BRIEFING

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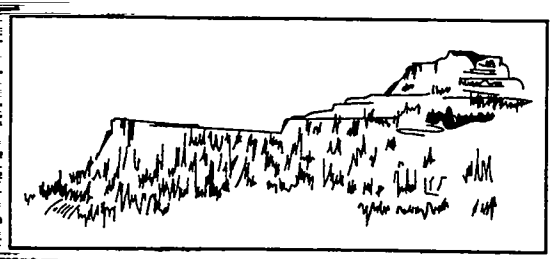
The Treaty on Open Skies

David B. Thomson



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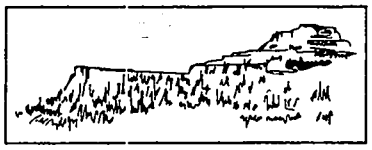
Acronyms

ACDA	Arms Control and Disarmament Agency
CFE	Conventional Forces in Europe
CSCE	Conference on Security and Cooperation in Europe
EIF	entry-into-force
FSU	Former Soviet Union
INF	Intermediate-Range Nuclear Forces
NATO	North Atlantic Treaty Organization
NPT	Nonproliferation Treaty
NTM	National Technical Means
OSCC	Open Skies Consultative Commission
OSI	on-site inspection
OSIA	On-Site Inspection Agency
SALT	Strategic Arms Limitation Talks
SAR	synthetic aperture radar
SFRC	Senate Foreign Relations Committee
SAFC	Senate Armed Forces Committee
SSCI	Sentate Select Committee on Intelligence
START	Strategic Arms Reduction Treaty

Contents



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The Treaty on Open Skies

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Background

The Treaty on Open Skies was signed by the United States and twenty-four other countries at Helsinki on March 24, 1992, and subsequently was submitted to the United States Senate for ratification.[1-3]

Open Skies was first proposed by President Dwight D. Eisenhower as a bilateral proposal to the Soviet Union at the Geneva Conference of 1955. When his initiative was first proposed, before Sputnik, reconnaissance satellites were not yet available. The purpose of Open Skies was to allow for wide-ranging aerial inspections between the superpowers. Such inspections, using optical cameras, were to warn against surprise attack, to reduce miscalculation, and to promote confidence between the parties. Soviet leader Nikita Khrushchev rejected the proposal, claiming that it was a way for the United States to spy on the Soviet Union. The proposal then lay dormant as an arms control measure for nearly thirty-four years. The United States did however initiate clandestine aerial flights with U-2 aircraft in the late 1950s to obtain information as to Soviet military intentions. With development of orbiting satellites for surveillance in the mid-1960s, the U.S. need for such reconnaissance by fixed-wing aircraft diminished. Satellites were more effective, became recognized and accepted agents for National Technical Means (NTM) in arms control treaties, and did not cause political repercussions. Since 1971, the KH-8, the KH-9 (Big Bird), and the newer K-11 surveillance satellites have been used by the United States to observe[4,5] military activities and deployments such as missile sites and bombers in the Soviet Union. They reportedly have collected data on both tactical military movements and strategic nuclear deployments. The latter data have been an essential component of our NTM verification of the Strategic Arms Limitions Talks (SALT) I and II agreements and to the Strategic Arms Reduction Treaties (START) I and II.

During the 1970s and 1980s, however, the United States continued to use fixed-wing aircraft[6] such as the Lockheed U-2R and SR-71 to conduct aerial surveillance over areas where they could be used safely. These aircraft can supplement satellite coverage, provide quick reaction coverage, and are much less expensive for short-term missions.[7]

Only the United States and Russia have had or utilized extensive capabilities to do high-quality photography with satellites.[8] Many

European nations are concerned about military facilities or activities of their neighbors, but do not by themselves have the resources to make detailed satellite observations. Some of these states are in regions where long-standing political and ethnic disputes, held back by the Cold War, could resurface. Because of these and related concerns, President George Bush proposed a multilateral, rather than bilateral, Open Skies initiative on May 12, 1989, in a speech at Texas A&M University.[9] It was felt the ability to monitor neighbors in potential trouble spots in Eastern Europe and the FSU could help ease tensions.

Negotiations

In 1989, Canadian Prime Minister Brian Mulroney and President Bush proposed that the new Open Skies negotiations be conducted between the states of NATO and the Warsaw Pact.[10] The first two rounds of Open Skies negotiations, held in early 1990 in Ottawa and Budapest, produced intensive dialogue but left several outstanding questions: who would pay overflight costs, what sensors would be permitted, whose planes would be used, and how would information be shared.[11] The talks then languished for months as the more pressing issues of German unification and the Conventional Forces in Europe (CFE) treaty dominated the European diplomatic scene.

By late 1990, German unification was resolved and the CFE treaty was signed. Also, aerial inspection was omitted from the CFE verification regime, and Open Skies was viewed as a possible adjunct to the CFE treaty. An important impetus to Open Skies stemmed from the late 1990 shipment, just prior to CFE treaty signature, of a large amount of military equipment in Russia to east of the Urals outside of the CFE verification regime. Europeans saw Open Skies as a potential means of keeping track of this equipment.

After consultations within NATO, the NATO position changed on several issues:

- from data sharing only among NATO members to allowing data sharing by all signatories
- from each country using its best sensors to allowing only sensors that could be made available equally to all parties on an unrestricted commercial basis
- from requiring use of the inspecting country's aircraft to allowing the country to be inspected to provide the aircraft.

At the same time, NATO insisted that the Soviet negotiators agree to

- accept sensors with enough resolution to be militarily useful
- open all airspace without restriction
- Soviet payment of costs if they chose to supply the aircraft used over Soviet territory.

In April 1991, a Canadian official took this new NATO position to Moscow. The rapidly changing political scene within the USSR delayed the Moscow reply until August (just before the coup attempt), at which time the Soviets agreed to an Open Skies session in Vienna. Post-coup instructions allowed formal resumption of negotiations in November, 1991, with a positive Soviet response to the NATO positions listed above.

The USSR formally dissolved in December 1991, and the Soviet chair was taken by the Russian Federation. Shortly thereafter, Belarus and Ukraine joined the Vienna talks. March 24, 1992, was set for likely treaty signing to coincide with the Conference on Security and Cooperation in Europe (CSCE) ministerial meeting in Helsinki.[12]

Following detailed negotiations[13] the treaty was signed on March 24, 1992, by the twenty-

five nations listed in Table 1. Two serious questions were left to be resolved: (1) degree of sensor capabilities and (2) costs associated with use of the observed party's aircraft if that party requires it for specific overflights.

The Russian military wanted to reduce both intrusiveness and costs by allowing only low-capability sensors, but other nations wanted to allow sensors of more capability. Also, NATO members did not want to pay for use of the observed country's aircraft. Russia demanded that some of these costs be offset. These two questions were addressed in follow-on negotiations.

At signing, the members of the former Soviet Union (FSU) who did not sign at that time were to be considered initial participants of the treaty if they so desired. Finally, additional states, regardless of geographic location, were open to join the treaty subject to agreement by current parties.

Provisions of the Open Skies Treaty

Contents, Preamble, and Purpose

The treaty consists of a preamble, nineteen treaty articles, and twelve annexes with three appendices, which are all integral parts of the treaty. Also, there are four legally binding decisions that were achieved at its first sessions in June 1992 by the Open Skies Consultative Commission (OSCC), which monitors operation of the treaty and resolves problems. These decisions have the same force and effect as the treaty.

The preamble notes that the primary objectives of the treaty include openness, transparency, and confidence building. It recognizes the potential of the treaty to cover areas beyond those of the original signatories. It notes the possibility of employing the Open Skies regime to facilitate the verification of other arms control agreements and to aid in crisis management. The preamble specifically sets forth that all territories of all the parties are to be open for aerial observation. The only limitation is to be for flight safety.

The treaty provides for the status and types of aircraft that may be used for overflights, the types and specifications of sensors used during overflights, specific maximum annual quotas of overflights that each party accepts over its territories, annual quotas of overflights that each party or group of observer parties may conduct over the territory of specified observed parties, and related details.

Overflights and Aircraft

Observation flights are conducted by aircraft of the observing party unless the observed party exercises its right to designate and provide such aircraft. The observing party may designate as an observation aircraft any of the types or models of aircraft registered by any party to the treaty. Any state party may designate an aircraft of another state party for use in carrying out an observation flight. Such designated aircraft must be certified by procedures specified in treaty Annex D (Certification). All treaty parties are notified of the time and place of, and may participate in, the certification of an aircraft. If the party to be observed exercises its option to designate the observation aircraft, similar certification rules apply. The treaty also provides that an observing party may act on behalf of a third member party.

The certification procedure is to be carried out for the purposes of (1) verifying the type and model of the designated aircraft and (2) confirming that the installed sensors meet the performance limitations of the treaty. The certification process includes both a ground examination and an in-flight examination, during which all the sensors are operated over a calibration target and it is verified that their

characteristics and limitations are as specified by the treaty. The parties conducting and taking part in the certification for an aircraft are to prepare a certification report verifying the above and to be made available to all parties to the treaty.

At least seventy-two hours in advance of its arrival at the point of entry, the observing party must notify the party to be observed, provide the estimated time of transit to the open skies airfield, provide the names and functions of the observation team members, and provide the mission plan and flight times of the observation flight between Open Skies airfields. Within twenty-four hours of this notice, the party to be observed must indicate whether it accepts the observer's aircraft or will provide its own aircraft. This provision of the observing aircraft by the observed party is called the taxi option.

Mission Plans

Upon arrival at the Open Skies airfield, the observing party must submit to the observed party a mission plan for the proposed observation flight. The plan may provide for a flight that allows for observation of any point on the entire territory of the observed party, including designated hazardous airspaces, and the flight may come as close as 10 km to the border of another country. The mission plan must specify the flight times, the airfield at flight termination, refuelling stops, and details necessary for filing a flight plan. Details required in the mission plan (given in Appendix A) are flight path and altitude limitations, timing, filing of flight plans, and changes. Deviations from flight plans and emergency situations are provided for in treaty Article VIII. The operation of sensors is prohibited during transit or other nonobservation flights.

Sensors

Capabilities

During an observation flight, the observing party may use any of the following categories of sensors:

- optical panoramic and framing cameras
- video cameras with real-time display
- infrared line-scanning devices
- sideways-looking synthetic aperture radar.

The sensor must be commercially available to all state parties, and each sensor is subject to performance limits listed in Appendix B.

The resolution allowed in the treaty is well below that available to United States reconnaissance satellites, but is commercially available and equally available to all treaty parties. The optical sensors (panoramic and video cameras) are allowed a resolution of 30 cm. This permits the observers to differentiate among large types of military equipment, such as between tanks and trucks. However, the ability to distinguish between different Russian tank types (which have a similar appearance) is much less likely. The infrared line-scanning sensors can be used day or night to detect heat sources. Their allowed resolution, 50 cm, is not as good as the optical sensors, but they might be used to target onsite inspections for the CFE, Chemical Weapons Convention, or START treaties. The synthetic aperture radars (SARs) provide all weather day/night coverage, but their poor allowed resolution (>3 m) only permits them to distinguish large objects such as railroad cars or mobile missiles. Again, they might be used to target other type inspections.

Introduction of additional types of sensors and improved capabilities may be discussed in the OSCC. Equipment capable of processing and displaying data collected from the

sensors in real time may be used on observation aircraft. Procedures for certifying the sensors are provided in the treaty and summarized in Appendix B.

Inspection

Prior to the conduct of an observation flight, preflight inspections of the sensors on the designated aircraft are conducted at the point of entry by (1) the observed party if the aircraft was designated by the observing party or by (2) the observing party if the aircraft was designated by the observed party. These inspections are to confirm that the sensors meet the requirements and limitations of the treaty. The inspections are specified in treaty Annex F, which also provides for demonstration flights to exhibit the sensors if requested by the observed/observing party.

Output

The methods by which data may be collected and processed during observation flights are specified in the treaty and summarized in Appendix B. Data must be stored on board the aircraft until the end of the flight, must not be transmitted during the flight, and must be processed (under observation by an inspector) and made available to all treaty parties.

Participants and Quotas

The twenty-five original treaty participants and subsequent signatories are listed in Table I. Each party agrees to a maximum annual number (passive quota) of observation flights over its territory by all parties. The agreed passive quotas for each party are also listed in the table. The number of observation flights per year (active quota) that any party may conduct over any other party are specified in treaty Annex A (first distribution) and are summarized in Table II. The active quotas may be reviewed annually by the OSCC.

Each party has the right to conduct as many flights over another party as that party may conduct over it. A state party, upon agreement with another state party, may transfer part or all of its active quota from that party to other parties, as prescribed by Article III.

Personnel, Notifications, and Reports

At the time that it deposits its instrument of ratification, each state party shall provide a list of designated personnel who will carry out all duties relating to the conduct of observation flights for that party, including monitoring of the processing of sensor output. Such lists shall not exceed 400 individuals for any party at any time. These lists may be amended.

Persons on the lists who are accepted are to be provided visas, immunities, and privileges as needed.

The state parties may transmit notifications and reports required by the treaty through diplomatic channels or through the CSCE network.

Open Skies Consultative Commission

To promote the objectives and facilitate implementation, the Open Skies treaty creates the OSCC, which consists of one representative from each state party along with alternates and advisors. The OSCC will meet within sixty days after treaty signature and regularly thereafter. Decisions or recommendations of the OSCC are to be made by consensus.

The OSCC will

- consider questions relating to compliance
- seek to resolve ambiguities or differences in interpretation
- make decisions on applications for accession of new members
- agree to technical and administrative measures deemed necessary following accession of new members.

The OSCC may propose changes to the active quotas in Table II, propose upgrades in categories or capabilities of sensors, propose revisions in sharing of costs, and make other decisions as provided by the treaty. The OSCC may propose amendments to the treaty for consideration by the members.

The OSCC may request use of the facilities and administrative support of the Conflict Prevention Center of the CSCE, or other existing facilities in Vienna, unless it decides otherwise. The conduct of the OSCC is provided for in Annex L of the treaty.

Duration, Review, Entry into Force, and New Members

The treaty is of unlimited duration. Any party may withdraw after giving six months notice. The depositories are to convene a conference of the parties within sixty days of receipt of a party's notice of withdrawal to consider the effect of the withdrawal.

Each party may submit proposed amendments to the treaty. If requested by at least three state parties, the two depository parties are to convene a conference of the parties to consider the proposed amendment or amendments. Any amendment shall be subject to approval by all state parties.

The treaty is subject to ratification by all parties. Instruments of accession shall be deposited with the two depositories, Canada and Hungary, and registered with the United Nations. The treaty shall enter into force (EIF) sixty days after deposit of ratification by twenty member parties including all those whose allocation of passive quotas in Annex A is eight or more (Table I).

Following six months after EIF, the OSCC may consider the accession to the treaty of any new state who is not an original signatory.

Early Actions of the OSCC

After treaty signature March 24, 1992, the OSCC convened in Vienna in April. Its initial provisional period has been twice extended, now to April 1994. Its provisional status will become permament with treaty EIF.

At its first meeting, the OSCC set up five informal working groups to study costs, sensors, formats and notifications, procedures, and treaty clarification. At its fourth session, the OSCC reduced the working groups to Sensors, Notifications and Data Base, Flight Rules/Procedures, and Rules of Procedure/ Working Methods. Since its initial meetings, the OSCC has adopted[14] twelve formal decisions concerning these topics. These are listed in Appendix C. These decisions will apply when the treaty enters into force.

Ratification

The treaty was submitted by President Bush to the U.S. Senate for ratification on August 12, 1992. The Senate Foreign Relations Committee (SFRC) held hearings on September 22, 1992, again on March 11, 1993, and completed its final action on May 20, 1993, supporting the ratification of the treaty subject to two conditions and one declaration. The final report[15] of the SFRC was printed on August 2, 1993. The full U.S. Senate ratified

the treaty on August 6, 1993,[16] adopting the recommendations of the SFRC. President Clinton signed the instruments of ratification on November 3, 1993.[17]

During the hearing process, major spokespersons for both the Bush and Clinton administrations supported the treaty. Among them were (listed with dates of their testimony)

Ambassador John Hawes, U.S. Representative, Open Skies Conference (1992 and 1993)
William Inglee, Deputy Asstistant Secretary, DoD (1992 and 1993)
Maj. Gen. Robert Parker, Director, OSIA (1992, written statement)
Michael Moodie, Assistant Director, Multilateral Affairs, ACDA (1992)
Brig. Gen. Teddy Rinebarger, Assistant Deputy Director for International Negotiations, JCS (1992 and 1993)
Robert Gallucci, Assistant Secretary of State (1993)
Thomas Graham, Acting Director, ACDA (1993).

In addition, then Secretary of State James Baker supported the treaty with his letter of submittal (August 12, 1992), and Secretary of State Warren Christopher supported the treaty in a letter to the SFRC on March 4, 1993.

Typical of the the testimony supporting the Open Skies treaty was the statement[18] of Robert Gallucci, who made the following points.

- The treaty offers each of the parties procedures for obtaining information concerning the military activities of such other parties which are of interest to them. Such information can help prevent misunderstandings that might lead to conflict.
- The entire territory of each party is open for observation. This includes east of the Urals, for example, a region not covered by the CFE treaty.
- Data collected on any observation flight will be available through purchase by any other treaty party. This greatly improves the data base available to the many states that do not have the high level of NTM (such as satellite data) developed by the United States and Russia.
- The process of dialogue between parties during implementation will contribute to longer term mutual confidence.
- Overflights can be used to investigate activities relevant to other arms control agreements. Open Skies data may lead to areas for focus of NTM and onsite inspection efforts.
- By accession of new states, the treaty may increase its coverage and effectiveness.

Gallucci noted that by looking at where participating states have negotiated their overflight quotas it is clear where there is interest in a neighboring state's activities. Ukraine, for instance, plans to overfly the Czech and Slovak Federal Republics, Hungary, Poland, Romania, and Turkey. Greece will overfly Romania and Bulgaria. Hungary plans to overfly Romania and Ukraine.

It was noted by several witnesses that the low-resolution sensors allowed by the treaty would not allow the United States to obtain significant new information because the United States has operated NTM for many years with greater capabilities. Ambassador Hawes noted in his testimony[19] of March 11, 1993 (SFRC), that it had been agreed early on that each of the parties should have available to them results from the same or equal sensor capabilities. The eastern Europeans did not wish to be limited by availability of Russian sensors and realized that some of the better resolution Western sensors would be limited by controls on technology transfer. The delegates of the former Soviet Union were reluc-

tant to provide higher quality imagery (greater openness) to all parties to the treaty even though they knew that the United States had greater capability through NTM. Hawes stated that "...this may have reflected not only tactical military concerns, but also political concerns about greater openness (on the part of the former Soviets)." Hawes noted that the finally agreed sensor capability (30-cm resolution) was sufficient to permit analysis to recognize armored vehicles and to distinguish a tank from a truck, but not sufficient to permit technical intelligence such as determination of models of tanks and other equipment.

During the course of the hearings, it was noted that violation of the Open Skies treaty could be considered cause for withholding Nunn-Lugar funds from a member of the former Soviet Union.

On May 19, 1993, the SFRC received the report[20] of the Senate Select Committee on Intelligence (SSCI), which endorsed the treaty. The SSCI recommended a condition of ratification that provides the U.S. Senate a thirty day advance notice with an analysis, prior to U.S. approval in the OSCC, of any new Open Skies sensor.

On June 30, 1993, the SFRC received the report[21] of the Senate Armed Services Committee (SASC) supporting the Open Skies treaty. The SASC recommended that the United States pursue approval, through the OSCC, of improved sensors for environmental monitoring.

The Foreign Relations Committee report stated[22] that cost benefit analysis provided by the DoD (at SFRC request) shows that two observation aircraft would permit the U.S. to conduct twenty-seven missions annually with a 91 percent probability that at least one aircraft would be available at any time (compared with forty-one missions per year with 100 percent availability if three such aircraft were provided). SFRC therefore recommended funding only two such aircraft and noted that in a crisis the United States could use aircraft of other parties. They further noted that in cases where the Russians insist on the taxi option (use of their own aircraft), no U.S. aircraft would be needed.

The Resolution of Ratification recommended[23] by the SFRC in its final report August 2, 1993, was subsequently adopted by the full Senate.

On August 6, 1993, the full Senate gave its advice and consent[24] to the Treaty on Open Skies, subject to the following conditions.

(1) Within the OSCC, the U. S. will approve additional categories of sensors or changes to the capabilities of sensors only after the president has provided the Senate at least thirty days advance notice of such proposed changes and has provided a cost benefit analysis of the change.
(2) Within sixty days following the first full year after treaty EIF, the president will provide the Senate an analysis of the number of U.S. overflights and use of observation aircraft. The report is to include problems and benefits of the overflights and an assessment of U.S. observation aircraft needs.

As of early 1994, the following nations had ratified the Open Skies treaty and deposited their instruments of ratification.[25]

Canada	Czech Republic
Denmark	France
Greece	Hungary
Norway	Slovakia
Spain	United Kingdom
United States	

Germany has ratified, but not yet deposited its instruments. Italy, Russia, Turkey, and Ukraine have not yet ratified; these five nations each have passive quotas exceeding eight, and each must ratify for treaty EIF.

Table III shows the more recent overall status of ratification.

Discussion

As discussed above, several witnesses noted during the SFRC Open Skies hearings that the treaty may not generally provide the United States with data on military activities of other nations (such as those of the FSU) that is not already available to it through NTM. This fact was emphasized by the SFRC Report.[26] The treaty does provide other member nations with a substantially improved capability to monitor military activities of their neighbors because many of the signatory nations do not have strong NTM or satellite observation capabilities. Thus, a principal advantage of the treaty given by its supporters at the hearings was that it would provide an additional mechanism of confidence among the member nations by helping provide openness and prevention of surprise in deployments by neighbors.

The Open Skies treaty is not tied to a specific arms reduction treaty such as the CFE treaty, the Intermediate-Range Nuclear Forces (INF) treaty, the Nonproliferation treaty (NPT), or START I. Rather, it represents creation of a particular multilateral regime for monitoring military deployments of the parties. As such, it can be used to supplement the existing verification regimes (onsite inspections, cooperative measures, etc.) established by the other treaties. Thus, it could serve to strengthen the overall verification effectiveness of the individual treaties.

Although the Open Skies treaty provides for the sharing of information gathered between the member states, the overall evaluation of compliance of any of the arms reduction treaties remains a responsibility of each of the participants of the other treaties. The United States, of course, relies heavily on its own NTM combined with information gathered from the inspection regimes provided by each of the individual treaties. At present, compliance by any other nation with a particular treaty is evaluated unilaterally by the United States within its own national security agencies. The same is generally true for Russia, the United Kingdom, and other participants. By providing for requests for specific timely overflights over specific territories, the Open Skies regime may enable the enhancement of the NTM verification of the member nations, including that of the United States. For example, the United States could add to its START verification of Russian mobile missile deployments by coordinating (time, route) specific overflights with NTM and onsite inspections.

The multilateral nature and data sharing of the Open Skies treaty makes possible collaboration of groups of member nations. Several members, working in concert, may combine their quotas over a strategic territory to enhance the number of observation flights in a time-dependent manner used to monitor a particular concern or threat. For example, in the treaty as signed, most nations used only one of their active quota assignments for overflight of Ukraine. However, the United States, Germany, the United Kingdom, Hungary, Italy, and Turkey, by coordinating their overflights and sharing their data, could achieve six flights over Ukraine during a period of concern. Or for their part, Ukraine, by requesting information from the overflights over Russia listed in the present active quotas of the United States, Germany, and nine other nations, could have access to data from up to twenty-eight overflights over Russia per year. These collaborations could be set up in a cooperative way early on, prior to any political crisis, and need not be made to appear as some sort of "ganging up" because collaborative overflights over other member nations (for which there may have been no concern) could have been provided for at the same time. It is interesting to note that while the United States has agreed to a passive quota of forty-two overflights of its territory,

active quotas of only four flights over the United States were requested by the parties to the treaty in the first distribution.

The Open Skies treaty, particularly through use of the OSCC, provides mechanisms for modifying the active quota distribution and/or for upgrading its sensor and verification capabilities. Such OSCC decisions must be by consensus (no objection by a party). During periods of cooperation and good feeling, it may be possible to substantially strengthen the verification regime (such as by improving the allowed sensor resolution). Such OSCC consensus decisions do not require treaty amendment procedures.

Finally, through the accession of new members, the treaty may be expanded to include additional areas of possible future concern and also bring more nations into a new regime of openness and possible cooperation.

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Table I. Open Skies Treaty Members and Passive Quotas.

Member[a]	Passive Quota
Germany	12
United States	42
Russia & Belarus[b]	42
Benelux (Belgium, Netherlands, Luxemburg)	6
Bulgaria	4
Canada	12
Denmark	6
Spain	4
France	12
United Kingdom	12
Greece (Helenic Republic)	4
Hungary	4
Iceland	4
Italy	12
Norway	7
Poland	6
Portugal	2
Romania	6
Czech & Slovak Republics	4
Turkey	12
Ukraine	12
Georgia (signed March 24, 1992)	
Kyrgyzstan (formerly in USSR; signed February 16, 1993)	
Czech & Slovak Republics (each signed after separating January 1, 1993)	

[a]Other states may become members to the treaty after the initial signature, subject to agreement by current states parties. Their passive quotas will be considered by the OSCC.
[b]Other states of the former Soviet Union are considered to be initial participants, should they desire.

Table II. Open Skies Treaty Active Quotas.

Member	Active Quota[a,b]		
Germany	Russia & Belarus (3)	Ukraine (1)	
United States	Russia & Belarus (8)	Ukraine (1, with Canada)	
Russia & Belarus	United States (4)	Benelux (2)	Canada (2)
	Denmark (2)	France (3)	Germany(3)
	Greece (1)	Italy (2)	Norway (2)
	Turkey (2)	U. K. (3)	
Benelux (Belgium, Netherlands. Luxemburg)	Russia & Belarus (1)	Poland (1)	
Bulgaria	Greece (1)	Italy (1)	Turkey(1)
Canada	Russia & Belarus (2)	Poland (1)	Ukraine(1, with U.S.)
	Czech/Slovak (1)		
Denmark	Russia & Belarus (1)	Poland (1)	
Spain	Czech/Slovak (1)		
France	Russia & Belarus (3)	Romania (1)	
United Kingdom	Russia & Belarus (3)	Ukraine (1)	
Greece (Helenic Republic)	Bulgaria (1)	Romania (1)	
Hungary	Romania (1)	Ukraine (1)	
Iceland			
Italy	Russia & Belarus (2)	Hungary (1)	
	Ukraine (1, with Turkey)		
Norway	Russia & Belarus (2)	Poland (1)	
Poland	Germany (1)	Ukraine (1)	
	Russia & Belarus (1)		
Portugal			
Romania	Bulgaria (1)	Greece (1)	
	Hungary (1)	Ukraine (1)	
Czech & Slovak Republic(s)	Germany (1)	Ukraine(1)	
Turkey	Russia & Belarus (2)	Bulgaria (1)	
	Ukraine (2, 1 w Italy)		
Ukraine	Czech/Slovak (1)	Hungary(1)	Poland (1)
	Romania (1)	Turkey (2)	

[a]Annual number of observation flights over that nation assigned to the listed member. This is the first distribution (Article XVIII and Annex A). After full treaty implementation, requests for additional flights may be made. No nation must accept more than their passive quota. Requests by new members will be considered by OSCC. Cases where an overflight conducted by a member is shared with another member are indicated in the parenthesis ( ).

[b]In the first distribution, no state is required to accept more overflights than 75% of its passive quota. After December 31 following the year of entry-into-force, each party shall accept subsequent active quota distributions up to its full passive quota.

Table III. Status of Ratification of the Open Skies Treaty.[a]

Party	Has Ratified the treaty	Has Deposited Instrument of Ratification
Belarus		
Belgium		
Bulgaria	y	y
Canada	y	y
Czech Republic	y	y
Denmark	y	y
France	y	y
Georgia	y	
Germany	y	
Greece	y	y
Hungary	y	y
Iceland		
Italy		
Kyrgyzstan	y	
Luxembourg		
Netherlands	y	
Norway	y	y
Poland		
Portugal		
Romania	y	y
Russian Federation		
Slovak Republic	y	y
Spain	y	y
Turkey		
Ukraine		
United Kingdom	y	y
United States	y	y

[a]Information supplied by the United States Arms Control and Disarmament Agency (ACDA), May 20, 1994, and July 11, 1994.

Appendix A

Mission Plans

Upon arrival at the Open Skies airfield, the observing party must submit to the observed party a mission plan for the proposed observation flight. The mission plan may provide for an observation flight that allows for observation of any point on the entire territory of the observed party, including designated hazardous airspaces. The flight path may be as close as 10 km to the border of another country.

The mission plan will provide or specify

- the open skies airfield at flight termination
- the flight commencement time
- the desired time and place of plannned refuelling and rest stops
- a total in-flight time not to exceed ninety-six hours
- all information necessary to file flight plan (specified by Article VI, Section II)
- a flight that does not exceed the maximum distance specified in Annex A, Section III
- a height above ground that does not permit the observing party to exceed the sensor resolution limitations of Article IV, Paragraph 2
- a commencement time >24 hours after submission of the mission plan
- a flight plan that follows a direct route between specified navigation fixes in the mission plan
- a flight path that does not intersect the same point more than once unless otherwise agreed (except at take off and landing).

The observed party shall agree, or propose changes, to the mission plan within four hours after its submission. If any proposed changes have not been agreed on within eight hours after its initial submission, the observing party may decline the observation and not count it against its quota. Procedures for this determination are given in Article VIII of the treaty.

When the mission plan has been agreed upon by the two parties, the party providing the observation aircraft shall immediately file the flight plan. The flight plan shall include the content specified in Annex 2 to the Convention on International Civil Aviation and be in the agreed format.

If the observation aircraft is provided by the observing party, the observed party may have on board two flight monitors, one interpreter, and one monitor for each sensor control station. If the aircraft weighs less than 35,000 kg for a flight of less than 1500 km, only two monitors and one interpreter are required for the observed party.

If the observation aircraft is provided by the observed party, the observing party may have on board two flight representatives, one interpreter, and one flight representative for each sensor control station.

If the observing party provides an aircraft designated by a third member party, the observing party may have on board two flight representatives, one interpreter, and one representative for each sensor control station.

Deviations from flight plans and emergency situations are provided for in Article VIII of the treaty. The operation of sensors is prohibited during transit flights or other nonobservation flights.

The observing state has just ninety-six hours from the notified estimated time of arrival to complete its observation mission. An observation team is permitted twenty-four hours from the end of the mission to depart the observed country.

Appendix B

Sensors

Capabilities

During any observation flight, the observing party may use any of the following categories of sensors.

- optical panoramic and framing cameras
- video cameras with real-time display
- infrared line-scanning devices
- sideways-looking synthetic aperture radar.

Use of these sensors is subject to: (a) any such sensor must be commercially available to all state parties and (b) each sensor is subject to the following performance limits.

- panoramic and framing cameras may have a ground resolution >30 cm at the minimum height above ground. Only one panoramic camera, one vertically mounted framing camera, and two obliquely mounted framing cameras may be used to provide coverage of up to 50 km on each side of the aircraft and flight path.
- video cameras may have a ground resolution of >30 cm.
- infrared line scanning devices may have a ground resolution of >50 cm at minimum altitude.
- sideways-looking synthetic aperture radar may have a ground resolution >3 m calculated by the impulse response method.

Introduction of additional types of sensors, and improved capabilities, may be discussed in the OSCC.

Equipment capable of processing and displaying data collected from the sensors in real time may be used on observation aircraft.

If the observation aircraft is furnished by the observed party, it must be equipped with sensors at the maximum capability that meets the above requirements, except that the sideways-looking radar may have a resolution no worse than 6 m (determined by object separation method).

Certification

Each state party has the right to take part in the certification of sensors for any observation aircraft. Certification is conducted as provided in Treaty Annex D. A state party, after having

designated* an observation aircraft, may with ninety days notice, replace (or upgrade) sensors with appropriate recertification.

If experience with a particular previously designated and certified observation aircraft warrants, any party, or group of parties, may notify all parties of their concern and the designating party must take steps to correct the problem and provide a demonstration flight to confirm the correction if necessary. If the concern still exists, the matter may be referred to the OSCC.

Output

During observation flights, data is to be collected by the following means.

- black and white photographic film for panoramic and framing cameras
- magnetic tape for video cameras
- black and white photographic film or magnetic tape for infrared scanning devices
- magnetic tape for sideways-looking radar.

The format in which such data are to be recorded and exchanged shall be decided and agreed in the OSCC during the provisional period of the treaty prior to EIF.

Data collected during an observation flight shall remain on board until completion of the flight, and is not to be transmitted during the flight. Data on film and tape reels shall be sealed in the presence of the parties representatives when removed from the sensors. All such data shall be made available to the interested parties after the flight. All film must be developed within three days of the arrival of the observation aircraft at the exit point, or within ten days of departure from the territory of the observed party, as previously agreed. Appropriate state party officials are to observe the unsealing and processing of film data and assess the film quality.

The observed and observing parties are each to receive an original or first generation duplicate of each film, tape, or other recording media.

Each state party may request and receive copies of the data collected from any observation flight.

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*The U.S. has designated the OC-135B (modified turbojet Boeing KC-135B) as its operation Open-Skies platform. It is equipped with one panoramic and three framing cameras and will be used during the phased implementation period (1993-96). Navagational aids will include a Global Positioning System, Inertial Navigation system, etc. Current planning calls for two more aircraft with video cameras, one infrared line scanner, and synthetic aperture radar added.

Appendix C

Provisional Actions of the OSCC[a]

The OSCC convened in Vienna in April 1992, within the required sixty days after treaty signing.

At the June 29, 1992, meeting, and during the several subsequent sessions, twelve formal decisions were agreed to by consensus. These are:

Decision I: Deals with distribution of costs in operating aircraft (June 29, 1992).

Decision II: Gives observed party the right to use volt-ohmeter during preflight inspections of aircraft (June 29, 1992).

Decision III: Provides for methods for use of optical cameras (June 29, 1992).

Decision IV: Specifies minimum altitudes and fields of view to ensure that optical cameras produce treaty required resolution with adequate area coverage (June 29, 1992).

Decision V: Gives the observing party the right to determine whether it, or the taxi party, shall process the film used during an observation flight (June 29, 1992).

Decision VI: Deals with OSCC procedures such as chairmanship, meetings, work program, agenda, secretariat, and rules for observer states (July 16, 1993).

Decision VII: Determines the methodology for measuring the resolution of Synthetic Aperture Radar (December 10, 1992).

Decision VIII: Provides for codes, alternative to alphanumeric, for annotation of data resulting from observation codes (July 16, 1993).

Decision IX: Specifies the timing for data annotation for all four sensor categories: optical, video camera, infrared, and synthetic aperture radar (July 16, 1993).

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[a]"Open Skies Consultive Commission," ACDA Fact Sheet, February 23, 1994, pp. 1-5. Off. Public Info., U.S. Arms Control and Disarmament Agency, Washington, D.C.

Decision X: Adopted distribution of expenses for operation of OSCC. These are: France, Italy, Germany, United States, United Kingdom, all 10.82%; Russia, 9.05%; Canada, 6.55%; Spain, 5.10%; all others range from 4.27 to .21%. (July 16, 1993).

Decision XI: Amends Decision I. Specifies modalities for payment of financial contributions and for administrative organization of OSCC (July 16, 1993).

Decision XII: Requires all states to provide calibration target diagrams and other information in the form of annotated diagrams (December 12, 1993).

These decisions will enter into force simultaneously with the treaty and have the same duration as the treaty. Additional OSCC decisions required by the treaty during the provisional period include notification formats prior to conduct of observation flights, methodologies for video and infrared sensors, data recording and exchange formats, and other decisions as needed.

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