

# GUIDE FOR TREATY ON OPEN SKIES OBSERVATION OVERFLIGHTS

Product No. 314P

Understanding and  
responding to notification  
messages



This pamphlet was prepared by the Defense Treaty Inspection Readiness Program (DTIRP) to increase Readiness Through Awareness throughout the Department of Defense (DoD) and defense contractor community. Additional copies of this pamphlet, as well as other arms control treaty and security-related information, are available on the DTIRP Website at <http://dtirp.dtra.mil> and by contacting the DTIRP Outreach Program at 1-800-419-2899 or by email at [dtirpoutreach@dtra.mil](mailto:dtirpoutreach@dtra.mil).

August 2009

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*From the DTIRP Outreach series: Product No. 314P*

## **ABOUT THIS GUIDE**

This pocket-sized guide is designed to provide facilities subscribed to the Open Skies Notification System with a convenient reference to the notification messages that may be sent by this system. The guide lists each message, describes its contents, and recommends appropriate actions for facilities to take when the message is received.

The guide begins with a brief introduction to the Treaty on Open Skies, which describes the imaging sensors that may be installed on Open Skies aircraft and provides answers to a number of questions frequently asked regarding treaty implementation.

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## INTRODUCTION

The Treaty on Open Skies entered into force on January 1, 2002, and allows States Parties to fly observation missions over the entire territories of all other States Parties. Open Skies observation overflights are intended to enhance military openness and transparency. They serve as confidence and security-building measures designed to strengthen peace, stability, and security among the participating States of the Organization for Security and Cooperation in Europe (OSCE).

The United States is committed both to being in full compliance with the Treaty on Open Skies and to assisting U.S. facilities with minimizing safety risks or adverse impacts associated with being overflown and imaged during an Open Skies observation overflight.

### Imaging Sensors

The Treaty on Open Skies requires States Parties to fly observation overflights using only unarmed, specially certified Open Skies aircraft. The types of imaging sensors that may be installed on an Open Skies aircraft, along with the ground resolution limits for each type of sensor, are specified in the treaty and are listed in the table on page 5.

“Ground resolution” refers to the minimum distance on the ground between individual objects for each to be distinguishable as a separate object. Although four types of imaging sensors are approved by the treaty, no State Party is currently using infrared line-scanning devices or sideways-looking synthetic aperture radar (SAR). At present, all Open Skies aircraft are equipped only with optical wet film panoramic and framing cameras and with video cameras with real time display.

Imaging Sensors	Ground Resolution Limits
Optical panoramic and framing cameras	30 centimeters
Video cameras with real-time display	30 centimeters
Infrared line-scanning devices ( <i>not currently in use</i> )	50 centimeters
Sideways-looking synthetic aperture radar (SAR) ( <i>not currently in use</i> )	3 meters

The next change to the current configuration of the imaging sensors onboard Open Skies aircraft is expected

to be the replacement of wet film cameras with digital cameras. This change will require the approval of the Open Skies Consultative Commission (OSCC). The OSCC is the international forum where States Parties discuss and reach agreement on the full range of treaty implementation processes and procedures.

## **Annual Flight Quotas**

A State Party's "active" quota is the number of observation missions it may fly over other Parties during a particular calendar year. The number of observation overflights a State Party is obligated to accept over its own territory each year is known as its "passive" quota. These quotas are negotiated in the OSCC each fall for the coming year.

Within the agreed quotas established by the OSCC, States Parties have no right of refusal when a notification is received from another State Party (the observing Party) stating its intent to conduct an observation overflight. Any area of the observed Party's territory may be overflown. Areas may only be restricted for flight safety reasons, not to mitigate a national security concern.

The treaty establishes maximum limits on the annual passive quotas for each State Party. The United States and Russia have the highest maximum quotas—each

is obliged to accept up to 42 observation overflights each year. However, until 2008, only Russia had expressed a desire to overfly the United States. In 2008, Russia flew four observation missions over U.S. territory. Sweden accompanied the Russian aircrew on the second of these missions.

## Frequently Asked Questions

The following questions are frequently asked by facility representatives about the potential safety and security impacts associated with being overflowed during an Open Skies observation mission and about the advance notification messages provided by the Open Skies Division at the Defense Threat Reduction Agency (DTRA).

### ***What safety and security impacts might affect my facility if overflowed?***

When facilities are overflowed during an Open Skies observation mission, data on all outdoor activities and operations may be collected by the imaging sensors onboard the Open Skies aircraft. It is recommended that all DoD and defense contractor facilities consider whether an Open Skies observation overflight could pose a safety, scheduling, or other operational concern. Satellite, rocket, and missile launch facilities, for example, may have ongoing or scheduled activities that could interfere with aircraft navigation or

otherwise endanger flight safety. These facilities may be obliged to take appropriate actions to mitigate safety concerns, such as cancelling or suspending certain activities during Open Skies missions.

### ***How does DTRA know where the Open Skies aircraft will fly?***

The Treaty on Open Skies requires the observing Party to closely adhere to the flight path agreed in the mission plan. In the United States, flight path information, including planned aircraft turn points, altitudes, and arrival times at specified locations, is entered into the Open Skies Management and Planning System (OSMAPS) operated by DTRA's Open Skies Division. Analysis of this data enables the United States to determine, in advance, the area within which the Open Skies aircraft will fly.

### ***How does DTRA determine whether my facility will be within range of aircraft sensors?***

OSMAPS consists of the Passive Overflight Module (POM), Telephone Notification System (TNS), and Database Management Facility (DMF). DTRA uses the Passive Overflight Module (POM) to analyze the mission plan and to compare the flight path with the latitude and longitude coordinates of your facility's location. Allowances for deviations resulting from imprecise navigation or adverse weather conditions are added along each side of the flight path. The POM

also analyzes the aircraft's altitude, sensor ranges, and the topography of your facility to determine whether, and importantly, **when** your facility could be within range of aircraft sensors. The POM then generates the appropriate messages to be sent to your facility.

### ***What is the Telephone Notification System (TNS)?***

The Telephone Notification System (TNS) is an automated computer-telephone system used by DTRA to keep subscribed facilities informed about the ongoing status of Open Skies observation overflights in the United States. The TNS can transmit email, fax, pager, or voice messages. Using the TNS, DTRA personnel will make three attempts to contact each identified facility. If contact is unsuccessful, DTRA personnel will follow up with subscribers to resolve any problems.

### ***I am interested in knowing when my facility will be overflown during Open Skies missions. How can I subscribe to receive notification messages?***

To receive Open Skies notification messages, you will need to complete an Open Skies Database Management Facility (DMF) registration form (see page 10). DTRA personnel will enter the information from the DMF form into the DMF database and will issue an identification number and a Personal Identification Number (PIN). These numbers are for the facility's use when confirming receipt of each message.

## HOW TO REQUEST NOTIFICATION MESSAGES

To receive Open Skies notification messages, the first step is to request a DMF registration form. To request this form, you may either:

- Call DTRA Open Skies Division (OSO) personnel at: (703) 767-0802 or DSN 427-0802; or
- Fax your request to the DTRA Open Skies Division (OSO) at: (703) 767-0505 or DSN 427-0505.

Your facility may subscribe to the Standard Calling List (SCL) or to the Affected Site List (ASL).

- The Standard Calling List (SCL) is composed of organizations such as major military commands, the Federal Aviation Administration, and other government agencies, which require all available information regarding Open Skies missions, whether or not they may be overflowed.
- The Affected Site List (ASL) is composed of facilities such as private industry or commercial facilities, which only need to receive Open Skies notification messages when their facility, programs, or operations may be overflowed or otherwise affected by an Open Skies mission. To be included on the ASL, a facility is required to specify its latitude and longitude coordinates.

For assistance in determining which list (the SCL or the ASL) is appropriate for your facility or organization, please call DTRA's Open Skies Division at the telephone number listed above.

## **NOTIFICATION MESSAGES**

If your facility is subscribed to the Open Skies Notification System, you may receive a number of different notification messages concerning each Open Skies observation overflight. Your actions will vary with each message. Recommended responses for each message are provided following each message description.

### **Intent to Fly Message**

The first message sent by the Open Skies Notification System is the "Intent to Fly Message" (also called the "Intent to Conduct Observation Flight Message"). This notification will be sent at least 72 hours prior to the observing Party's estimated time of arrival at the point of entry (POE) in the United States. The message will include the name(s) of the observing Party (or Parties), the earliest possible time the mission could begin, and the latest possible time the mission could end.

At this early point in the mission process, no flight plan information will be available. Consequently, it will not yet be known which facilities may be overflown. The

“Intent to Fly Message” is sent only to SCL subscribers and to those ASL facilities specifically requesting to receive these early warning messages.

The message will ask notified facilities to confirm receipt and will indicate that the next message will be transmitted after the observing Party has arrived at the POE and has submitted a proposed mission plan.

## RECOMMENDED ACTIONS

1. Confirm receipt of this message by calling the toll-free number provided in the message and follow the voice prompt instructions. If the message was sent by a voice telephone call and a facility representative answered the telephone, the representative should follow the voice prompt instructions to confirm receipt. *(If no confirmation is received, the TNS will make three attempts to contact the facility.)*
2. Inform appropriate personnel that an Open Skies mission will be flown over the United States by the observing Party(ies) named in the message sometime between the earliest possible start time and the latest possible stop time. Also indicate that no mission plan information is yet available and that it cannot be determined whether or not your facility could be overflowed.

## Proposed Mission Plan Message

A “Proposed Mission Plan Message” is sent at least 24 hours prior to the Open Skies aircraft’s initial takeoff. The message will inform recipients of the proposed date(s), time(s), and locations(s) for the Open Skies aircraft’s takeoff(s) and landing(s) during the mission. The messages sent to ASL facilities will include the approximate time(s) when that facility is most likely to be within range of aircraft sensors.

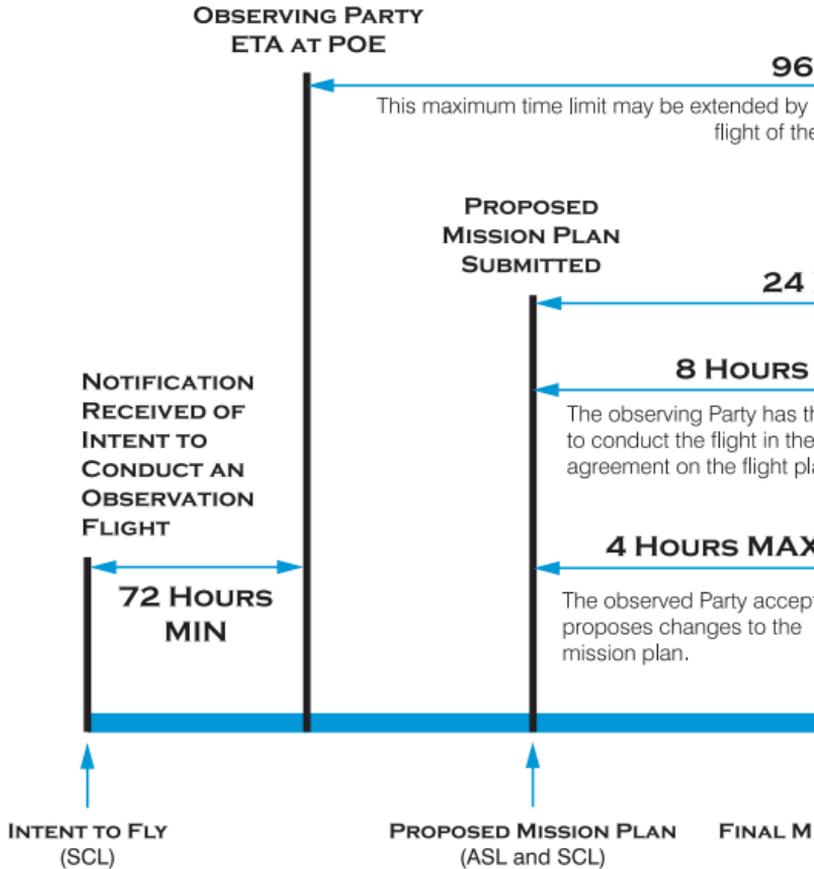
Messages sent to SCL subscribers will specify the proposed turn point coordinates, altitudes, airspeeds, radar markers, and time en route.

The message will ask facilities to confirm receipt and state that the next message will be sent when a final mission plan has been agreed by the observed and observing Parties.

### RECOMMENDED ACTIONS

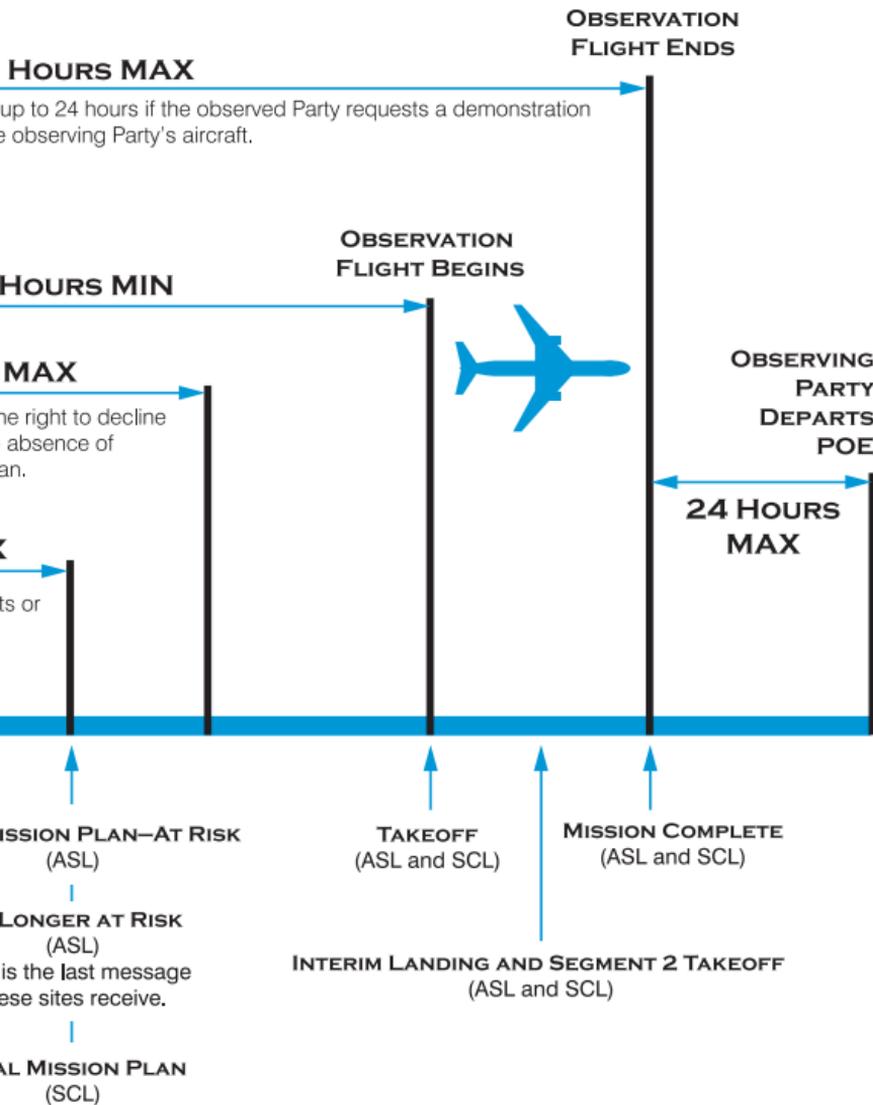
1. Confirm receipt of this message by calling the toll-free number provided in the message and follow the voice prompt instructions. If the message was sent by a voice telephone call and a facility representative answered the telephone, the representative should follow the voice prompt instructions to confirm receipt. *(If no confirmation is received, the TNS will make three attempts to contact the facility.)*

## MISSION ACTIVITIES



This timeline illustrates the sequence of Open Skies mission events (above the timeline) and corresponding Standard Calling List (SCL) and Affected Site List (ASL) messages (below the timeline).

# OBSERVATION MISSION TIMELINE



2. Inform appropriate personnel that a proposed Open Skies mission plan has been received and, according to this plan, your facility will be located along the flight path and may be overflowed. Also indicate the approximate times when your facility could be within range of aircraft sensors.
3. Review your facility, program, and/or operations to determine whether any ongoing or scheduled activities may be adversely impacted by, or may adversely impact, the observation flight.
4. Review relevant procedures to prevent or minimize any adverse impacts the observation flight might have on facility operations, and any adverse impacts facility operations might have on the observation flight.

Remember, this message only indicates that a proposed mission plan has been received. The Open Skies aircraft will not yet have taken off and the mission plan could still change. Be prepared to adjust your plans and remain flexible.

## **Final Mission Plan – At Risk Message**

If your facility is located along the flight path specified in the final Open Skies mission plan accepted by the observing and the observed Parties, your facility will receive a “Final Mission Plan – At Risk Message.” If your

facility is not located along the agreed flight path and will not be within range of aircraft sensors during the Open Skies mission, your facility will receive a “No Longer at Risk Message” (see page 18).

The Treaty on Open Skies allows up to eight hours for the Parties to reach agreement on a final Open Skies mission plan after the observing Party has submitted its proposed plan. The “At Risk Message” will state that a final mission plan has been approved and will inform receiving facilities that they continue to be subject to being overflown. The message will indicate the agreed date(s), time(s), and location(s) for the Open Skies aircraft’s takeoff(s) and landing(s). The message will also specify the approximate times when the facility may be within range of aircraft sensors. Facility representatives will be asked to confirm receipt of the message and informed that the next notification message will be transmitted when the aircraft actually takes off.

## RECOMMENDED ACTIONS

1. Confirm receipt of this message by calling the toll-free number provided in the message and follow the voice prompt instructions. If the message was sent by a voice telephone call and a facility representative answered the telephone, the representative should follow the voice prompt instructions to confirm receipt. *(If no*

*confirmation is received, the TNS will make three attempts to contact the facility.)*

2. Inform appropriate personnel that a final Open Skies mission plan has been accepted and that your facility is located along the approved flight path. Also indicate the approximate times when your facility could be within range of aircraft sensors.
3. Initiate appropriate measures to prevent or minimize any adverse impacts the observation mission might have on your facility's ongoing or scheduled activities, and to prevent or minimize any adverse impacts your facility's ongoing or scheduled activities might have on the Open Skies mission.

At the time this message is sent, the Open Skies aircraft will not yet have taken off. The mission plan could still change due to bad weather, unanticipated maintenance, or other factors. Be prepared to adjust your planning and remain flexible.

## **No Longer at Risk Message**

If the final mission plan included changes to the proposed flight path that resulted in your facility no longer being subject to observation during the Open Skies mission, your facility will receive a "No Longer at Risk Message." This message may be sent up to

eight hours after the “Proposed Mission Plan” message. Facility representatives will be asked to confirm receipt of the message and will be informed that ***no further notifications will be transmitted***

## RECOMMENDED ACTIONS

1. Confirm receipt of this message by calling the toll-free number provided in the message and follow the voice prompt instructions. If the message was sent by a voice telephone call and a facility representative answered the telephone, the representative should follow the voice prompt instructions to confirm receipt. *(If no confirmation is received, the TNS will make three attempts to contact the facility.)*
2. Inform appropriate personnel that your facility is no longer at risk of being observed during the Open Skies overflight and that all site preparation activities should be cancelled.
3. Return your facility to normal operations.

## Takeoff Message

If your facility received a “Final Mission Plan – At Risk Message,” the next message you receive will be an Open Skies aircraft “Takeoff Message.” This message will inform your facility that the observation mission has begun and will indicate the takeoff date, time, and

location, as well as the approximate times your facility may be within range of aircraft sensors. You will be asked to confirm receipt of the message and informed that the next notification message will be transmitted when the Open Skies aircraft lands.

## RECOMMENDED ACTIONS

1. Confirm receipt of this message by calling the toll-free number provided in the message and follow the voice prompt instructions. If the message was sent by a voice telephone call and a facility representative answered the telephone, the representative should follow the voice prompt instructions to confirm receipt. *(If no confirmation is received, the TNS will make three attempts to contact the facility.)*
2. Confirm, with appropriate personnel, the window of time your facility could be within range of aircraft sensors. If the observation window has changed from earlier planning times, emphasize this fact.
3. Review previous planning and implement planned actions. In every case, confirm that the observation window is still accurate and make necessary adjustments to accommodate changes in the mission plan.

## Interim Landing Message

The approved Open Skies mission plan may include one or more interim stops for refueling or overnight rest. For each interim landing, your facility will receive an “Interim Landing Message.” This message will inform you that a scheduled interim landing has taken place and will indicate the landing time and location. Facility representatives will be asked to confirm receipt of the message and will be informed that the next notification will be transmitted when the aircraft takes off again.

### RECOMMENDED ACTIONS

1. Confirm receipt of this message by calling the toll-free number provided in the message and follow the voice prompt instructions. If the message was sent by a voice telephone call and a facility representative answered the telephone, the representative should follow the voice prompt instructions to confirm receipt. *(If no confirmation is received, the TNS will make three attempts to contact the facility.)*
2. Confirm that the interim landing occurred in accordance with the approved mission plan.
3. If your facility’s observation window occurred during the first segment of the Open Skies

observation mission—i.e., prior to the interim landing—your facility can return to normal operations.

## **Segment 2 Takeoff Message**

If your facility's observation window is scheduled to occur during the second segment of an observation overflight, your facility will receive a Segment 2 "Takeoff Message" when the Open Skies aircraft takes off after an interim landing. This message will inform you that the observation mission has resumed and will indicate the Segment 2 takeoff date, time, and location. The message will also indicate the approximate times your facility may be within range of aircraft sensors. Facility representatives will be asked to confirm receipt of the message and will be informed that the next notification will be transmitted when the aircraft lands again. Please note there may be more than two flight segments during an Open Skies observation mission.

### **RECOMMENDED ACTIONS**

1. Confirm receipt of this message by calling the toll-free number provided in the message and follow the voice prompt instructions. If the message was sent by a voice telephone call and a facility representative answered the telephone, the representative should follow the voice

prompt instructions to confirm receipt. *(If no confirmation is received, the TNS will make three attempts to contact the facility.)*

2. Confirm that the mission plan timing (and your consequent observation window) has not changed.
3. If the Segment 2 takeoff of the Open Skies aircraft is delayed, your period of observation will also be delayed. Be prepared to adjust your planning accordingly and remain flexible.

## **Mission Complete Message**

Upon conclusion of the observation overflight, you will receive a "Mission Complete Message." This message will inform you that the observation mission has been completed and will indicate the time and location of the final landing. The message will indicate that it is highly probable that your facility was imaged during the mission and will instruct you to contact your DoD security representative or the DTRA Operations Center if you have any questions or concerns (phone and fax numbers will be provided in the message). You will be asked to confirm receipt of the message and informed that no further notifications will be transmitted for this mission.

## RECOMMENDED ACTIONS

1. Confirm receipt of this message by calling the toll-free number provided in the message and follow the voice prompt instructions. If the message was sent by a voice telephone call and a facility representative answered the telephone, the representative should follow the voice prompt instructions to confirm receipt. *(If no confirmation is received, the TNS will make three attempts to contact the facility.)*
2. Assess the measures implemented to prevent or minimize any adverse impacts associated with the observation overflight and/or your facility's ongoing or scheduled activities.
3. If you have any questions or concerns about your facility being overflowed or imaged, contact your DoD security representative or the DTRA Operations Center at the phone or fax numbers provided in the message.

## Miscellaneous Messages

In addition to the standard notification messages transmitted during key moments of the Open Skies observation mission, miscellaneous, non-standard notifications may be transmitted for various reasons. For example, you may be alerted to significant flight delays,

emergencies, or other complications that could affect your facility. These may involve bad weather conditions affecting flight safety, technical difficulties affecting the Open Skies aircraft, or a medical emergency affecting a person onboard. As with the standard messages, you will be asked to confirm receipt of each miscellaneous message.

## RECOMMENDED ACTIONS

1. Confirm receipt of this message by calling the toll-free number provided in the message and follow the voice prompt instructions. If the message was sent by a voice telephone call and a facility representative answered the telephone, the representative should follow the voice prompt instructions to confirm receipt. *(If no confirmation is received, the TNS will make three attempts to contact the facility.)*
2. If the observation flight is delayed, your period of observation will also be delayed. Be prepared to adjust your planning accordingly and remain flexible.
3. Inform appropriate personnel about any changes to mission plan timing (and the consequent observation window for your facility). Make necessary adjustments to facility planning activities.

## LIST OF ABBREVIATIONS

<b>ASL</b>	Affected Site List
<b>DMS</b>	Defense Messaging Service
<b>DMF</b>	Database Management Facility
<b>DTIRP</b>	Defense Treaty Inspection Readiness Program
<b>DTRA</b>	Defense Threat Reduction Agency
<b>EIF</b>	Entry into force
<b>OSCE</b>	Organization for Security and Cooperation in Europe
<b>OSMAPS</b>	Open Skies Management and Planning System
<b>PIN</b>	Personal Identification Number
<b>POE</b>	Point of entry/exit
<b>POM</b>	Passive Overflight Module
<b>SCL</b>	Standard Calling List
<b>SAR</b>	Synthetic aperture radar
<b>TNS</b>	Telephone Notification System

## RELATED MATERIALS

To order copies of the products listed below, contact the DTIRP Outreach Program Coordinator by phone at 1-800-419-2899 or by email at [dtirpoutreach@dtra.mil](mailto:dtirpoutreach@dtra.mil). Visit the DTIRP Website at <http://dtirp.dtra.mil> to view, print, or order DTIRP products.

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Operators' Automated Guide to the CWC (153C)

The Arms Control OPSEC Process (930C)

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## **Product No. 314P**

Distributed by:

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