank and using the existing air navigation infrastructure and as shown by the green marking on the chart in Appendix C.

This would enable use to be made in particular of the BEER-SHEBA reporting point which is situated conveniently close to Southern Gaza and midway between Gaza Airport and the West Bank and is on the principal airway transiting from the North West to the South East linking the Eastern Mediterranean, at the junction of the Nicosia and Tel Aviv FIRs, with the ports at the head of the Gulf of Aqaba. Use of this route would provide access to the already existing network of airways and the supporting air traffic control infrastructure.

This route may in the future connect to new approved airways under the Regional Plan.

## **6.2 Air Component to TL**

If it were to be determined that for airspace design reasons, such as the availability of navigational infrastructure, or for other largely political reasons (e.g. the sensitivity of over-flying certain key areas on the ground), that the full IFR flight corridor could not be contiguous with the Territorial Link (TL), an option would be for the TL to have some vertical dimension to it. As this would not be required to facilitate IFR flight by all categories of suitably equipped aircraft, which would be accommodated by the Air Corridor, it would only be necessary to accommodate or enable light aircraft or helicopters to operate under certain specific conditions; this would enable the physical dimensions to be quite small.

This option envisages the creation of an all purposes air corridor as detailed in Option 2 above coupled with a more limited second corridor contiguous to a Territorial Link (TL).

Under this Option the all purposes corridor would follow the preferred route identified under Option 2 so as to maximise the use of existing airways and infrastructure. The second corridor would follow the line of the TL and be more limited in its operational capability. All of the considerations listed above in respect of Option 2, in whichever variant, will apply equally under this Option so far as the principal corridor is concerned.

Purpose:

The purpose of the air component of the TL would be to:

- Facilitate flight between Gaza and the West Bank by those light aircraft or helicopters that were not capable (in flight parameter terms due to their design, e.g. climb gradient) or not suitably equipped (e.g. in Instrument Flight Rules (IFR) navigational equipment terms) to operate in the Air Corridor.



- To provide a search and rescue or medical evacuation capability in support of vehicular movement along the TL.

#### Dimensions:

In recognition of the nature of the types of aircraft likely to operate in the air component of the TL, the parameters could be small, i.e. no more than 1-2 miles wide and up to 1000' above ground level. The centreline of the corridor could be determined as the road in the TL. Some rounding or smoothing might be required if there are to be any sharp turns in the route of the TL. This would be wide enough to facilitate some form of separation system based on a left or right hand traffic rule, i.e. dependent upon their direction of travel, eastbound and westbound aircraft keep the centreline of the corridor on their right.

#### Operating Criteria:

- The air component of the TL could only be utilised under VFR conditions.
- ICAO criteria (cloud base and in flight visibility limits) could be used to set these limits, or if it was deemed necessary and appropriate, additional more stringent criteria could be applied.
- The most appropriate minima may be 'clear of cloud and in sight of the surface'. Dependent upon the volume of traffic operating in the air component of the TL it may be necessary to add a speed or in-flight visibility limitation. In flight visibilities such as 1500m may be appropriate.
- Pre and in-flight notification criteria may need to be determined from the outset and published.
- Use of an Secondary Surveillance Radar (SSR) Mode 3 or other code would be helpful if an ATC service cannot be provided, i.e. all aircraft that are suitably equipped with squawk 3 or Code. From the Israeli perspective, it may be necessary for all aircraft using the TL air component to carry a location transponder.
- Pilots could be required to make reporting point calls on a common radio frequency to aid avoidance of conflict, e.g. *"Callsign xxxx entering the corridor at Tarqumia, 500 ft above ground level"*.

#### Benefits:

- Such a corridor would facilitate movement between Gaza and the West Bank.
- By setting the upper limit above ground level (AGL) and by constraining the usage to helicopters and very light aircraft, the minimum volume of airspace would be required.
- The TL would provide an alternative option for those aircraft types that were not able to comply with rules or the design criteria for the use of the full IFR air corridor.
- Such a corridor would facilitate helicopter medical evacuation where there to be an incident or accident on the surface route component of the TL.

Disadvantages:

- The inclusion of a vertical dimension to the TL adds a further complication to the airspace arrangements.
- As the upper limit of the corridor would be set as an “above ground level” (AGL) limit the upper limit changes in relation to the terrain. At the eastern extremity this is more significant and Israeli aircraft would need to remain clear of the airspace.”

## **7. CONCLUSIONS AND RECOMMENDATIONS**

1. The Palestine authorities should seek full, voting membership of ICAO by signing and ratifying the Chicago Convention on International Civil Aviation in order to be able to take full advantage of the rights and privileges available under that Convention. This action should be taken as soon as possible consistent with the status of Palestine under international law and under the Treaty of the United Nations.

Acquiring the status of a Contracting State under the Convention will mean that the State of Palestine will acquire sovereignty in respect of the airspace above its land and water territory. This means that the Palestinian authorities will have the right to determine the conditions relating to access by the civil and state aircraft of other States to its airspace and the facilities and infrastructure to be provided therein for the purpose of facilitating air navigation.

2. The Palestine authorities should invite the ICAO Regional Office in Cairo to engage in discussions with all relevant parties on the planning of the use of the Palestinian airspace and the coordination of national requirements for the movement of aircraft with the existing internationally agreed arrangements.

3. In the context of the above, the Palestine authorities should identify any portions of their airspace in which, for reasons of military necessity, national security or public safety flights by aircraft of other States should be prohibited or restricted.

4. There should be agreements on the re-establishment of Palestine controlled Airport Control Zones and Control Areas surrounding the Airport(s) with appropriate means of control of aircraft using the airport that link into the en-route (Area Control) arrangements that are already in place or which are agreed.

5. In the negotiations with Israel, the Palestine authorities should seek an agreement for the establishment of a contiguous vertical dimension to the Territorial Link to facilitate access by very light aircraft and/or helicopters for purposes of the monitoring of traffic using the Territorial Link and for the purposes of search and rescue, medical or casualty evacuation and emergency control and recovery. This vertical dimension should be limited in height to 1,000 feet above ground level and in width to a maximum of 1 to 2 nautical miles and should be available for flights under Visual Flight Rules (VFR) only.

6. The Palestine authorities should seek the agreement of Israel to the establishment of an air corridor between Gaza International Airport and the West Bank (possibly via the Reporting Point of BEER-SHEBA) in the direction of Jerusalem, the route of which could follow the green, broken lines shown on the aeronautical chart 2 in Appendix C. This corridor would be subject to agreement on the vertical and horizontal dimensions but could be restricted to between 5,000 and 10,000 feet in height and up to 10 miles in width within Israeli airspace.

The agreement may provide that aircraft departing Gaza International Airport via BEER-SHEBA would then be able to connect to the existing upper and lower airspace airways at that point or continue to the West Bank along the line of the route indicated in green on the chart (see 5.2 in section 5 below).

6a. The options addressed in the study range from the strategic starting position of accession to the CC without a negotiated bilateral airspace agreement, to different permutations of air corridor and air component arrangements, leading to options for joint and single control over airspace.

6.b The parties may agree to a “cross-delegation” option whereby ... . In this case, Palestine will be able to have sole control over flights coming into Gaza and transiting to the West Bank through the air corridor below a certain FL. In return, Palestine delegates to Israel airspace above that FL, allowing continuity in transit ATS provision for higher altitude.

7. With respect to control over ATC services, the following is recommended from operational, efficiency and safety perspective:

- All En-route ATC services may be provided from one centralised Area Control Centre (ACC). Rather than construct new and expensive ATC infrastructure it would make sense that this was based on the existing Tel Aviv (Ben Gurion) ACC.
  - In future, this could be jointly funded and staffed. Alternatively staffing could remain an Israeli responsibility with funding provided by Palestine from over-flying charges received from the use of Palestinian airspace.
  - Some form of inter-state agreement or treaty would be required to facilitate this arrangement.
- Terminal ATC services at each airfield are provided within Control Zones and Control Areas (CTR/TCA) surrounding each airfield in Israel and Palestine.
  - Airspace will be of sufficient dimensions to safely accommodate the nature of the airport activity. It will be designed using ICAO criteria and guidance material.
  - This will require detailed Letters of Agreement or Memoranda of Understanding to be in place between adjacent ATC units in both Palestine and Israel and specifically between the Area Control Centre and airports in Palestine.

8. Negotiations should begin to facilitate the arrangements indicated in 7 above, based upon the precedents referred to in this Brief and on the basis of the advice and with the assistance of the ICAO regional Office.

9. Negotiations should also begin with Egypt and with Jordan concerning the arrangements for the use of the airspace of those States to facilitate access to and from Gaza International Airport (in the case of Egypt) and the principal existing or proposed international airport in the West Bank (in the case of Jordan).

These arrangements must include agreements on the operational arrangements required at the respective airports designed for the purpose of enabling aircraft to land and take-off and for the purposes of manoeuvre in the event of aircraft having to abort a landing. Safe operation of aircraft in all weather conditions should be the principal concern.

10. The Palestine authorities should begin negotiations for the conclusion of Bilateral Air Services Agreements with Israel and with, at least, the following States within the region:

- Egypt
- Jordan

- ❑ Lebanon
- ❑ Saudi Arabia
- ❑ Syria
- ❑ Cyprus
- ❑ Iraq
- ❑ Iran
- ❑ Turkey
- ❑ Libya

**11.** The Palestine authorities should commence the development, as a matter of priority, of a set of Civil Aviation Regulations that cover, as a minimum, the following topics:

- ❑ Licensing of aviation personnel (Annex 1);
- ❑ Rules of the Air (Annex 2);
- ❑ Operation of aircraft (Annex 6);
- ❑ Airworthiness of aircraft (Annex 8);
- ❑ Aircraft registration (Annex 7);
- ❑ Air Traffic Services (Annex 11);
- ❑ Accident investigation (Annex 13);
- ❑ Security (Annex 17);
- ❑ Safe transport of dangerous goods by air (Annex 18).

**12.** The Palestine authorities should begin work on the development of a National Aviation Security Programme in accordance with Annex 17 to the Convention and any related Protocols and Guidance Material.

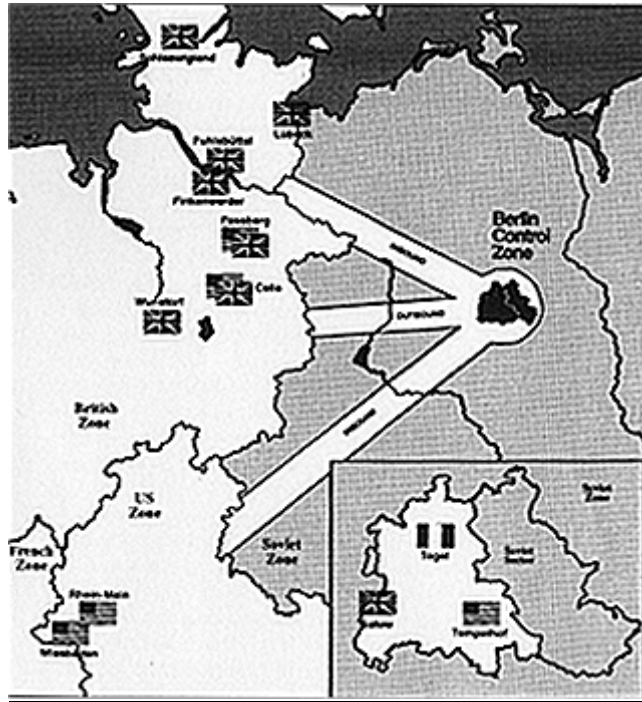
**13.** All or any of the above agreements and arrangements should take full account of the critical elements for establishment of air routes that are referred to in section 3 of this Brief.

**14.** No concession should be made by Palestine for the use of Palestinian airspace by Israeli military aircraft, whether for training or other purposes, unless it is matched by an equivalent concession by Israel in favour of Palestine.

## APPENDIX A - BERLIN CORRIDOR MODEL

The Story First.....followed by a Summary of Essentials in Table Form

### General Picture



1. Prior to the cessation of hostilities in Germany the four Allied powers had agreed that, following the German surrender, the country would be divided into four zones of occupation, each zone being occupied by one of the four Allies. The Soviet Zone included the capital city of Berlin. However, Berlin was to be open to all four Allied nations with a quadripartite organisation being formed in Berlin to administer occupied Germany as a whole. The quadripartite organisation was to be called the Allied Control Authority (ACA).
2. Little thought was given during the original talks as to how the Western Allies would reach Berlin, with the assumption being made that the Soviets would allow free access across land and air. However, that was not to be the case and from the very day of German surrender the Soviet authorities resisted free access for the Western Allies into and through their zone of occupation. Western Allies did eventually succeed in reaching Berlin and subsequently setting up the ACA, with the first action by them being to establish a structure and process for ensuring access by land and air from the Western Allies zones of occupation (across the Soviet Zone of occupation to the open City of Berlin). The question of air access was delegated to the Air Directorate within the ACA, and with Soviet co-operation focusing on the need for air safety; the problem was solved with the establishment of 3 air corridors linking the Western Allies Zones of occupation with Berlin.

3. The airspace structure and the rules for flight within it were developed in considerable detail for the time and given quadripartite approval on 22 Oct 1946, with the agreement document becoming known as the “46 Agreement”, the same rules within the agreement applying right up to German re-unification<sup>10</sup>. The operation of the airspace structure and associated rules required the establishment of an executive authority for the day-to-day provision of air traffic control services and overall management, consequently, the Berlin Air Safety Centre (BASC), an organisation within the ACA manned by operational personnel (designated as ‘controllers’) from all four nations, was created to provide both functions. In later years as technology improved and traffic levels increased, air traffic control responsibilities were transferred to the Berlin Air Route Traffic Control Centre (BARTCC), located at Tempelhof airfield, but the day to day executive management authority remained the BASC.

### **Airspace Structure**

4. The airspace structure established under the ‘46 agreement’ consisted of 3 corridors of ‘sanitised’<sup>11</sup> airspace 20 statute miles wide from ground level with no upper limit. The corridors were established from 3 separate locations on the Western Allies boundary with the Soviet boundary dividing Germany. The 3 corridors routed from Hamburg, Hanover and Frankfurt SE, E and NE bound respectively to converge on Berlin. A Berlin Air Traffic Zone (BCZ) was created over Berlin with a radius of 20 statute miles (centre at the ACA) extending from ground level to 10,000ft to accommodate that convergence. There were 3 airfields within the greater Berlin area; Gatow (British), Tegel (French) and Tempelhof (US), and within the control zones 2 Eastern bloc military airfields and one busy civilian airfield, namely, Werneuchen to the NE flying Mig-25s and Yak-28s of the Soviet Air Force, and Oranienburg to the North flying Soviet Air Force operating helicopters, and to the SE Schoenefeld, the civil airfield for East Berliners.

5. The BASC was the executive authority responsible for ensuring that not only was the Berlin airspace structure restricted to aircraft belonging to one of the 4 occupying powers, but also that the authorised users could exercise their rights freely and safely. Because the Berlin airspace structure and the governing protocol and processes were established by a four-power agreement<sup>12</sup>, no part of it could be altered, other than by unanimous consent of the four nations concerned. Although operating procedures and techniques were progressively updated to meet changing requirements, the basic structure retained the form given to it at its inception in 1946. However, the ‘46 Agreement’ was over the years supplemented by several ‘accepted practices’ or precedents. If a thing was permitted to happen a few times and none of the four signatories to the ‘46 agreement’ objected, then it became in effect an unwritten agreement. The restriction of the air corridors to an upper limit of 10,000ft is an example of this (because aircraft in the late 40s were un-pressurised they always flew below 10,000ft, consequently, although the 46 Agreement gave no upper limit, it became ‘accepted practice’ to restrict traffic to below 10,000ft

6. The BASC was established as an integral part of the ACA for processing all movements within the air corridors and the BCZ, with the role of approving and regulating all flying, by military and civil aircraft within the corridors and control zone. Within this function was the requirement to notify all corridor and control zone flights by allied aircraft to the Soviet authorities through the medium of the Soviet controller in the BASC. Soviet aircraft were equally entitled to use quadripartite airspace and there was a similar obligation on their part to notify all such flights to the allied

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<sup>10</sup> No similar structure and process was ever agreed for access by land.

<sup>11</sup> No designation as in today’s terms but effectively ‘controlled airspace’.

<sup>12</sup> The ‘46 Agreement’

authorities in the BASC. However, after a short while the Soviets decided that rather than notify their aircraft to the Western authorities, they would keep their aircraft and those of the East German Air Force clear of corridor traffic, and therefore avoid the need to notify flights in the BASC, but they did fly in the control zone every day without formal notification, but from a practical viewpoint little that could be done by the Western allies other than make a formal objection<sup>13</sup>.

7. The BARTCC provided Air Traffic Services within the 3 corridors; a US radar establishment run exclusively by the US Air Force employing mostly US military controllers with representatives from the UK and France<sup>14</sup>. Management of the corridors and the BCZ and the means by which the 4 nations prosecuted the diplomatic requirements associated with the use of the corridors by western allied aircraft was conducted through the BASC.

### **Political Requirements and Agreements**

8. Whilst the establishment of the 3 air corridors and the BZC was seen as the practical answer to air access to Berlin, it was the political requirement for unhindered and unconditional access to Berlin against the reluctance of the Soviet authorities that compelled the practical need. The political requirement to guard fiercely the right of access regardless of other requirements was the lead point for most considerations. The 3 Western Allies worked together to ensure a united front but it was to the '46 Agreement' that all turned whenever there was a dispute.

### **Provisions Put In Place To Satisfy Political Requirements**

9. An Executive authority manned by service personnel from all 4 nations was established (the BASC) for day-to-day corridor management. The BASC, through the national chains of command, was invested with the authority to resolve practical problems within the scope of the '46 Agreement' without resort to political measures at Foreign Office level. As military personnel of all 4 nations manned the BASC there was an immediate command chain available for day-to-day management and problem resolution.

10. Only aircraft registered within the signatory Nations of the 46 Agreement were permitted to use quadripartite airspace and each flight had to meet stringent regulations laid down by the civil air attaches from their embassies in Bonn. Stringent notification and monitoring arrangements were put in place together with mechanisms to resolve problems and disputes should they occur. There was a healthy recognition that disputes were bound to occur but that they should not be allowed to interfere or impact adversely on Flight Safety. Such consideration ensured that regardless of the political stance that might be taken, aircraft safety would not be jeopardised<sup>15</sup>.

### **ATS Provision**

11. Concept. ATS provision was originally part of the BASC's responsibilities (procedural service), however, in 1948 this task was delegated to the 1946<sup>th</sup> communication Squadron at Templehof and it was from there that the BARTCC provided all en-route service to aircraft. The USAF provided the bulk of the controllers in BARTCC but with some tripartite representation. There were 4 RAF

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<sup>13</sup> This was done on a one-off basis and recorded as a permanent objection.

<sup>14</sup> Until after the reunification of Germany when it was necessary for the BARTCC to incorporate staff from all 4 Quadripartite nations and Germany

<sup>15</sup> Notwithstanding the Blockade.



WO controllers and 5 French Air Force SNCO controllers. BARTCC was well equipped with 'colour' radar displays and high power radio transmitters and of course, flight data processing computer equipment enabling flight plan messages and clearance requests to be passed expeditiously.

12. ATC. FAA regulations were used to govern service provision with appropriate adaptation allowed if necessary to ensure safety of flight over the Soviet Zone of occupation. There were no direct lines of communication between BARTCC and the East German and Soviet authorities<sup>16</sup> 'controlling' traffic outwith the 3 corridors. BARTCC would see East German/Soviet aircraft on radar crossing the corridors but they were always well separated from allied aircraft. Crisis communication if ever necessary could be conducted through the BASC, but such an event was extremely rare.

13. Flow Control. Whilst the Western Allies had the absolute right of access to Berlin airspace on take-off or via the 3 corridors, the convention was to allow a 3 min window either side of the ETA/ETD at T/O or corridor entry point. Normally there was no problem with achieving entry within this window, however, as air traffic within Europe began to increase in the 80s and Flow Control became a significant part of ATM, it was necessary to provide priority to Berlin flights to ensure ETAs could be met with some accuracy. This required some negotiation with, and education of, the then flow centre at Frankfurt.

### **Corridor Management**

14. Concept. Meeting diplomatic requirements with regard to the notification of flights was delegated to the military controller staff of the 4 quadripartite nations within the Berlin Air Safety Centre. Each Western nation managed their own respective corridor interfacing directly with the Soviet controller, who in turn was in telephone contact with the military authorities within the Soviet Zone of occupation of Germany. Each Western controller would notify the Soviet controller of allied aircraft about to enter their respective corridor from the Western zone of occupation on route to Berlin or about to take-off from Berlin westbound. On receiving notification from the Western controller the Soviet controller would telephone the information to the military authorities in the Soviet zone of occupation, thus satisfying diplomatic requirements.

15. Notification. Inbound to Berlin; a pre-note and then a precise ETA for a specific navigational point (which was a corridor entry point) was provided by the BARTCC to the BASC controller via a computer link<sup>17</sup>. The BASC Western controller then presented a computer generated flight strip (with appropriate aircraft type, company, IFF squawk, FL and navigation point ETAs and a landing ETA) to the Soviet controller, time stamped at time of presentation, as the formal notification that the flight would be taking place within the notified corridor. The flight strip was accepted by the Soviet controller as notification and the details of the flight passed on to the Soviet military authorities. The flight strip would be initialled by the Soviet Controller to acknowledge receipt of the information and then returned to the Western Allies controller. If there were any difficulty with the flight as decided by the Soviet Controller, the Flight Strip would be 'stamped' to the effect that the Soviets could not guarantee the safety of flight across the Soviet zone of occupation. 'Stamps' were of varying degrees of severity depending on the situation. Stamping

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<sup>16</sup> The Western allies did not recognise the East German state. The BASC would only ever deal with Soviet authorities.

<sup>17</sup> Originally, all was done by telephone until the use of computers (FLIPCO) became commonplace.

was normally accompanied by diplomatic protests, which are described under 'Problem Resolution'. Outbound from Berlin; the same process was followed but with the necessity of an approval for take-off clearance being given by the Western Allied controllers following notification to the Soviet controller.<sup>18</sup>

**16. Technology. All Berlin airfields and aeronautical agencies were connected by the Flight Plan Processing and Co-ordination system (FLIPCO), which enabled flight plan information and arrival and departure messages to be passed to the BASC for authentication and approval/clearance. Printers linked to FLIPCO produced flight cards on request and automatically prior to an aircrafts arrival in quadripartite airspace**

17. Problem resolution. The Soviets made frequent objections concerning Allied flights and had various 'red ink stamps', which they applied to the Flight Strips to register such objections. Each stamping became a political matter and although some stamps were accepted as routine and actioned accordingly the Western Controllers were frequently required to deliver tripartite agreed statements and protests in response to Soviet objections. Most of the statements were made at controller level in a closed environment (closed doors, duty controllers only – no visitors, observers or even other BASC staff) but if necessary on important and/or sensitive matters Chief Controllers (Col/Wg Cdr level) would become involved and the situation resolved at a higher level. Furthermore, the Chief Controllers of the 4 elements would meet regularly every Wednesday regardless of other commitments, at a weekly conference within the BASC to discuss important events of the past week or to continue policy discussions that required tactful and diplomatic handling. Meetings between the 4 nations were held regularly following the establishment of the ACA and this standing commitment to East/West relationship continued within the BASC until the reunification of Germany. This very tight and well-practiced process meant that very rarely was it necessary to elevate diplomatic problems beyond the controller and/or Chief Controller level. In practical terms of course, there was rarely a problem<sup>19</sup>; regardless of the objections made by the Soviets and the counter protests made by the Western Allies, Soviet aircraft were kept well clear of allied aircraft flying legitimately within the corridors.

18. Monitoring. The FLIPCO presented a computerized 'Tote' of all aircraft within the corridors and the BCZ as well as those about to enter (within 10 mins). Western Allies controllers monitored their respective corridor activity continuously and were primed to take action at diplomatic or operational level at the earliest opportunity if there appeared to be a problem, thus 'nipping it in the bud' before any likely escalation. (Good working relationships between all 4 nations was essential to make this work for 45 years!)

19. Relationships. The maintenance of good relationships between all 4 nations was absolutely essential. Relationships were always excellent, and in spite of the ever-present political overtones there was an air of mutual respect and co-operation, together with a desire to get the job done in an efficient manner. The need for this was impressed upon all by the ministers of each nation. Without such a unity of purpose and rapport the BASC and BARTCC would not have functioned effectively. Every effort was made by all 4 nations to foster a good relationship at working level, with all being well aware of the consequences should the relationship falter.

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<sup>18</sup> This was not approval from the Soviets but a self-imposed approval process by the Western Allies.

<sup>19</sup> Notwithstanding the situation that led to the Berlin Airlift and other East/West crisis.

**A Summary Of Essential Requirements For The Establishment Of The Berlin Corridors With Comment On How They Were Met**

Serial	Issue	Requirement	Resolution
1	Western Allies Political requirement	<u>Unhindered and unconditional access</u> to Berlin for practical and political purposes.	1. Airspace structure <b>agreed and documented at the highest level by all participating nations</b> - '46 Agreement'.
2	Soviet political requirement	Maintain Soviet security by 'containing' Western Allies access to Berlin.	1. Airspace structure documented and agreed at highest level. 2. Attempted amendment to '46 Agreement' and utilise accepted practises for own advantage.
3	Operational requirements	Meet political requirements and guarantee Flight Safety for all users of 'Berlin airspace'.	1. <b>Resolute adherence</b> to '46 Agreement'. 2. Changes <b>only agreed by mutual consent</b> .
4	Expression of Political will	A determined need to make the system work, recognising the benefits and particularly the dis-benefits of not doing so.	1. <b>Resolute and repeated</b> top down expression from the leading members of the 4 allies to all involved in the process that the system <b>had to be made to work</b> . 2. Individuals involved were <b>left in no doubt as to the consequences</b> of not making it work. 3. Financial constraints minimised. 4. Fostering of <b>good working level relationship</b> within the BASC was very high on the list of requirements for safe and efficient operations.
5	ATM	Establishment of airspace structure, associated rules and executive authority. Mechanism for 'managing' day to day and longer term political and technical problems without escalating problems to diplomatic level.	1. Establishment of <b>well defined structure and rules</b> within '46 Agreement'. 2. Establishment of the BASC <b>manned by ATM professionals</b> with the specialist, technical and diplomatic skills required to be able to apply established protocols and abide by agreed processes such that problems could be managed to a successful conclusion. 3. Establishment of <b>well-defined and properly robust processes</b> for dealing with problems. 4. A very thorough training programme and monitoring system for all those involved. 5. Total commitment expected from all those involved.
6	ATSP	Within Berlin airspace	1. Establishment of procedural ATC service from the BASC based on <b>very specific and precise ToRs</b> . 2. Eventual establishment of stand alone ATC centre (BARTCC) <b>with very specific and precise ToRs</b> and with state of the art equipment.

7	ASM, Flow and Capacity control	To guarantee safety and unhindered access, together with appropriate interface with 'outside' route structure.	<p>1. Establishment of the BASC and <b>specific agreed and documented notification and monitoring</b> procedures.</p> <p>2. <b>Explanation to and agreement</b> with the 'outside world' of special requirements to ensure ability to comply with political requirements.</p>
8	ANSP necessities.	Safety of flight. Efficiency of flight.	<p>1. <b>Employ internationally agreed standards and recommended practises as well as state of the art navigation and monitoring equipment wherever possible.</b></p>

**APPENDIX D -  
GLOSSARY OF ABBREVIATIONS**

ACC	Area control centre
ADF	Automatic direction-finder
ADR	Advisory route
ADREP	Accident/incident reporting
ADS	Automatic dependent surveillance
AFCS	Automatic flight control system
AFS	Aeronautical fixed service
AFTN	Aeronautical fixed telecommunication network
AGA	Aerodromes, air routes and ground aids
AGL	Aerodrome ground lighting OR Above ground level
AIC	Aeronautical Information Circular
AIP	Aeronautical Information Publication
AIS	Aeronautical information service
AMSL	Above mean sea level
ARFL	Aeroplane reference field length
ASDA	Accelerate-Stop distance available
ATC	Air traffic control
ATIS	Automatic terminal information service
ATM	Air traffic management
ATS	Air traffic services
ATZ	Aerodrome traffic zone
AWS	Automatic weather station
BRNAV	Basic area navigation
CAS	Calibrated airspeed
CAT I	Category I
CAT II	Category II
CAT III	Category III
CAT IIIA	Category IIIA
CAT IIIB	Category IIIB
CAT IIIC	Category IIIC
CPDLC	Controller-pilot data link communications
DA	Decision altitude
DA/H	Decision altitude/height
DC	Device control
DF	Direction finding
DFLD	Database Field Loadable Data
D-FIS	Data link-flight information services
DH	Decision height
DME	Distance measuring equipment
DSTRK	Desired track
EPIRB	Emergency position indicating radio beacon
FAR	Federal Aviation Regulations issued by the Federal Aviation Administration of the United States of America
FDAU	Flight data acquisition unit
FDPS	Flight data processing system
FDR	Flight data recorder
FIR	Flight information region

FL	Flight level
FLS	Field Loadable Software
FM	Frequency modulation
GNSS	Global navigation satellite system
GPS	Global positioning system
HF	High frequency
ICAO	International Civil Aviation Organisation
IFR	Instrument flight rules
IFSD	In-flight shut down
ILS	Instrument landing system
IMC	Instrument meteorological conditions
INS	Inertial navigation system
IRVR	Instrumented Runway Visual Range
ISA	International standard atmosphere
KT	Knots
kt/s	Knots per second
LDA	Landing distance available
LLZ	Localiser
LRNS	Long range navigation system
MTWA	Maximum take-off weight authorised
MDA	Minimum descent altitude
MDA/H	Minimum descent altitude/height
MDH	Minimum descent height
MHz	Megahertz
MLS	Microwave landing system
MNPS	Minimum navigation performance specifications
MOPS	Minimum operational performance specification
m/s	Metres per second
m/s <sup>2</sup>	Metres per second squared
NAV	Navigation
NDB	Non-directional radio beacon
nm	Nautical mile
OCA	Obstacle clearance altitude
OCA/H	Obstacle clearance altitude/height
OCH	Obstacle clearance height
PANS	Procedures for Air Navigation Services
PAPI	Precision approach path indicator
PCN	Pavement classification number
QFE	Atmospheric pressure at aerodrome level or at runway threshold
RCC	Rescue Coordination Centre
RDPS	Radar data processing system
RESA	Runway end safety area
RFR	Radio frequency
RFDP	Radar and flight data processing system
RFFS	Rescue and fire fighting services

RNAV	Area navigation
RNP	Required navigation performance
RVR	Runway visual range
RVSM	Reduced vertical separation minimum
SAR	Search and rescue
SEIFR	Single-engine IFR
SELCAL	Selective calling system
STOL	Short take-off and landing
TAS	True airspeed
TODA	Take-off distance available
TORA	Take-off run available
UHF	Ultra high frequency
UTC	Co-ordinated universal time
V <sub>1</sub>	Take-off decision speed
V <sub>2</sub>	Initial climb out speed
VCR	Visual control room
VFR	Visual flight rules
VHF	Very high frequency
VMC	Visual meteorological conditions
VOLMET	Meteorological information for aircraft in flight
VOR	VHF omni-directional radio range
VSM	Vertical separation minima
VTOL	Vertical take-off and landing
ZFT	Zero flight time

## **APPENDIX E - AIRSPACE CLASSIFICATION**

### **Class A airspace**

Within airspace classified by the competent authority as class A:

- (1) Separation shall be provided between all flights; and
- (2) VFR flights are not permitted.

### **Class B airspace**

Within airspace classified by the competent authority as class B:

- (1) Separation shall be provided between all flights; and
- (2) VFR flights are permitted.

### **Class C airspace**

Within airspace classified by the competent authority as class C:

- (1) Separation shall be provided between—
  - (i) IFR flights; and
  - (ii) IFR and VFR flights.
- (2) Traffic information shall be provided for VFR flights about other VFR flights.

### **Class D airspace**

Within airspace classified by the competent authority as class D:

- (1) Separation shall be provided between —
  - (i) IFR flights; and
  - (ii) IFR and VFR flights.
- (2) Traffic information shall be provided for —
  - (i) IFR flights about VFR flights; and
  - (ii) VFR flights about IFR flights, and other VFR flights

### **Class E airspace**

Within airspace classified by the competent authority as class E:

- (1) Separation shall be provided between —
  - (i) IFR flights; and
- (2) Traffic information shall be provided, where practical, for—
  - (i) IFR flights about VFR flights; and
  - (ii) VFR flights about other VFR flights.

### **Class F airspace**

(a) Within airspace classified by the competent authority as class F:

- (1) IFR flights shall be provided with an air traffic advisory service; and
- (2) All flights shall be provided with a flight information service on request.

(b) Class F advisory airspace is intended as a temporary or intermediate form of airspace implemented for provision of air traffic advisory service until replaced by an air traffic control service.

### **Class G airspace**

Class G airspace is that uncontrolled airspace that is not classified above and in which all flights shall be provided with a flight information service on request.



**APPENDIX F -  
SAMPLE INTER-STATE LETTER OF AGREEMENT**

**Directorate of Airspace Policy**

Addressee

**ATS ROUTE CHANGES AND DELEGATION OF ATS IN AIRSPACE \*\*\*\*\***

References:

A.

I wrote at Reference A advising that I was content with the proposed delegated ATS arrangements in the \*\*\*\*\* areas. I further advised that I would provide the required regulatory assurance that (service provider) could safely provide ATS in the new area of delegated ATS.

**Assurance**

At Reference \*\*, you detailed the elements where assurance was sought. For clarity, these are reproduced in italics accompanied by the appropriate assurance.

- a. *That the provision of ATS in the \*\*\* FIR will be given by (service provider) has satisfied the \*\* CAA as to its competence to secure a safe operation in the relevant airspace.*
- b. *That it is compliant with ICAO Annexes 10 and 11 and other relevant SARPs.*
- c. *That it is compliant with ICAO Doc 4444 (PANS-ATM).*

\*\*\*\* operates in accordance with UKCAA Civil Aviation Publication (CAP) 493 Manual of Air Traffic Services (MATS) Part One, supplemented by Unit MATS Part 2. These detail specific ATS procedures tailored for the airspace where ATS is provided. The CAP493 effectively includes the relevant ICAO Annex 11 and ICAO 4444 requirements, supplemented by additional national standards required by the CAA. In respect of Annex 10 elements, \*\*\*\*\* is required to comply with CAP 670 – ATS Safety Requirements, which includes the necessary equipment, standards and associated operating procedures. The CAA is satisfied that \*\*\*\* navigation, radar and RT equipment and associated ATC procedures enable the safe provision of an ATS.

- d. *That accidents and serious incidents (based on ICAO Annex 13) are directly reported to the \*\*\*\*\*.*

A procedure will be introduced to ensure that accidents or serious incidents will be reported to the \*\*\*\*\*.

- e. *That information on other ATM related occurrences will be reported each year to the \*\*\*\*\*.*

A procedure will be introduced to report other ATM related occurrences. Any such occurrences will be reported annually to the \*\*\*\*\*.

- f. *That it operates under appropriate ATS safety management programmes (ESARR 3 or an equivalent) to ensure that safety is maintained in its provision of ATS within airspaces.*

\*\*\*\*\* operates under a CAA approved safety management regime. This is ESARR 3 compliant.

- g. *That a system of Risk Assessment and Mitigation in ATM (ESARR 4 or an equivalent) is in force.*

\*\*\*\*\* operates a CAA approved risk assessment scheme, which provides an equivalent to ESARR 4.

- h. *That radar coverage is guaranteed at all times.*

It is not possible to guarantee radar availability at all times under all circumstances. Nevertheless, radar coverage is provided from a network of \*\*\*\*\* primary and secondary radars, which are managed to maximise radar coverage. In the event of a radar failure or degradation leading to a loss or reduction in radar coverage, ATC procedures and appropriate flow control measures are implemented to ensure that traffic can be safely managed.

- i. *That two-way radio communication is guaranteed at all times.*

It is not possible to guarantee radio communication availability at all times under all circumstances. Nevertheless, each transmitter/receiver meets its design availability criteria of 99.992%. In addition to the primary frequency, each ATC sector has an allocated secondary frequency. The primary frequency, or the secondary in the event of any un-serviceability, is monitored continuously. Consequently, we are satisfied that radio communication facilities are satisfactory.

## **Division of Responsibilities**

In respect of arrangements affecting the division of responsibility, I can confirm that:

- a. The delegation of operational responsibilities to \*\*\*\*\* means that they are primarily responsible for securing safe service provision operation in the delegated areas.
- b. \*\*\*\*\* will in practice provide their service using the operating rules and procedures applicable to \*\*\*\*\* as if these operations were taking place within the \*\*\*\*\* FIR.
- c. Practical safety issues will be addressed in the operational Letter of Agreements (LoAs), particularly in respect of interface agreements.
- d. The \*\*\*\*\* authorities retain regulatory responsibility and remain responsible for its airspace and route structure and will ensure that the requisite information is promulgated in the \*\*\* AIP. (See Note 1)

- e. The \*\*\*\*\* will maintain regulatory oversight of \*\*\*\*\* within the area of Delegated ATS on the same basis that \*\*\*\*\* provides ATS in the \*\*\*\*\* FIR. \*
- f. Relevant information will be exchanged each year between the \*\*\*\*\* authorities and the \*\*\*\*\* and if necessary new agreements will be made.

### **Formal Decisions under \*\*\*\* Law on Aviation**

\*\*\*\* is licensed by the \*\* Government to provide ATS. The regulation of ATS and airspace is carried out by the \*\* CAA under the authority of the \*\*\*\*\* and in accordance with Government Directions to the CAA. The CAA manages the \*\*\*\* Licence on behalf of the Government. The approval of arrangements for delegation of ATS is a CAA responsibility. Consequently, the CAA is able to approve these proposed delegated ATS arrangements.

### **Other Parties Involved**

The new \*\*\*\*\* area will require an update of LOAs to reflect the revised interface. The operational arrangements between \*\*\*\*\* and \*\*\*\*\* are well advanced and draft LOAs, in the Eurocontrol common format, are being prepared; I will provide the UK regulatory signature.

I hope the foregoing is satisfactory. If you require any clarification please do not hesitate to contact me. I anticipate that the new operational arrangements will apply from 24 November 2005.

Director

Annex:

- A. Parameters of Area delegated ATS where \*\*\*\* will provide ATS.