

CORD

Intelligence and Security Implications of the Treaty on Open Skies

Item Type	Senate Committee Approved Report
Download date	2026-03-15 03:14:34
Link to Item	https://hdl.handle.net/20.500.14300/2923

103D CONGRESS }
1st Session

SENATE

{ REPORT
103-44

INTELLIGENCE AND SECURITY IMPLICATIONS
OF THE TREATY ON OPEN SKIES

REPORT

OF THE

SELECT COMMITTEE ON INTELLIGENCE
UNITED STATES SENATE



MAY 19 (legislative day, APRIL 19), 1993.—Ordered to be printed

U.S. GOVERNMENT PRINTING OFFICE

69-010

WASHINGTON : 1993

SENATE SELECT COMMITTEE ON INTELLIGENCE

[Established by S. Res. 400, 94th Cong., 2d Sess.]

DENNIS DeCONCINI, Arizona, *Chairman*

JOHN W. WARNER, Virginia, *Vice Chairman*

HOWARD M. METZENBAUM, Ohio

JOHN GLENN, Ohio

J. ROBERT KERREY, Nebraska

RICHARD H. BRYAN, Nevada

BOB GRAHAM, Florida

JOHN F. KERRY, Massachusetts

MAX BAUCUS, Montana

J. BENNETT JOHNSTON, Louisiana

ALFONSE M. D'AMATO, New York

JOHN C. DANFORTH, Missouri

SLADE GORTON, Washington

JOHN H. CHAFEE, Rhode Island

TED STEVENS, Alaska

RICHARD G. LUGAR, Indiana

MALCOLM WALLOP, Wyoming

GEORGE J. MITCHELL, Maine, *Ex Officio*

ROBERT DOLE, Kansas, *Ex Officio*

NORMAN K. BRADLEY, *Staff Director*

DAVID S. ADDINGTON, *Minority Staff Director*

L. BRITT SNIDER, *General Counsel*

KATHLEEN P. MCGHEE, *Clerk*

INTELLIGENCE AND SECURITY IMPLICATIONS OF THE TREATY ON OPEN SKIES

MAY 19 (legislative day, APRIL 19), 1993.—Ordered to be printed

Mr. DECONCINI from the Select Committee on Intelligence,
submitted the following

REPORT

I. THE OPEN SKIES TREATY AND THE ROLE OF THE SENATE INTELLIGENCE COMMITTEE

The Open Skies Treaty was signed in Helsinki, Finland, on March 24, 1992, and was submitted to the Senate on August 12, 1992, for its advice and consent to ratification. The Senate Foreign Relations Committee has formal responsibility for reviewing all treaties before they are acted upon by the full Senate. The Senate Select Committee on Intelligence has prepared this Report to support the advice and consent process by providing both the Foreign Relations Committee and the Senate as a whole with its assessment of the intelligence and security issues raised by this Treaty.

The Intelligence Committee, which had been following the Open Skies talks closely since their inception in 1989, held a series of three briefings for staff in late 1992. On March 4, 1993, the Committee held a closed hearing on the Treaty at which it took testimony from Ambassador John H. Hawes, chief U.S. negotiator; Mr. Craig Chellis, Acting Chief of the DCI's Arms Control Intelligence Staff; Mr. Leo Hazlewood, Director of the National Photographic Interpretation Center; Major General Robert W. Parker, USAF, Director, DoD On-Site Inspection Agency; Mr. Ray W. Pollari, Acting Deputy Assistant Secretary of Defense/Counterintelligence and Security Countermeasures; and Brigadier General Teddy E. Rinebarger, USAF, Assistant Deputy Director for International Negotiations, Strategic Plans and Policy, the Joint Staff.

The Intelligence Committee sought and obtained from the intelligence community an inter-agency assessment of the likely information gains and losses resulting from the Treaty. The Committee also obtained an inter-agency assessment of the Treaty's counterintelligence and security countermeasures implications. Finally, the

Committee submitted and received answers to a series of questions for the record.

The Open Skies Treaty is not an arms control treaty in the traditional sense. It does not require the destruction or limit the capabilities of any weapons or other military equipment. It does not require, therefore, the same sort of monitoring through National Technical Means to determine other countries' compliance that one finds, for example, in the START Treaty.

The observation flights that would be conducted pursuant to the Open Skies Treaty are very similar, however, to cooperative measures for verification that have grown out of arms control treaties. Thus, the flights would be implemented by many of the same U.S. Government agencies that implement arms control verification; the information collected by these flights would have to be analyzed by the U.S. intelligence community; and the issues of counterintelligence and security protection for U.S. personnel and for sensitive or proprietary information are similar to those faced in various on-site inspections for arms control purposes.

It is these issues of implementation costs and benefits and of security concerns and costs that warranted the Intelligence Committee's attention and are the focus of this report. After a short summary of relevant Treaty provisions, the report is organized around the following questions:

Does the Treaty contain ambiguities or present monitoring difficulties that are likely to lead to compliance questions?

What information gains will the United States obtain from this Treaty?

What sensitive or proprietary information might the United States lose as a result of other countries' observation of U.S. territory or overseas bases?

How effectively will U.S. security precautions limit the potential loss of such sensitive or proprietary information?

What costs will be incurred in order to implement the Treaty, analyze the information that is obtained, and protect U.S. security?

The Select Committee on Intelligence approved this report and a longer, classified version by a vote of sixteen in favor, one opposed.

II. BACKGROUND AND PROVISIONS OF THE OPEN SKIES TREATY

A. BACKGROUND AND MEMBERSHIP

In May 1989, the United States proposed negotiations for an Open Skies agreement, modeled on the original Open Skies proposal made by President Eisenhower in 1955. Formal treaty negotiations commenced in early 1990 but failed to reach a conclusion. Talks resumed in September 1991. At the November negotiating session, the Soviet Union abandoned its previous opposition to the principle that all of a nation's territory would be open to observation.

By the time the Open Skies Treaty was signed on March 24, 1992, the Soviet Union had been dissolved. The signatories were the United States, Canada, four former Soviet republics—Russia, Belarus, Ukraine and Georgia—and 19 other European countries: Belgium, Bulgaria, Czechoslovakia, Denmark, France, Germany,

the United Kingdom, Greece, Hungary, Iceland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Spain and Turkey. By its terms, the Treaty is also open for signature by the remaining former Soviet republics. To date, Kirghizstan is the only additional signatory.

In the six months after entry into force, any other country that participates in the Conference on Security and Cooperation in Europe (CSCE) may apply to join the Treaty, and may join if no existing Party objects. (Sweden and Finland played active roles in the Open Skies negotiations and are likely to join the Treaty.) At the end of the six month period, all countries, including countries outside of Europe, are eligible to apply to join the Treaty, again subject to the absence of an objection by any of the existing Parties.

B. OBSERVATION FLIGHT QUOTAS

Article III and Annex A of the Treaty set for each State Party a "passive quota" of observation flights that it must be prepared to accept from other Parties. This quota is based roughly on country size; Russia/Belarus (which is combined into one "group" for Treaty purposes; see below) and the United States would each accept up to 42 flights per year, the largest quotas under the Treaty. A Party's "active quota" of permitted overflights of other Parties may not exceed its passive quota. The allocation of flights over a given Party's territory would be determined annually through negotiations based on the desires of the other Parties. NATO members apparently have agreed informally not to overfly each other under the Treaty.

The Treaty sets reduced quotas and specifically allocates overflights for the period from the date of entry into force until December 31 of the following year. (The Treaty would enter into force 60 days after the deposit of instruments of ratification by the United States, Russia, Belarus, Ukraine, Hungary, Canada, France, Germany, Italy, Turkey, the United Kingdom, and at least nine other countries.) In this initial one-to-two-year period, each Party is allocated a passive quota of 75 percent of the annual passive quota designated in the Treaty.

The demand for overflights over NATO countries was such that the actual flights allocated are well below the 75-percent ceilings (except for Greece). For example, the only overflights of the United States assigned are four by Russia/Belarus. The Treaty assigns 28 overflights of Russia/Belarus for this initial period, divided among various Parties, including eight by the United States. The United States is also assigned one joint flight (with Canada) over Ukraine. The attached matrix shows all of the initial overflight allocations specified in Section II of Annex A to the Treaty.

The 75-percent rule would remain in effect on an annual basis until December 31 of the third year following the year during which the Treaty enters into force. After the three-to-four-year period, the full quotas would take effect.

The division of overflights would be subject to annual review. In the event that the Parties could not agree on the division of active quotas with respect to an observed country within three weeks, the previous year's distribution of active quotas with respect to that observed Party would be retained.

First-Year Observation Flights

		Country Being Observed																									
		United States	Canada	United Kingdom	Iceland	Portugal	Spain	Benelux	France	Germany	Denmark	Norway	Italy	Greece	Turkey	Romania	Bulgaria	Hungary	Czech and Slovak	Poland	Ukraine	Russia/Belarus	Georgia	Kirghizstan	ACTIVE QUOTA	PASSIVE QUOTA	
O b s e r v e r C o u n t r y	United States	X																			0.5	8			8.5	31	
	Canada	X	X																	1	1	0.5	2			4.5	9
	United Kingdom		X	X																		1	3			4	9
	Iceland			X																						0	3
	Portugal				X																					0	1
	Spain					X															1		1			2	3
	Benelux						X															1		3		4	4
	France							X								1							3			4	9
	Germany								X													1	1			2	9
	Denmark									X											1		2			3	4
	Norway										X											1	2			3	5
	Italy											X					1					0.5				1.5	9
	Greece												X			1	1						2			4	3
	Turkey													X								1.5				1.5	9
	Romania														1	X	1	1				1				4	4
	Bulgaria												1	1	1		X									3	3
	Hungary															1	X						1			2	3
	Czech and Slovak									1									X			1				2	3
	Poland									1												X	1	1		3	5
	Ukraine														1	1		1	1	1	1	X				5	9
Russia/Belarus	4	2	3				2	3	3	2	2	2	1	2									X		26	31	
Georgia																							X		0	*	
Kirghizstan																								X	0	*	
TOTAL FLIGHTS	4	2	3	0	0	0	2	3	5	2	2	3	3	4	4	3	3	3	5	9	28	0	0	88			
PASSIVE QUOTA	31	9	9	3	1	3	4	9	9	4	5	9	3	9	4	3	3	3	5	9	31	*	*		165		

To find a country's observation flights over other countries, read across. To find the flights over that country's territory, read down. The shaded area highlights the fact that no NATO member has asked to overfly the territory of any other NATO member.

* Since Georgia and Kirghizstan did not participate in negotiating the Open Skies Treaty, they are not reflected in the initial observation quotas.

A Party would be permitted to transfer all or part of its active quota to other Parties. The observed Party for a particular overflight would have to consent to the transfer, however, and no Party would be permitted to conduct more observation flights over the territory of another Party than a number equal to the lesser of 50 percent of its total active quota or 50 percent of the other Party's total passive quota.

Article III, Section II of the Treaty allows for two types of "groups" that two or more Parties could form, within which active quotas could be redistributed. Redistribution within such groups would not be subject to the approval of the observed Party, but the 50-percent rule described above would apply. Under paragraph 2, a group may be formed that would redistribute only active quotas; this possibility has been discussed by members of the Western European Union (WEU). Under paragraph 3, two or more Parties may aggregate both active and passive quotas; Russia and Belarus have formed such a group for purposes of the initial designation of quotas. Article XIV of the Treaty makes Belgium, the Netherlands and Luxembourg a single State Party (Benelux) for all purposes other than their participation in the Open Skies Consultative Commission.

Section III of Annex L permits the Open Skies Consultative Commission to "consider requests" for "extraordinary observation flights over the territory of a State Party with its consent" from the CSCE or "other relevant international organizations." Extraordinary flights "shall not be counted against the active or passive quotas of the States Parties involved." The clear intent of this provision is to permit flights on short notice (rather than through the usual quota allocation process) to assure one Party that a neighboring state was not massing forces for an attack. Parties have also discussed, however, the possible use of this provision for monitoring the effects of a major disaster such as an earthquake or a Chernobyl-like nuclear incident.

C. PROVISIONS GOVERNING THE OVERFLIGHTS

An observed Party would be required to accept aerial observation of any portion of its territory, subject only to restrictions based on legitimate flight safety concerns. Deviations by the observing Party from flight plans are permitted only in the event of weather difficulties affecting flight safety; aircraft problems; medical emergency; or air traffic control instructions related to acts of nature.

An observing Party would be required to provide notice 72 hours prior to the estimated arrival time in the observed country, at which time it would provide a mission plan containing "all information necessary to file the flight plan" and wait an additional 24 hours before beginning the overflight, which would have to be completed within 96 hours of the arrival time unless delays for a demonstration flight made an extension necessary. The Treaty designates entry/exit airports within each signatory country.

Pursuant to Article IV and Annex D of the Treaty, aircraft may be equipped with optical, video, infrared line-scanning and synthetic aperture radar sensors. The Treaty allows for the possibility that additional types of sensors, such as environmental sensors, could be added sometime in the future by unanimous agreement of

the Parties, without the need for formal amendment of the Treaty. Indeed, the environmental sensor option is explicitly recognized in the preamble to the Treaty. Article IV requires that all sensors used on Open Skies flights be commercially available to all Treaty Parties.

Open Skies flights would be carried out by unarmed, fixed-wing aircraft. The observing Party could use its own or a third Party's aircraft unless the observed Party exercised its right under the Treaty to use the so-called "taxi option," i.e., to require the observing Party to use an aircraft provided by the observed Party. Aircraft provided by the observed Party must meet Treaty standards for range and ability to carry observers and must have sensors that meet maximum Treaty-permitted capabilities. During the first three-to-four years, however, such aircraft need have only a single panoramic camera or two framing cameras and need not have a long range.

Aircraft used for Open Skies flights would be subject to inspection to ensure that sensors on board were not more capable, or of a different type, than those permitted by the Treaty. In the event the aircraft was provided by the observing Party, the observed Party would be entitled to a demonstration flight of up to two hours, prior to the actual flight, to observe the functioning of the sensors. In the event the aircraft was provided by the observed Party, the observing Party would be entitled to such a demonstration flight. The observed Party would also have the right to have representatives on board during the actual overflight to monitor treaty compliance and ensure flight safety.

Pursuant to paragraph 4 of Article IX, Section I of the Treaty, data collected through Open Skies would be available to the observed Party and, for a fee, to all other treaty Parties. Principles for determining this fee have not yet been adopted. Data "shall be used exclusively for the attainment of the purposes of this Treaty," a provision which was adopted in part to bar their transfer to terrorist organizations.

D. THE OPEN SKIES CONSULTATIVE COMMISSION

Article X of the Treaty, which is of unlimited duration, establishes an Open Skies Consultative Commission to resolve issues of Treaty interpretation or compliance. The Commission would make decisions or recommendations—including decisions to admit new Parties to the Treaty or to permit new or improved sensors—only by "consensus," i.e., "the absence of any objection by any State Party."

E. WILL TREATY AMBIGUITIES LEAD TO COMPLIANCE QUESTIONS?

Because the Open Skies Treaty is not a traditional arms control agreement with arms destruction requirements or limitations on weapons capabilities, there are few specific injunctions to obey and, therefore, few areas in which compliance questions could arise. The Executive branch response to a Committee question for the record on this matter was: "Careful analysis has revealed no ambiguities in the Treaty that could result in significant implementation problems."

Some difficulties could arise, however, in such areas as the conduct of overflights. One possibly troublesome provision is the requirement in subparagraph 4(G) of Article VI, Section II of the Treaty that flight paths neither "circle around a single point" nor "intersect at the same point more than once." A determined country could argue that this provision imposed no limitation on an elliptical (as opposed to circular) path around two foci that were extremely close to each other, or on a path that intersected at two barely separated points. There is no indication in the Treaty of how to interpret this provision in a practical sense, so disputes could well arise if one Party uses this provision as the basis for objecting to a proposed flight path.

While not specifying how to interpret the above provision, the Treaty does provide a process for handling disputes on this matter: the observed Party can propose changes to a flight path. The observing Party can then either agree on alternatives or cancel the flight and try again later.

One area in which a decision mechanism is not specified is what to do if representatives of the observed Party believe that the observing Party has used a sensor improperly. The observed Party controls both the air space and the ground, so it can always bring force to bear. But no means short of that is set forth for preventing the observing Party from leaving the country with improperly-gathered data. So any dispute in this area could well escalate to this level and become at least a minor diplomatic incident.

III. WHAT INFORMATION IS THE UNITED STATES LIKELY TO GAIN OR LOSE AS A RESULT OF THE OPEN SKIES TREATY?

A. OVERVIEW

In his letter of August 12, 1992, submitting the Open Skies Treaty to the United States Senate, President George Bush stated that the Treaty's objective was "to enhance mutual understanding and confidence by giving all participants, regardless of size, a direct role in observing military or other activities of concern to them."

For the United States, this statement of objectives raises two fundamental questions. The first is what understanding and confidence the United States will gain in terms of information on military forces and activities that it does not already obtain through satellites or other overhead means. (A related question, discussed both here and in later sections of this report, is whether the additional expense of operating Treaty collection sensors and of exploiting and disseminating the information obtained will be a cost-effective use of the resources of the U.S. intelligence community.) The second basic question is what information about the United States will be made available through Open Skies, to whom, and with what impact on the national security.

The chief U.S. representative to the Open Skies Negotiations testified to the Committee that the United States does not expect to be the primary direct beneficiary, in terms of information gains, of the openness that the Treaty will provide. Rather, he stated, the greatest information gains resulting from the Treaty will go to the great majority of participants who do not operate National Technical Means. For those States, the Open Skies Treaty represents an

important new capability. The U.S. Government believes that enabling the Parties to the Treaty directly and independently to collect reliable information on each other's military forces and activities will make a significant contribution to the security and confidence of all participants.

B. PERMITTED SENSORS AND ACCESS TO DATA UNDER THE TREATY

Paragraph 1 of Article IV of the Treaty specifies the permitted sensors as follows:

Except as otherwise provided for in paragraph 3 of this Article, observation aircraft shall be equipped with sensors only from amongst the following categories:

- (A) optical panoramic and framing cameras;
- (B) video cameras with real-time display;
- (C) infrared line-scanning devices; and
- (D) sideways-looking synthetic aperture radar.

The original (December, 1989) U.S. and NATO position in the talks was to permit any and all imaging sensors, with each alliance determining among themselves how information acquired through Open Skies was to be shared. According to the chief U.S. negotiator, this provision was based on U.S. concerns that data collected by the United States or its allies under Open Skies should not be shared with the Warsaw Pact countries, since it might enable them to better assess their vulnerability to observation and thereby to improve their cover, concealment and deception techniques.

The chief U.S. negotiator testified that when the negotiations commenced in February 1990, it quickly became evident that this position would not be accepted. While all participants agreed on the need to ban signals intelligence, and all agreed that optical cameras should be included, there was no agreement between the former Soviet Union and most of the other participants on other potential categories of sensors.

Early in the negotiations, the East European states obtained agreement from the United States and its NATO allies that all participants would have access to sensor capabilities equal to those employed by any other participant. The East European governments no longer could depend on the Soviet Union for sensor support, nor did they wish to. At the same time, the most advanced Western sensors remained subject to technology transfer controls. One result of this agreement was thus to impose a ceiling on the sensors that the United States and its NATO allies would be prepared to employ under the Treaty.

Under Article IX, Section IV of the Treaty, all participant states may purchase the raw data produced by any participating state's flight over any other. U.S. officials indicate that this wide access to raw data will greatly multiply the value of the regime to individual participating countries, enabling them to compile data well beyond what they could acquire with their own observation flights. The dissolution of the Warsaw Pact, which left its Central and East European members with radically reoriented security concerns and without a formal security structure within which data might be shared, prompted strong arguments for broader sharing of Open Skies data, especially regarding Russia. In addition, the decision (discussed above) to precisely define the categories and capabilities

of permitted Open Skies sensors made it possible for countries to calculate their vulnerability to observation, regardless of data sharing; this negated NATO's earlier argument for withholding data from other Parties.

In the spring of 1991, the United States and its NATO allies proposed that Open Skies sensors include optical and electro-optical cameras, synthetic aperture radar, infrared line-scanning systems, air sampling systems, and multispectral systems (although NATO agreed that the last two systems would have a lower priority). Agreement was reached in the Treaty on the inclusion of panoramic and framing optical cameras, video cameras, synthetic aperture radar, and infrared line-scanning systems. Air sampling systems and multispectral systems were not accepted, but would be logical candidates in an environmental sensing package. Pursuant to paragraph 3 of Article IV, additional sensor systems can be agreed by consensus of the Open Skies Consultative Commission.

C. SENSOR CAPABILITIES AND LIMITATIONS

Optical panoramic and framing cameras

In determining sensor specifications, the United States and its allies worked from the postulate that Open Skies optical imagery should permit analysts to recognize armored vehicles, i.e., to distinguish a tank from a truck, an objective which was eventually accepted by all participants. This recognition could be achieved with a ground resolution of 30 centimeters (60 cm Ground Resolved Distance). This standard would enable Open Skies to contribute meaningfully to confidence building, as well as supplement arms control verification regimes. Many of the European states, for example, sought the ability to observe and count armored vehicles east of the Urals, beyond the reach of the verification provisions of the Treaty on Conventional Armed Forces in Europe (CFE).

This imagery standard does not permit the collection of technical intelligence—e.g., on models of tanks and their equipment—and thus did not trigger major security concerns in participating countries. This limitation was important to the military representatives of the former Soviet Union. Although they recognized that the United States could acquire higher quality imagery with its unilateral National Technical Means, they were reluctant to permit diffusion of such higher-quality imagery on a multilateral basis to all the participants in the Treaty. The chief U.S. negotiator believes that this may have reflected not only tactical military concerns, but also essentially political concerns about the implications of greater openness.

The tank-recognition standards also served to minimize certain counterintelligence and anti-terrorist concerns in the West. Specifically, there was concern that imagery obtained by many nations might fall into the hands of terrorists who would use it for planning acts of terrorism.

Video cameras

The standard for video cameras is the same as that for optical cameras, 30 centimeters ground resolution. U.S. officials believe that the greatest potential value for the United States will come

from optical imagery; and flying at the best altitude for the optical cameras will generally preclude the collection of quality imagery by video cameras. But video cameras offer the option of achieving 30-cm resolution (with a more restricted field of view) flying beneath low-altitude clouds.

Synthetic aperture radar

The standard for synthetic aperture radar (SAR) was set at 3 meters ground resolution, which allows recognition of the presence of very large equipment or buildings, but is not sufficient for recognition of individual pieces of equipment. This level was primarily determined by U.S. concerns that systems with a better resolution would pose unacceptable technology transfer problems. The Soviet Union had initially not wanted any synthetic aperture radar. In April 1990, it moved to accept SAR in principle, but at a ground resolution capacity of 10 meters. In the fall of 1991, it accepted inclusion of SAR at 3 meters ground resolution. The Defense Nuclear Agency has been given the task of developing a dependable SAR package that meets the requirement for such poor resolution and qualifies for export under U.S. technology transfer limitations.

Infrared line-scanning devices

The standard for infrared line-scanning devices was set at 50 centimeters ground resolution. The United States and its NATO allies would have preferred a 30-centimeter standard. The Soviet Union resisted this, arguing that infrared imagery of that quality would provide an observer with tactical information which would be useful in attack planning, thereby going beyond the confidence-building purposes of the Treaty regime. For this reason, the Soviet Union had initially objected to the inclusion of any infrared systems. The ultimately-agreed provision allows an infrared line-scanning system with a 50-centimeter ground resolution, but not until after the initial three years of implementation of the Treaty, unless the observed Party agrees to earlier use.

D. INFORMATION BENEFITS TO THE UNITED STATES

At least initially, Open Skies will offer the United States little of value in terms of information. If improved sensors or an environmental sensing package were to be approved in the future, this calculation could change.

The Defense Nuclear Agency (DNA) is developing systems used for planning and alerting Open Skies mission. One of these is the Open Skies/Mission Analysis and Planning System to plan and track both prospective U.S. overflights and proposed overflights of the United States by other Parties. The modeling system will enable the United States to develop missions that maximize the potential value of Open Skies imagery.

If Russia exercises its option to require U.S. use of a Russian aircraft and sensors, then little or no wide-area coverage may be obtained during the transitional period. This is because the AN-30 aircraft and the cameras that Russia will use during the first three years cannot provide moderate-resolution imagery at high altitudes; so coverage will have to be sacrificed in order to provide the required resolution.

Another potential benefit of the Open Skies regime will be the availability of imagery from other than sensitive sources for use in various diplomatic fora. Consistent with the explicit purpose of Open Skies to enhance international transparency and openness, this material could be used selectively in diplomatic and, under appropriate circumstances, public fora.

Open Skies imagery could be used by arms control inspectors to help orient themselves at START and CFE inspection sites. It could also be used to brief participating states' officials and help inspectors from other countries improve their CFE inspections.

E. POTENTIAL FUTURE VALUE

Open Skies may have the most benefits for non-time-sensitive issues where research based on bonus coverage is useful. According to the testimony of Executive branch officials, the greatest informational benefits to the United States from the Open Skies Treaty may rest in future environmental sensing packages, either under this Treaty or pursuant to a future agreement. Environmental monitoring could:

- Supply the environmental community with unique data on previously denied areas;

- Be the basis for additional environmental cooperation between signatory nations; and

- Provide the model for a future global airborne environmental monitoring regime.

Some specific areas for environmental monitoring could include:

- Arctic monitoring and assessment;

- Forestry research;

- U.S.-Russia hazardous waste assistance;

- Global change research;

- Natural and man-made disasters; and

- Cross-border transport of airborne contaminants.

Future sensors for environmental monitoring could include:

- Whole-air samplers;

- Particulate collectors;

- Laser radars;

- Multispectral or hyperspectral sensors;

- Synthetic aperture radars (L, C, and X bands); and

- Color infrared photography.

F. LIMITATIONS IN EXPLOITING OPEN SKIES IMAGERY

Executive branch officials testified that exploitation and analysis of imagery acquired under the Open Skies Treaty will be limited by several factors.

Limited exploitation resources

As is discussed in the following section of this report, uncertainties about the volume, format and quality of imagery, about possible future sensors, about the need for automated support, and about the ultimate value of the data make it difficult to estimate the exact level of resources that will be devoted to exploiting Open Skies imagery. At least for the time being, all of the resources needed to exploit Open Skies imagery will come from existing funds and personnel.

This means that any exploitation and analysis resources—people or dollars—expended in support of the Open Skies Treaty will have to be diverted from other efforts in this field. Executive branch managers recognize the distinct possibility that the costs of Open Skies exploitation will exceed the expected value of the data.

Absence of automated data annotations system

Annex B, Section II of the Treaty provides for annotation of Open Skies film and other data, and permits—but does not require—use of an automated annotation system. An automated system would be far preferable to manual annotation.

Both Russia and the United States are developing annotation systems for possible use on Open Skies aircraft. It is not clear whether the Russian system will be compatible with U.S. exploitation equipment.

G. VULNERABILITY OF SENSITIVE U.S. INFORMATION TO OPEN SKIES OBSERVATION

The basis theory of Open Skies observation is that the medium-resolution sensors permitted by the Treaty will enable Parties to monitor the size and disposition of each other's military forces. Russia/Belarus, the "Group of States Parties" that was the only requester for rights to overfly the United States, may gain new insights only from some of the sensors, since Russia already has imaging satellites. But countries with no National Technical Means could purchase the Russian data and/or, in later years, mount their own flights if they perceived a need to do so.

Open Skies surveillance could also provide a country useful information about U.S. defense systems and manufacturing capabilities, as well as radar signature data for targeting purposes. Having said this, however, the intelligence value of each sensor would be limited—for other countries, just as for the United States. This is true largely because U.S. security countermeasures (which are discussed in the next section of this report) should be to deny access to sensitive information that goes beyond what the U.S. Government is prepared to disclose for confidence-building purposes.

H. POLICY ON THE USE OF OBSERVATION AIRCRAFT

The Open Skies Treaty (especially in paragraphs 1 and 6 of Article VI, Section I) permits the observed Party to require that its own aircraft and sensors to be used on an observation flight; this has become known as the "taxi flight" option. The United States successfully pushed for an agreement in the Open Skies Consultative Commission (Decision Number Four) regarding minimum optical camera capabilities on "taxi flights" after the transition period. If Russian film is not compatible with U.S. exploitation equipment, however, the requirement to use a Russian aircraft and sensors could severely complicate the exploitation of Open Skies data.

From the security standpoint, requiring Russia/Belarus to use a U.S. aircraft and flight crew could eliminate the risk of clandestine airborne signals intelligence collection and would lessen the risk of improper use of permitted sensors, although it might also provide greater Treaty-permitted coverage than would Russia's equipment during the transitional period.

Russia's decision on the "taxi flight" option may well be influenced by U.S. policy for flights by Russia/Belarus over our territory. If the norm of reciprocity governs Russian decisions, then U.S. imposition of "taxi flights" (to minimize the risk of illegal or improper Russian collection) would conflict with our interest in maximizing the usefulness of U.S. flights over Russia. If Russia's primary decision criteria were to be cost and convenience, it may be impossible to agree on the use of a U.S. aircraft over the United States while still permitting U.S. aircraft to overfly Russia/Belarus.

In response to a Committee question for the record, the Executive branch stated U.S. policy on "taxi flights" as follows:

The U.S. does not intend to require states observing U.S. territory to utilize a U.S. aircraft, although it does retain the right under the Treaty to do so. We continue to believe, as we have from the beginning of the Open Skies negotiations, that the Treaty's goals of confidence- and security-building are best served by allowing the observing party to provide the aircraft it will use to conduct an observation flight. On a case-by-case basis, we may make an aircraft available to a participating state upon request. Such an arrangement would have no relation to the taxi option, but would simply constitute a lease under the provisions of the Treaty.

Conceivably, then, the United States, will allow—or, in effect, require—participating countries to use their own or a third party's designated observation aircraft when overflying the United States, even if we are forced to use a "taxi flight" over their territory.

IV. HOW EFFECTIVELY WILL THE GOVERNMENT SAFEGUARD U.S. PERSONNEL AND SENSITIVE AND PROPRIETARY INFORMATION?

The counterintelligence and security countermeasures challenges raised by the Open Skies Treaty are somewhat different from those associated with previous agreements. There is sufficient similarity, however, that much of the experience gained in implementing those other agreements will be relevant to Open Skies. These functions will be performed, moreover, by many of the same agencies as in previous agreements.

The major human-source counterintelligence concern is to guard against other countries' use of observation or escort crews to assess, develop or run clandestine agents among U.S. personnel. Security concerns fall into two categories: those that arise from illicit intelligence collection activities that a foreign country might attempt during an overflight near U.S. territory or overseas installations; and those that arise from the observation that is actually permitted by the Treaty.

A. HUMAN-SOURCE COUNTERINTELLIGENCE CONCERNS

U.S. personnel and potentially hostile security services will be in contact only for relatively short periods of time in connection with any given overflight, unlike the situation with some-on-site inspection or portal monitoring teams pursuant to other treaties. Thus, even though Russian observers and escorts are expected to consist largely of air force and military intelligence (GRU) personnel, the

potential vulnerability of U.S. personnel to hostile intelligence approaches will be relatively limited. As is done with U.S. inspectors and monitors under other treaties, the On-Site Inspection Agency plans steps to guard against any counterintelligence threat.

B. GUARDING AGAINST ILLICIT INTELLIGENCE COLLECTION

The Open Skies Treaty specifically limits the types and capabilities of sensors to be employed in overflights, as discussed in the following section of this report. Several other Treaty provisions are designed to guard against the clandestine use of illegal, or illegally capable, sensors.

One example is paragraph 2 of Article IV, which requires that sensors be "commercially available to all States Parties." This means that any country wanting to use an illegal sensor that was at all visible would have to disguise it as a commercially available sensor. Paragraph 7 of Article IV bans "the * * * retransmission * * * of [most] electronic signals from electro-magnetic waves" on an observation aircraft, and paragraph 2 of Article IX, Section I bans "[t]he transmission of data collected by sensors from the observation aircraft during the observation flight," thus making it very difficult to mount any illegal signals intelligence operation that would involve data forwarding (because any unknown signal coming from the observation aircraft would be prima facie evidence of a violation).

Article IV and Appendix D to the Treaty provide in some detail for the certification of observation aircraft and sensors, a process that may involve both on-the-ground inspection and in-flight tests to demonstrate the resolution of the sensors. Appendix F details how the observed Party may inspect the observing aircraft and sensors (after the observing Party inspects the sensors to be used in that inspection), again both on the ground and in a demonstration flight, before each observation flight. (The observing Party may require a demonstration flight if the observed Party requires use of a "taxi flight.") And Annex E provides for the use and inspection of external covers on the sensors before and after each observation flight.

Executive branch security officials testified and assured the Committee in answers for the record that they can adequately guard against the use of illegal sensors. The DoD On-Site Inspection Agency has arranged for expert teams to inspect all observation aircraft for both improper and clandestine sensors of all types. This does not mean, however, that one can ever have absolute certainty that no illegal intelligence collection is occurring.

The likelihood of Russian cheating scenarios was specifically discounted by the representative of the Joint Chiefs of Staff, as well as by civilian officials. This was due largely to U.S. security countermeasures and to the likely Russian interest in not being caught violating a confidence-building agreement.

To guard against improper use of permitted sensors (e.g., taking pictures from too low an altitude, which would provide high-resolution imagery), Article VI, Section II and Article VIII, Section I of the Treaty require a detailed observation mission plan that "does not permit the observing Party to exceed the limitation on ground resolution for each sensor" to be provided and approved by the ob-

served Party in advance of the flight. Section III of Article VI permits the observed party to have at least two monitors and an interpreter on the observation flight, plus (if a large plane is used) one monitor "for each sensor control station" on the aircraft. Section II of Article VIII gives the observed Party "the right to prohibit the use of a particular sensor during a deviation that brings the observation aircraft below the minimum height above ground for operating that particular sensor" or, if a flight deviates by more than 50 kilometers from the original flight path, "to prohibit the use of all sensors installed on the observation aircraft beyond that * * * limit."

The Department of Defense has sponsored the development of the Open Skies/Mission Analysis and Planning System (OS/MAPS) to aid in the analysis of proposed flight paths. The Passive Overflight Module (POM) of OS/MAPS will automatically analyze proposed locations and sensors to determine whether Open Skies sensor resolution will be met. OS/MAPS was developed by Northrop Corporation, under contract to the Defense Nuclear Agency, with the On-Site Inspection Agency helping to define requirements.

The Treaty does not specifically address the risk that a particular sensor would be operated when it should not be, either under the existing flight plan or contravening a prohibition declared by the observed Party due to a deviation from that plan. U.S. monitors on a flight would try to spot any infraction, but precise monitoring of the altitude above the ground and the angle at which each sensor is operated will not be a trivial task. (OSIA plans trial flights for this spring—partly to test U.S. equipment, partly to determine the precise vulnerability of particular U.S. sites, and partly to train U.S. observers and monitors.)

Since Article IX, Section I of the Treaty requires that all data remain on board the aircraft during an observation flight and then be placed in containers and sealed, an aggrieved observed Party should at least be able to protest any observed violation and object to the processing and/or retention of offending data. Such actions would likely constitute a compliance dispute requiring diplomatic action, and might even require a threat of force to prevent observers from leaving with improperly-gathered data.

C. MINIMIZING THE LOSS OF SENSITIVE OR PROPRIETARY INFORMATION DUE TO PERMITTED OBSERVATION

Even the observation that is permitted under the Open Skies Treaty could result in the compromise of sensitive information. Aerial observation of military movements or exercises, industrial plant configurations or activities, and outdoor testing, deployment or storage of equipment could give foreign countries direct or indirect insight into U.S. military capabilities and readiness beyond that which the U.S. Government is prepared to disclose for the purpose of confidence-building. It is also conceivable—although perhaps not likely, given the low-resolution of Open Skies sensors—that proprietary industrial information could be compromised.

Although only Russia/Belarus has received an active observation quota to overfly the United States, the other Treaty Parties—who previously have had no better satellite sources than commercially available SPOT imagery from France—may purchase copies of the

data from those flights. The Open Skies Treaty is open to accession by other countries, moreover, although all Parties must approve any accession by a country other than the former Soviet republics in the Caucasus and Central Asia. As a Department of Defense witness testified:

* * * the Treaty may eventually provide certain of the nations party to it with first-ever opportunity to conduct observations from an airborne platform. In the case of these nations, a considerable amount of information could be collected which may not have been previously available to them, and which could increase their knowledge and understanding of U.S. defense capabilities.

To help U.S. facilities and defense contractors prepare for treaty-related inspection or monitoring, including Open Skies observation flights, the Defense Department has created the Defense Treaty Inspection Readiness Program (DTIRP), an inter-agency program that is administered by the On-Site Inspection Agency. DTIRP provides seminars to educate site officials regarding overflight risks and cost-effective security countermeasures that may be taken to obscure such sensitive information as might otherwise be at risk. When information is obtained on Open Skies observation flight plans, an Open Skies alert system will notify facilities that may be subject to observation. Executive branch officials say that bilateral arrangements will be made with our allies for timely notice of Open Skies flights over Western Europe, so that U.S. facilities there can also take security precautions.

There is also some vulnerability to observation from Open Skies overflights of Canada, but this is viewed as minor. The preamble of the Treaty states that aerial observation is to be "with the intent of observing a single State Party or groups [sic] of States Parties," and in any case, sensors are not to be operated so as to reach more than 50 kilometers on either side of the aircraft with a ground resolution of 30 centimeters.

Security countermeasures could include moving something indoors or discontinuing certain activities or communications (the last as a precaution against illegal signals intelligence collection). Most of these measures, which are common in arms control inspections, should be relatively inexpensive and readily achieved. If major tests or exercises must be postponed, however, companies or military elements may sustain major costs.

The uncertain vulnerability of non-defense proprietary information to disclosure through Open Skies observation led the Executive branch to concentrate upon the security of U.S. military facilities and defense industry. The Intelligence Committee pressed the issue of non-defense trade secrets both in its March 4 hearing and in a question for the record, however, believing that the U.S. Government should not ignore even a slight risk that its arms control actions could affect the security of private information.

One concern was the organization of the federal government to handle this issue. While the Defense Department will prepare U.S. facilities and defense contractors for Open Skies, it has no charter to assist business firms that are not defense contractors. The Department of Commerce, which is working with non-defense firms to

prepare for the Chemical Weapons Convention, had been encouraged to take the lead regarding Open Skies but had not been given a formal charter to do so.

The Assistant to the President for National Security Affairs, in recent letters to the Chairman and Vice Chairman of the Intelligence Committee, has informed the Committee of the following steps that the Executive branch is taking to address this question:

An interagency working group has begun to explore steps that might be taken to notify private, non-defense companies about the Open Skies Treaty and possible flights over the United States. The Commerce Department, with other appropriate agencies, will work to devise options for such notification.

The Executive Branch will (a) develop a strategy for notifying private, non-defense companies of the nature and extent of Open Skies missions; (b) consider how private, non-defense companies might be able to take advantage of the DTIRP system managed by the Department of Defense and; (c) explore any other possible low-cost means of better informing private, non-defense companies whose proprietary information might be disclosed through Open Skies missions, about the Treaty.

Defense Department officials testified that they are prepared to work with the Commerce Department to incorporate non-defense firms in a system to alert them to any Open Skies flight plans that would bring observers within 50 kilometers of them. Those firms could then take whatever security precautions they might believe necessary. The costs of making this system available to companies, and who should pay such costs, have not yet been determined.

D. LEGAL CONSIDERATIONS

A related issue to the protection of proprietary information is the legality and constitutionality of inviting a foreign country to surveil U.S. territory. The Committee asked this question for the record; the question and Executive branch response were as follows:

Question. What is the Executive branch's legal analysis of the constitutionality of surveilling (or permitting others to surveil) private facilities? Does the Government incur any liabilities thereby? Can such surveillance be used for law enforcement purposes (e.g., if it should reveal violations of environmental laws or illegal marijuana fields)?

Answer. We believe that the Treaty on Open Skies can be implemented in complete consonance with the U.S. Constitution. The decisions in *California v. Ciraolo*, *Dow Chemical Co. v. United States*, and *Florida v. Riley* have established that generally aerial surveillance is not a "search" under the Fourth Amendment; the results of such surveillance may be used for law enforcement purposes. The Office of Intelligence Policy and Review of the U.S. Department of Justice concurs in this analysis of the "search" issue.

In *Dow* the Court left open the question as to the constitutionality without a warrant of "highly sophisticated surveillance equipment not generally available to the public, such as satellite technology." However, equipment equivalent to or better than the Open

Skies optical sensors (cameras) in resolution capability have been commercially available for years and thus no new issue is raised on that account.

With respect to sensors that might be more invasive and powerful than optical sensors, such as synthetic aperture radar and infra-red devices, the Treaty on Open Skies provides the type of proper safeguards to legitimate privacy interests that the Court has identified in those cases as being relevant in its decision. Such safeguards include:

Making the fact of such overflights public knowledge (by means of concluding and publicizing the Treaty);

Prohibiting SIGINT equipment on board the aircraft;

Limiting the resolution of the sensors installed on the aircraft (the permitted resolution of the non-optical sensors is less than that of Open Skies optical sensors);

Limiting frequency and duration of flights with such sensors; and

Requiring that data collected by such sensors during observation flights be used exclusively for the attainment of the purposes of the Treaty.

Such safeguards established by the treaty, in addition to the overriding foreign policy interest in the contributions made by the Treaty on Open Skies for the development and strengthening of peace, stability, and cooperative security, make it unlikely that challenges to the admissibility of evidence obtained as a result of flights conducted pursuant to the Treaty on Open Skies based on the Fourth Amendment would be successful.

A possible legal concern relates to the potential dissemination of Open Skies imagery beyond official dissemination of Open Skies imagery beyond official government channels of the signatory nations. Data from on-site inspections under arms control agreements have been treated as classified information, but Open Skies data may not qualify for classification. If imagery should become part of the public domain, it could be very difficult to ensure that Open Skies data are "used exclusively for the attainment of the purposes of this Treaty," as required by paragraph 4 of Article IX, Section I. Indeed, there would be at least some small risk that hostile non-signatory nations or terrorists might acquire and exploit this imagery for military or criminal activity. Executive branch officials have considered this problem, but have not determined how serious it is or formally recommended any solution.

E. POSSIBLE IMPACT OF TREATY CHANGES

Paragraph 5 of Article X of the Treaty permits the Open Skies Consultative Commission (OSCC) to make decisions regarding both improvements in the resolution of existing sensors and even wholly new categories of sensors. Such OSCC decisions may be made without submitting them to the Parties as amendments to the Treaty. Thus, new or improved sensors could be authorized without Senate review or approval, even if the Executive branch were to give insufficient attention to security concerns or preparedness. While there has been no such unwise action in the Open Skies context thus far, the potential exists for problems in the future.

In planning for possible environmental sensing options, the Executive branch has considered such approaches as air sampling, laser radars (LIDAR), multispectral or hyperspectral imagery, and significantly different synthetic aperture radar (SAR) or infrared systems. New security concepts and capabilities may well be needed to meet the challenges posed by these sensors, especially if other countries should seek significantly greater U.S. overflight quotas than the four flights provisionally allotted to Russia/Belarus.

Environmental sensing packages could also significantly increase the chances of Open Skies flights developing evidence of illegal activity (e.g., violations of environmental laws or international agreements) by companies in the United States. The Executive branch's analysis of the admissibility of Open Skies data, quoted earlier in this section, did not specifically address the implications of such sensors. The reference to the Dow opinion not reaching "highly sophisticated surveillance equipment not generally available to the public, such as satellite technology," suggests that a challenge to air sampling, LIDAR, or other sensors might hinge on the sophistication of the collection or processing equipment.

V. THE COSTS OF IMPLEMENTING OPEN SKIES

Open Skies implementation costs can be divided into four categories: observation and security equipment (e.g., aircraft, sensors, inspection devices, etc.); observation, security and escort personnel; processing equipment and personnel; and analysis personnel. The first two categories are largely funded by the Department of Defense. The first category is by far the largest cost element; it is also the one that is farthest along, as major equipment contracts have been proceeding for over a year.

The office of Conventional Arms Control and Compliance in Office of the Under Secretary of Defense for Acquisition is responsible for oversight of DoD's Open Skies implementation planning. The DoD On-Site Inspection Agency does much of the day-to-day planning and will recruit, train and manage mission personnel. The U.S. Air Force is responsible for acquiring the planned Open Skies aircraft and sensors, operating the aircraft for all U.S. Open Skies missions, maintenance of aircraft sensors, and initial processing of sensor output following missions. Each military service is responsible for the security of its facilities and/or operations that may be vulnerable to exploitation during foreign overflights. The Defense Nuclear Agency (DNA) is responsible for developing a prototype synthetic aperture radar (SAR) that meets both Treaty and export control requirements. DNA is also developing the OS/MAPS system for planning and alerting Open Skies missions and a treaty notification support system to transmit and receive treaty required notifications.

Roughly \$93.7 million in Defense Department funds was appropriated in Fiscal Years 1992 and 1993 for implementation of the Open Skies Treaty. The bulk of this figure is for the modification of three WC-135 aircraft and the lease and modification of a Convair 580. (The WC-135's and the sensors are Government Furnished Equipment.) The Department of Defense is currently modifying one WC-135 aircraft, equipped with one panoramic and three framing cameras, to be used for observation flights during the

phased implementation period 1993–1996). Two additional aircraft with full sensor packages—one panoramic camera, three framing cameras, to video cameras, an infrared line scanner and a synthetic aperture radar (SAR)—will be available in time for full Treaty implementation in 1997. The Convair, leased from Environmental Research Institute of Michigan (ERIM), will be used for mission training and sensor testing.

the Department of Defense has budgeted approximately \$20 million in FY 94, \$25 million in FY 95, \$41 million in FY 96 and \$37 million in FY 97 to continue implementation of the Treaty. These figures include costs for operation and maintenance of the aircraft, modification of the initial aircraft to full operational capability (FOC) standards, completing development and procurement of the SARs, media processing equipment, team proficiency training, and conduct of observation flights. The sharp increase in FY 96 is to fund the modifications to the initial aircraft.

These projected costs are based upon a set of planning assumptions that includes nine observation flights the first year, increasing to fifteen flights in FY 1995 and FY 1996 and some higher figure in later years. The assumptions also see overflights of U.S. territory rising to 15 flights in FY 1995 and FY 1996, and more thereafter.

If those assumptions were relaxed to a level of no more than 15 flights in the out-years, then it might well be possible to forego the third WC-135, as well as the operations and maintenance costs of the extra flights. (In practice, this might involve continuing to outfit the second and third aircraft, but releasing the first aircraft after the transitional period, rather than up-grading it to carry SAR and IR line-scanning systems.) This could save \$25–30 million in FY 1996–1997.

Defense Department planners hold open the possibility that Open Skies aircraft costs could be offset to some degree, either by leasing the aircraft and flight crew to other countries for their Open Skies missions, or by using the aircraft to satisfy other OSIA transportation requirements. But major offsets to DoD's Open Skies costs are not especially likely. Open Skies exploitation costs will be met out of existing resources. No estimates have been developed of environmental sensor procurement or processing and analysis costs.

VI. FINDINGS AND RECOMMENDATIONS

A. VALUE OF THE OPEN SKIES TREATY

Finding: Barring the approval of new or improved sensors, the Open Skies Treaty will not provide significant information gains to the United States. Such gains may once have been a goal of the U.S. Government, but they were not achieved. If Russia should require U.S. use of a "taxi-flight" with Russian cameras, moreover, exploitation of the optical data from observation flights over Russia/Belarus could be severely complicated.

The chief U.S. negotiator and other witnesses, including a representative of the Joint Chiefs of Staff, testified that Open Skies would further the major U.S. objective, which was to promote international stability by letting other countries observe each other's

military forces. Judging the merits of this argument—or, in the absence of severe concerns regarding U.S. monitoring, counterintelligence or security capabilities, the merits of the Treaty as a whole—is not within the purview of the Select Committee on Intelligence.

Given the low likelihood of obtaining valuable data from U.S. overflights of Russia/Belarus with the currently-approved Open Skies sensors, three courses of action are open to the United States:

- (1) Limit U.S. flights under Open Skies to the minimum level needed to demonstrate U.S. support for the Treaty;
- (2) Make every effort to persuade Russia not to invoke its option to require the use of a “taxi flight” for U.S. observation of Russia/Belarus; and/or
- (3) Press for early agreement on new or improved Open Skies sensors that would provide more useful data.

Recommendation No. 1: After the first 1–2 years, the United States should not use its full active observation flight quota unless there is a clear likelihood of obtaining significant information through those flights. Unless an environmental sensing package is adopted under Open Skies, only two aircraft should be used for Open Skies flights after the transitional period.

The Committee recommends that committees with jurisdiction over the defense budget enact language mandating these limitations on Open Skies implementation and requiring regular reporting on the cost and usefulness of Open Skies overflight data.

Recommendation No. 2: The United States should make every effort to use of U.S. observation aircraft and sensors in its Open Skies observation flights.

For example, since the U.S. observation aircraft and sensors are likely to provide better coverage during the transitional period than will the Russian aircraft and sensors, Russia/Belarus might agree to let U.S. overflights use the U.S. equipment in return for some arrangement that enabled them to use the same U.S. equipment in overflights of the United States

B. FUTURE IMPROVEMENTS IN OPEN SKIES SENSORS

Finding: New or improved sensors could transform Open Skies into a more valuable information-gathering regime for the United States, but could also cause security or legal problems. Open Skies could be radically changed if environmental sensors were brought under the Treaty. This could be done by unanimous agreement of the Open Skies Consultative Commission without amending the Treaty. Environmental sensors could provide valuable data to scientists, disaster and humanitarian relief officials, and policymakers of all the States Parties. They could also raise Fourth Amendment questions if used in legal investigations or proceedings, however, and their potential security implications have not been analyzed.

Improved optical infrared or synthetic aperture radar sensors could raise security concerns, and perhaps Fourth Amendment concerns as well.

Recommendation No. 3: The Senate should add a condition to the resolution of ratification to the effect that the United States shall not agree to Open Skies Consultative Commission approval of any

new Open Skies sensor or of one with improved resolution until at least thirty days after notifying interested Committees of the Senate of its intention to do so; such notification shall include an analysis of the legal and security implications of the proposed change or changes.

C. PROTECTION OF SENSITIVE AND PROPRIETARY INFORMATION

Finding: Little or no sensitive defense information is likely to be compromised by Open Skies flights, beyond that which the U.S. Government is prepared to disclose for the purpose of confidence-building. A measure of protection can also be afforded to proprietary non-defense information, but its costs and benefits have not yet been determined.

Current limits on sensor resolution, combined with required delays between submission of a mission plan and the beginning of a limited observation period, effectively limit any country's ability to gain sensitive information from overflights of the United States or U.S. facilities overseas. Defense Department security analysis and warning to potentially vulnerable facilities will permit timely and cost-effective security countermeasures.

It is not clear to what extent proprietary non-defense information may be put at risk of disclosure through Open Skies observation. The Intelligence Committee believes, however, that the U.S. Government should not ignore even an uncertain risk that its arms control actions could affect the security of private information. The Commission is pleased, therefore, that the Executive branch has begun to develop a policy regarding the protection of proprietary non-defense information and is tasking the Commerce Department and other agencies to develop cost-effective measures to inform and assist non-defense industry.

Recommendation No. 4: The Executive branch should institute an outreach program to inform industry about the likely impact of the Open Skies Treaty and to offer appropriate assistance in safeguarding proprietary information that may be put at risk. Such assistance need not incur major costs to the government and could, if necessary, be user-funded.

D. PROTECTION OF OPEN SKIES DATA

While the risk of publicly-disclosed Open Skies imagery or other data being used for purposes inconsistent with the Treaty is probably remote, such an outcome is not impossible. I would be prudent to take action to guard against improper use of such data. At the same time, however, it would seem out of keeping with the confidence-building objectives of the Open Skies Treaty either to classify this information or to enact a statute penalizing its improper use. A more limited and reasonable step would be to enact legislation exempting this information from the Freedom of Information Act, so that private or foreign interests cannot force its public release.

Recommendation No. 5: Congress should consider legislation to create a new b(3) exemption to the Freedom of Information Act that would permit the Government to withhold information collected pursuant to the treaty from public disclosure.