

The Open Skies Treaty: *Entering full implementation at a low key*

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Overview

When the Treaty on Open Skies was signed in March 1992 it was seen as one of the most far-reaching and intrusive confidence-building measures ever agreed upon¹. The treaty opens the full territory of its member states, 'from Vancouver to Vladivostok', to co-operative aerial observation flights. After decades of bloc-to-bloc confrontation and secrecy in military matters it embodied the determination of its states parties to overcome the East-West military stalemate by enhancing transparency and openness.

Today, the states parties find themselves in a fundamentally transformed security environment. The political changes and the remarkable reduction of armed forces since 1990 have made a large conventional war in Europe very unlikely. The danger of destabilization in many transition states has been nearly eliminated by their integration into NATO and the European Union. However, crisis-prone regions still remain.

The Open Skies Treaty, which was meant to support the transition process, only came into effect on 1 January 2002. Hence it is appropriate to ask: How well does it work and is it still needed?

The treaty foresees co-operative observation flights at a ground resolution which allows the identification of major weaponry. From 2002 to 2005 220 such flights have been carried out covering military sites not only in Europe, but also in the vast territories of North America and Siberia, which are inaccessible to inspections under the Vienna Document on CSBMs and the Treaty on Conventional Forces in Europe (CFE). The imagery has been used to support the verification of arms control treaties, but also for the general purpose of military openness and transparency. Images from each flight are accessible to all states parties, a remarkable achievement, which puts the parties on an equal footing.

Since 2002 the treaty has attracted eight new members from Scandinavia, the Baltic States and the former Yugoslavia, which brings the number of states parties to 34. At the first review conference in February 2005, states parties have expressed their intentions to adhere to the Treaty as signed and to keep it open to all OSCE participating states. It is noteworthy that the United States and the Russian Federation do not clash over Open Skies, but support it.

¹ Peter Jones/Márton Krásznai, *Open Skies: Achievements and Prospects*, in: John B. Poole/Richard Guthrie (eds.), *Verification Report 1992*, London/New York 1992; Peter Jones, *Open Skies: A Review of Events at Ottawa and Budapest*, in: John B. Poole (ed.), *Verification Report 1991*, London/New York 1991; Peter Jones, *Open Skies: Events in 1993*, in: John B. Poole/Richard Guthrie (eds.), *Verification 1993*, London/New York 1993; Sergey Koulik/Richard Kokoski, *Conventional Arms Control – Perspectives on Verification*, SIPRI, Oxford 1994; Michael Krepon/Amy E. Smithson (eds.), *Open Skies, Arms Control, and Cooperative Security*, New York 1992.

In spite of this generally positive picture, there are clouds on the horizon. The biggest concern is a fundamental asymmetry caused by the intra-alliance understanding of NATO members not to inspect each other. The Open Skies missions of these states are solely directed towards the Russian Federation and the few remaining non-aligned States (Ukraine, Georgia, Croatia, Bosnia-Herzegovina).

One possibility of keeping the Open Skies approach relevant and vital is an extension to crisis regions which are not yet covered by the Treaty and by an outreach beyond the OSCE area. Another one is the inclusion of different sensors beyond photographic cameras. With some luck the year 2006 will see the certification of the first thermal infrared imaging device on board of the Turkish Open Skies aircraft.

Provisions of the Treaty

It is worthwhile recollecting the intentions and purpose of the treaty, as stated in the Preamble: "Employing such a regime to improve openness and transparency, to facilitate the monitoring of compliance with existing or future arms control agreements and to strengthen the capacity for conflict prevention and crisis management in the framework of the Conference on Security and Co-operation in Europe and in other relevant international institutions"². In this context, the states parties also saw the possible contribution which an aerial observation regime of this kind could make to security and stability in other areas (outside the OSCE), as well as its extension to other fields such as the protection of the environment.

The core of the treaty is the right to observe any point on the territory of the observed state party, including areas designated as hazardous air space. The legitimate interests of the observed state party are taken into account by ensuring that the maximum ground resolution of the sensors to be used - while allowing for the reliable identification of major weapons systems - does not enable detailed analysis.

What is characteristic of the Open Skies Treaty is that it contains numerous and sophisticated provisions for balancing these two fundamental rights and interests of the parties (see the box). In contrast to many other treaties, it offers almost unlimited flexibility in permitting states parties to make different or modified case by case arrangements if they wish so.

Ratification and initial implementation

The treaty was signed on 24 March 1992 at the CSCE summit in Helsinki by all of NATO's then 16 member states, and by many of the transition states and successor states of the Soviet Union (Belarus, Bulgaria, The Czech and Slovak Federal Republic, Georgia, Hungary, Kyrgyzstan, Poland, Romania, Russia and the Ukraine). All but Kyrgyzstan have ratified the treaty. The treaty finally entered into force on 1 January 2002 after considerable delays in ratification mainly on the part of Russia and Ukraine.

² The full text of the treaty as well as the Decisions of the OSCE can be found at www.osmpf.wpafb.af.mil. See also Rüdiger Hartmann/Wolfgang Heydrich, Der Vertrag über den Offenen Himmel [The Treaty on Open Skies], Baden-Baden 2000. The authors illuminate the negotiation process and the intentions of the negotiators.

- Cooperative observation flights are carried out by unarmed fixed-wing aircraft which are equipped with imaging sensors
- The agreed sensor set comprises:
 - Optical panoramic and framing cameras with a ground resolution of 30 cm;
 - Video cameras with real-time display and a ground resolution of 30 cm;
 - Thermal infrared imaging sensors with a ground resolution of 50 cm at a temperature differential of 3°C; and
 - Imaging radar (Synthetic Aperture Radar, SAR) with a ground resolution of 300 cm.

The full sensor set will thus ensure an all-weather, day-and-night observation capability.

The resolution definition of the treaty as specified by Decisions of the OSCC deviates from the standard photogrammetric definition by a factor of 2 (for example, a resolution of 30 cm under Open Skies corresponds to a ground resolved distance of 60 cm).

- Sensors and aircraft have to pass a certification procedure in order to make sure that the agreed resolution is not exceeded.
- A system of flight quotas has been negotiated. For example, in the first phase of application, Germany was entitled to carry out five observation flights per year (active quota) and it had to accept four overflights (passive quota), whereas Russia (with Belarus) had an initial active quota of 26 flights and a passive quota of 28 flights. At full implementation starting in 2006 Russia (with Belarus) has to accept 42 overflights.
- At the insistence of Russia, each state to be observed has the choice of either: receiving the aircraft of the observing state; or providing its own aircraft with full sensor equipment for the observing state (the 'taxi option').
- The flight time line allows for a certain element of surprise. The time span between announcement of the planned flight route and the beginning of the flight is typically 24-30 hours.
- Treaty implementation matters are decided by the Open Skies Consultative Commission (OSCC) in Vienna. Such matters include the allocation of active quotas by specifying the states to be observed by each of the parties on an annual basis, the admission of new members and the upgrading of existing sensors. The Commission consists of representatives of all states parties and is empowered to take such decisions between conferences of the states parties.
- Image data are shared between the observing and the observed state. Other states parties can acquire copies of the imagery at a nominal cost.
- The full sensor capability is to be introduced stepwise. If the *observed* state provides the observation aircraft (taxi option), the full sensor set at the nominal resolution has to be operative by the beginning of the fourth year after the Treaty's entry into force (i.e. 1 January 2006). In the first three years after entry into force a reduced capability is allowed (incomplete sensor set, higher than nominal resolution). Infrared line scanners can only be used during the first three years if agreed by both the observing and observed parties (Art. XVIII).

The entry into force was preceded by a ten-year period of preliminary implementation, during which time nearly 400 test flights were carried out in order to check and optimize procedures³. The certification of aircraft from 16 states was completed by July 2002. Quota flights began on 1 August 2002. A further three planes, one each from Russia, Sweden and Turkey, were certified in early May 2004⁴. In view of the heavy demand for flights over Russia, Ukraine, Georgia, and Bosnia and Herzegovina, many states agreed to carry out their inspections jointly. Nevertheless, it is worth noting that many states do not make use of the full number of flights they are entitled to. For example, in 2005 only 82 missions out of the total entitlement of 192 were flown, for reasons of cost savings and reduced security needs. This trend of partial quota exploitation is also occurring on the case of inspections under the Vienna Document on CSBMs. However, since 20 flights have been joint flights with shared quota the overall engagement of state parties was somewhat higher.

Outcome: Supporting treaty verification and military transparency

From 1 August 2002 until the end of 2005 220 flight missions were carried out. Black-and-white imagery was taken with photographic cameras. What can be learned from such imagery at 30 cm ground resolution? Photographic black-and-white images at treaty-approved resolution allow for the detection and general identification of land vehicles, rockets and artillery, as well as the detection and precise identification of troop units, aircraft, airfield facilities, missile sites, surface ships and infrastructure such as roads and headquarters. In addition, test missions have demonstrated an excellent capacity for monitoring the effects of environmental disasters such as floods and hurricanes⁵.

Open Skies images have been successfully used to support the verification of several arms control agreements or arrangements. Once the full sensor set is operative, its potential for such a contribution will be significantly enhanced. Three treaties are illustrative:

- **The 1990 Conventional Armed Forces in Europe (CFE) Treaty.** During the negotiations on this treaty it was anticipated that this would be accompanied by an aerial verification regime, but negotiations were not concluded in time. The Open Skies Treaty has assumed the role of aerial verification, in particular by monitoring Siberia and North America, which are not accessible to CFE inspections. For example, in 1995 a German-Russian trial flight over Siberia monitored huge amounts of weapons systems which had been brought over

³ The following publications contain descriptions of the trial implementation phase, and critical evaluations of the treaty: Pál Dunay/Márton Krásznai/Hartwig Spitzer/William Wynne/Rafael Wiemker, *Open Skies*, UNIDIR, Geneva 2004, 311pp; Klaus Arnhold, *Der Vertrag über den Offenen Himmel: Ein Konzept zur Aktualisierung des Vertrags [The Treaty on Open Skies: A Proposal for Modernization]*, Stiftung Wissenschaft und Politik, Berlin, June 2002; Ernst Britting/Hartwig Spitzer, *The Open Skies Treaty*, in: *Verification Yearbook 2002*, London 2002, pp. 223-238; Pál Dunay, *The Treaty on Open Skies in Force: European Security Unaffected*, in: *Institute for Peace Research and Security Policy at the University of Hamburg, OSCE Yearbook 2002*, Baden-Baden 2003, pp. 289-310; Hartwig Spitzer, *The Treaty on Open Skies – Status Quo and Prospects*, in: *Institute for Peace Research and Security Policy at the University of Hamburg, OSCE Yearbook 2004*, Baden-Baden 2005.

⁴ Ten of the states are collectively known as the „pod group“. They have jointly purchased a (single) container for sensors, which can be affixed under the wing of transport aircraft from these countries.

⁵ See e.g. Pál Dunay et al., *Open Skies*, UNIDIR, Geneva 2004, chapter 6 and section 7.3.2.

the Ural Mountains from the European part of Russia shortly before the conclusion of the CFE Treaty. Open Skies flights have a much wider area coverage than on-site inspections under the CFE Treaty. A single Open Skies flight can cover more sites than the total annual passive CFE inspection quota of Germany (39, including those for stationed forces) or even Russia (50). Flights and ground inspections are complementary. Flights can be used for monitoring facilities and equipment parked in the open, whereas CFE inspections can focus on weapons systems under cover.

- **The 1993 Chemical Weapons Convention (CWC).** This treaty does not foresee aerial inspections. However, images of chemical weapons sites from Open Skies trial flights have been very informative. Delegates at the Organisation for the Prohibition of Chemical Weapons (OPCW) in The Hague have used the information successfully in bilateral exchanges. The value of Open Skies imagery will be enhanced once thermal infrared sensors will allow the monitoring of the operational status of suspect chemical weapon plants.
- **The Global Exchange of Military Information.** This data exchange was agreed by the CSCE in Budapest on 28 November 1994. It covers all kinds of weapons systems, including naval vessels and aircraft of all OSCE members, regardless of their deployment site, worldwide. Since the exchange is not being verified by on-site inspections, Open Skies flights have been used to verify notifications of forces, in particular of naval forces.

Beyond treaty verification Open Skies flights enhance military transparency on capabilities which are not covered by arms control treaties. For example in 2006 Russia will be using most of its 42 quota flights to monitor military installations in nearly all NATO states (except for Iceland and Slovenia). Russian authorities have realized that it is more cost-effective to obtain high resolution imagery from Open Skies flights than by launching satellites of comparable resolution⁶. In fact Russia, which has formed a group of states parties with Belarus, is carrying out by far the largest number of flights. This expresses the strong interest of Russia in the treaty. The United States, on the other hand is mainly interested in enhancing military transparency of Russian capabilities through flights of its own and the acquisition of imagery taken by other states.

The practical implementation of the treaty also illustrates how an intelligent selection of basic structural principles – in this case, co-operation and openness – can shape the conduct of the participants. A culture of openness and co-operation that overcomes political boundaries has been established among the military personnel involved in implementation activities – a new experience for many.

Why does this treaty attract new members?

Although, in general, the treaty is neither the focus of public attention nor a priority for political leaders, nine additional states have nevertheless applied for accession since 2002 (Bosnia and Herzegovina, Croatia, Cyprus, Estonia, Finland, Latvia, Lithuania,

⁶ A detailed comparison of monitoring the cost and performance of observation satellites and Open Skies missions is provided in chapter 9 of P. Dunay et al., *Open Skies*, 2004, loco. cit.; see also Hartwig Spitzer, *The Treaty on Open Skies*, in: *OSCE Yearbook 2004*, loco cit.

Slovenia, and Sweden). The application of Cyprus has been and still is blocked by Turkey's veto. The remaining eight states have ratified and acceded to the treaty.

Given the stalemate over the ratification of the adapted CFE Treaty of 1999, which was meant to be open to all OSCE participating states, the Open Skies Treaty offers a welcome alternative. New members obtain access to a multilateral framework of security cooperation which complements the Vienna document in a flexible and future-oriented way. It allows participation in confidence building through co-operative flights and in the verification of information on military forces which is exchanged under the Vienna Document. In particular, Open Skies flights – by their symbolic and co-operative character and their information potential – can help to reduce tensions between Russia and the Baltic States, between Georgia and Russia and in the former Yugoslavia.

Serbia has carried out, with assistance from Germany and Romania, two Open Skies training flights over its territory and might apply for accession in the foreseeable future.

The Open Skies Review Conference: A rare example of Euro-Atlantic accord

Representatives of 32 states parties met in Vienna on 14-16 February 2005 for the first Review Conference of the Treaty on Open Skies. The main objective of the conference was to review and discuss the past and future implementation of the Treaty. It soon became obvious that all states parties continue to fully support the intentions of the Treaty as a confidence-building measure, a rare case of Euro-Atlantic-Russian consensus. Each state party seems to profit from the cooperative approach of creating transparency, although the degree of exploitation of the Treaty's opportunities greatly varies largely. For example only five states (Finland, Germany, Sweden, Ukraine, United States) have made use of the possibility to buy imagery from flights conducted by other parties.

The *distribution of flight quota* remains one of the more touchy issues. Due to an inter-alliance understanding NATO countries will not inspect each other. Hungary and Romania even had to terminate their bilateral Open Skies agreement of 1991 after becoming NATO members. As a consequence Russia has little opportunities to buy copies of imagery from non-Russian flights over NATO states whereas NATO states concentrate their flights on Russia, Ukraine, Georgia, Croatia and Bosnia-Herzegovina. Still this issue does not endanger the Treaty for the time being, but it might do so in the more distant future.

It was only on its last day that the conference became the place of a controversial debate. France, Germany and Sweden had proposed to apply the Open Skies regime to two additional fields which are mentioned in the preamble to the Treaty, *protection of the environment* and *conflict prevention and crisis management* in the framework of the OSCE and of other relevant international organisations. The majority of delegations which spoke up rejected the idea of giving enhanced responsibility to the Open Skies Consultative Commission in these respects. They would rather leave extended applications to the initiative of individual states. The issue will have to be addressed again if individual states launch such initiatives. In this context it is worth noting that both Russia and the USA emphasised the right of all OSCE participating states to apply for accession to the Treaty.

The conference was prepared and chaired very efficiently by Germany. It proceeded almost invisible to the general public: There was virtually no media response, no

observers invited from international organisations, scientific institutes or NGOs. Merely observers from OSCE Asian and Mediterranean Partners for co-operation were invited and some of them attended (Israel, Jordan, Morocco, Tunisia, South Korea, Japan). It appears that states parties prefer to see the Open Skies Treaty working quietly.

A dispute on the *accession of Cyprus* caused further discord. Turkey objected to stating in the final document that the application of Cyprus was still pending. As a consequence the required consensus on a final document could not be reached even though the language was toned down significantly in the draft final document. Instead its substance was read by the chair as a chairman's statement. There was a strong feeling, however, that this episode would not harm the intention of all states parties to adhere to the Treaty in the years to come.

Full implementation and flight allocation 2006

Between entry into force and 31 December 2005 some restrictions on sensors (see box) and quota had to be observed. Most importantly only 75% of the full quota specified in the treaty could be used. Starting on 1 January 2006, the phase of *full implementation* of the treaty has begun. In this phase, the full quota will be available. Infrared sensors and radar sensors can be used without restrictions. If the observed state provides the observation aircraft (taxi option), the full sensor set at *nominal* resolution has to be operative.

The flight allocation for 2006 was thus an interesting process indicating how states parties would exploit their increased options. In general the negotiations went well. States parties were, to a much higher degree than in previous years, willing to carry out joint observation flights, i.e. to share quota. This requires agreement on the selection of flight paths and the sites to be photographed. Quota entitlements are now seen less as issues of national prestige, whereas the opportunities for co-operation and cost savings by quota sharing have been realized.

The most remarkable outcome of the flight allocation is the high flight activity of Russia (with Belarus) and Ukraine. They intend to carry out 42 and 12 flights, respectively, thus exploiting their full active quota. Russia with Belarus will have to receive 38 flights, Ukraine 12. The USA, Germany, Turkey and France are among the more active states with 11, 8, 8, and 7 flights, respectively, some of them as shared flights. The USA, however, is thus using only a small fraction of its active quota entitlement of 42 flights. It is interesting to note that Latvia and Lithuania for the first time carry out observation flights over Russia and Belarus. Bosnia and Herzegovina, Denmark and Estonia receive flights but do not carry out flights.

In total, 115 flights are foreseen, many of them as shared flights, from an overall entitlement of 269 flights.

Open Skies and the OSCE

The Open Skies Treaty was originally negotiated outside the CSCE/OSCE framework. However, already after the Open Skies conference in Budapest (May 1990), the negotiations were moved to Vienna, using CSCE/OSCE premises in the Hofburg. Many delegations at the CSCE/OSCE use their personnel also to deal with Open Skies matters.

Since the Open Skies Treaty is primarily a confidence and transparency-building measure, it is often seen as part of the OSCE security co-operation. Although true in spirit and intention, this does not hold on a legal basis. The treaty was only signed by a subgroup of OSCE participating states. It has a budget and a coordinating structure, the Open Skies Consultative Commission, of its own. But it lives in friendly coexistence with the OSCE. The OSCC gives regular reports to the OSCE. The OSCE secretariat provides support in filing and distributing information relevant to Treaty matters. Delegates find this information e.g. on the OSCE internal webpage. A provision of the Open Skies Treaty entitles **all** OSCE participating states to apply for accession to the Treaty.

Future options, challenges and uncertainties

To sum up, the Open Skies Treaty is a flexible, modern instrument of confidence building in military-political matters through its high degree of co-operation and transparency building and by putting all participants on an equal footing. The opening of the full air space for observation flights by other states is a strong symbolic and practical gesture of security co-operation. The Open Skies approach is thus particularly productive in historical situations where the creation of transparency and co-operation is of mutual benefit and all parties are willing to engage in it.

This was certainly the case at the time when the Treaty was signed. The mutual interest was reaffirmed at the 2005 review conference, but at a much lower key than in 1992. Europe has become a safer place vis-à-vis the danger of major conventional wars.

The Treaty remains useful by its contribution to the stabilization of NATO-Russia relations, with its effects in crisis-prone regions (e.g. in the Western Balkans and in Georgia) and as a general insurance policy through an established culture of security cooperation.

However, in order to remain vital and relevant, the Treaty practice has to be expanded. The author sees a high priority in an initiative of inviting additional states from crisis-prone regions in Europe, in particular Macedonia (FYROM), Albania, Moldova, Armenia, Azerbaijan and the Central Asian Republics. This will require demonstration activities and logistical support.

Another option is the outreach beyond the OSCE area. Here initiatives of states parties can help to demonstrate the benefits and practice of the Open Skies approach and to offer resources for co-operative aerial monitoring worldwide through the UN or other frameworks.

Without such an expansion in its scope the present Treaty and the operational resources might lose political support in many of the smaller states. Internally the states parties have to do some homework in negotiating procedures for the certification of infrared and radar sensors. The relevant decisions became ineffective on 31 December 2005. The Informal Working Group on Sensors of the OSCC is working diligently on drafting an updated and simplified procedure for the certification of infrared sensors. With some luck, the first infrared sensor on board the Turkish Open Skies aircraft will be certified in 2006. Ukraine and Russia are also planning to use infrared sensors. These sensors, which provide temperature images at quite high resolution (50 cm), will enhance the observation potential by monitoring the operational state of vehicles and facilities. Thus the Treaty is on its way towards full implementation.

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