S. HRG. 105–1057

INVESTIGATION OF IMPACTS TO U.S. NATIONAL SECURITY FROM ADVANCED SATELLITE TECHNOLOGY EXPORTS TO CHINA AND CHINESE EFFORTS TO INFLUENCE U.S. POLICY

HEARINGS

BEFORE THE

SELECT COMMITTEE ON INTELLIGENCE UNITED STATES SENATE

ONE HUNDRED FIFTH CONGRESS

SECOND SESSON

INVESTIGATION OF IMPACTS TO U.S. NATIONAL SECURITY FROM ADVANCED SATELLITE TECHNOLOGY EXPORTS TO CHINA AND CHINESE EFFORTS TO INFLUENCE U.S. POLICY

WEDNESDAY, JUNE 10, 1998 AND WEDNESDAY, JULY 15, 1998

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WEDNESDAY, JUNE 10, 1998

U.S. SENATE,
SELECT COMMITTEE ON INTELLIGENCE,
Washington, DC.

The Select Committee met, pursuant to notice, at 2:34 p.m., in room SH–216, Hart Senate Office Building, Hon. Richard Shelby (chairman of the committee) presiding.

Present: Senators Shelby, Chafee, DeWine, Hatch, Roberts, Allard, Coats, Kerrey of Nebraska, Glenn, Bryan, Graham of Florida, Robb, Lautenberg, and Levin.

Also present: Taylor Lawrence, staff director; Chris Straub, minority staff director; Dan Gallington, general counsel; and Kathleen McGhee, chief clerk.

Chairman SHELBY. The Committee will come to order.

The Committee has begun an investigation into allegations that the transfer of sensitive technology to China may have led to a serious breach of our national security. It has been reported that American companies may have helped improve the accuracy, reliability and lethality of Chinese intercontinental ballistic missiles targeted on U.S. cities. These allegations are extremely disturbing.

Our inquiry will address matters that go to the heart of our national security. In April 1996 following the explosion of a Chinese LONG MARCH missile carrying a Loral satellite, a team of engineers headed by Loral met with China Aerospace officials to discuss the problems with the LONG MARCH missile. China Aerospace has several lines of work. One is building civilian space launch vehicles to place commercial satellites into orbit. And another is building nuclear armed intercontinental ballistic missiles—ICBMs—targeted on the United States and other countries. With the exception of the nuclear warhead, virtually every component of a civilian space launch booster is similar or identical to ICBM components. And many of the technologies required to accurately place a satellite in orbit are strikingly similar to those required to accurately deliver a warhead to its target.

In the process of helping the Chinese fix their civilian missile, it has been reported that Loral and Hughes may have transferred expertise and sensitive technical information that could help China

to improve the accuracy and reliability of its missiles, including those targeted on the U.S.

Similar assistance from other companies may have also helped China develop multiple, independently targetable re-entry vehicles for the ICBM force.

Did these transfers harm U.S. national security interests? Congress and the American people need to know all the facts.

Although it's not the subject of today's hearing, the American people also need to know the facts about the decision earlier this year to approve a waiver for export of an additional Loral satellite to China at a time when Loral was under criminal investigation for possible violation of the export control laws in the transfer that I just described.

The transfer of technology by Loral is not the only matter that raises concerns about our policies governing the export of sensitive satellite and related technologies to China. For almost 10 years, beginning under the Bush administration, U.S. satellite makers have exported satellites to be launched on Chinese missiles, attracted by the relatively low cost of Chinese launch services. Because of the similarities I've described between the civilian satellite launch and the release of a military warhead, these transfers are inherently sensitive and are extensively regulated by export control laws and regulations.

The history of those laws and regulations and of their implementation is the primary issue before us today. There have been significant changes in the rules governing satellite exports since President Bush authorized the first such launch in December, 1989.

Our witness today will go into greater detail, so I'm only going to summarize briefly. Initially, satellites were listed on the U.S. munitions list and licensed under the jurisdiction of the State Department. In April, 1992, following a two-year review to determine which dual-use technologies could safely be transferred from the State Department to the Commerce Department jurisdiction, President Bush moved those commercial communication satellite technologies that did not have certain military-significant features to control of the Commerce Department.

The difference between State Department and Commerce Department jurisdiction is an extremely important distinction here. In considering the export of items on the U.S. munitions list, the State Department considers only the national security and foreign policy ramifications of the export. If national security or foreign policy interests of the United States are at risk, the transfer can be blocked. The Commerce Department, as befits its name, has a different world view and operates under a different legal framework. Most importantly, when Commerce reviews a license, it is required by law to weigh commercial and trade concerns against national security. Lastly, there are significant procedural differences between the munitions list and the Commerce Control List, differences which relate both to the process by which applications are approved—that is, the ability of other agencies to object on national security grounds—and the technology security safeguards and monitoring requirements that are imposed on the actual export and launch of the satellite.

In October, 1995, after an intense interagency debate over proposals to move the remaining satellite technologies to the Commerce Control List, or CCL, Secretary of State Christopher signed an order retaining these technologies under the State Department's jurisdiction.

Several months later, in March 1996, President Clinton overturned Secretary Christopher's decision and transferred the satellites to Commerce control. I believe that this final shift of all satellite technologies, including those with military significance, onto the Commerce Control List, represents a fundamental sea change in our technology transfer policies.

We have a witness before the Committee today that will shed some light on this sea change. In January of 1997, at the request of another Committee of Congress, the General Accounting Office performed an in-depth study of the transfer of commercial satellites from the munitions list to the Commerce Control List.

Today, in this first open hearing of our investigation into impact on U.S. national security from advanced satellite technology exports to China, we've asked Miss Katherine Schinasi, Associate Director of the National Security and International Affairs Division, to testify on the GAO's findings and to provide an update on subsequent developments. We've also asked her to describe the decision-making process that led to the transfer of satellite technologies to the CCL, the balancing of security and commercial concerns, the export control process itself, the legal, practical and even philosophical distinctions between the munitions list and the Commerce Control List.

We will also discuss the role of the Defense Department and the Intelligence Community in highlighting national security concerns and the nature and implementation of monitoring and other security procedures designed to protect sensitive technologies.

I believe today's hearing will also help us to ascertain whether the decisions I've described were wise decisions or whether economic and commercial concerns, aided by vigorous lobbying from the aerospace industry, may have been allowed to override critical national security interests. The American people deserve an honest, straightforward accounting of these events.

The General Accounting Office, or GAO, was established by the Budget and Accounting Act of 1921 to independently audit government agencies. Over the years, the Congress has expanded GAO's audit authority, added new responsibilities and duties, and strengthened GAO's ability to perform independently. I think it's fair to say that the GAO reports have raised the hackles of administrations of both parties over the years. We look to the GAO for fair, critical and insightful accounting of the actions of the executive branch.

And I want to thank you, Ms. Schinasi, and the GAO for being very responsive to the Committee's request to appear in a short time frame.

I also want to take this opportunity in open session to express my concern that the Justice Department, as of a few minutes ago, is still preventing information that we believe is key to our oversight investigation from being provided to the Intelligence Committee. We've received summary paragraphs with conclusions from

three of the technical reports that we requested from the Administration at our hearings last week. Because the conclusions are contradictory, the Committee, I believe, must have access to the underlying technical details in order for us to do our job. The documents are readily available within the executive branch; therefore, we should be given copies, and I believe so immediately.

These last remarks were not directed at you, Ms. Schinasi.

Senator Kerrey.

Vice Chairman KERREY. Mr. Chairman, first of all, I join you in welcoming Ms. Schinasi, and I look forward to your testimony.

Before turning to the topic, let me turn to a topic that the Chairman and I discussed earlier with Majority Leader Lott and with Democratic Leader Daschle, and that is the limitations imposed upon this committee by S. Res. 400, which is the law that creates the Intelligence Committee.

This Committee, unlike all other Committees in the Congress, is a nonpartisan Committee. It is nonpartisan because of the nature of our work. Not only do we have oversight responsibility for intelligence agencies, but most of our work is done in an environment where we are both receiving and analyzing information that is top secret, as a consequence of sources and methods that are being used to keep the people of the United States of America safe. There are lives at stake here. It's that serious—not only the lives of Americans that are at stake, but the lives of people that are out there doing our work for us.

Thus this committee is established so that I am not the ranking Democrat; I'm the Vice Chairman. The committee is composed so there's only a margin of one, regardless if there was 80 Republicans and 20 Democrats, or 80 Democrats and 20 Republicans, there's just one-margin difference. This work cannot be clouded, our evaluation cannot be clouded by partisan political issues. I am a Democrat. The chairman is a Republican. We have partisan instincts, and this is a hot partisan issue. And we have drawn the terms of reference for our work in a unanimous fashion—this committee has—on two very specific questions, one of which we're going to address today, and that is the policy of granting waivers so that satellites, commercial satellites, can be launched on non-American launch vehicles, and what did those—what did that policy do to national security.

We're not—and I hope that the conversation we had earlier with the Majority Leader and the Democratic leader will lead to our committee being able to avoid partisan politics. If not, I will—I intend to object strongly, on behalf of national security, on behalf of the historical commitment that this committee has made to make certain that the people of the United States get unbiased, nonpartisan efforts on the part of both Republican and Democratic members.

We're not here to evaluate, in my judgment, a variety of policy decisions that were made. The bottom line for us is: Has national security been damaged as a consequence of this policy over the past 12 years or so?

Now, as I see the policy, it began as a consequence of the Challenger disaster in 1986. I'm looking forward, as I said, to your testimony. But I've seen some previous GAO work in this regard, and

they begin at that point. In 1986 we had the Challenger disaster. And as a consequence of that Challenger disaster we had a substantial reduction in our ability to launch satellites.

And what was the lay of the land in 1988 as President Reagan tried to evaluate what to do about it? The lay of the land was we had enough domestic launch capacity to handle our national security satellites and nothing more. Commercial satellites could not be launched on American-launched vehicles. We didn't have that capacity. And every administration since the Reagan administration made the decision in 1988 that that's fine, we're comfortable on the basis of national security allowing the commercial satellites to be launched by foreign entities. In this case the entity that we're evaluating is the Long March Corporation that has an association with the Chinese defense industry since the same technology that's used to launch the commercial satellite also launches their ballistic missile.

And we have, since the Tiananmen Square incident on the 4th of June 1989, we also passed legislation that now governs when and how waivers can be granted.

But the fundamental decision that I think needs to be evaluated every step of the way is whether or not it's in the best interest of the United States to have a situation where, for whatever the reason, we're not able to turn to whoever we're dependent upon and say we don't like what you're doing, we'll take action against you including, perhaps, some sanctions that would make it difficult post-launch, because we have our own launch capacity. We don't have sufficient launch capacity. And there's been a huge communication revolution since 1986. If I could put it in context, I was using an Apple IIe in 1986. We have Iridium, we have Teledesic, we have a robust desire on the commercial side to launch. And we simply do not have in the United States of America the capacity to launch all those commercial satellites. And thus we're in a situation where American capacity to launch is dependent upon LONG MARCH. And one of the things, it seems to me, that we have to evaluate is whether or not that dependency and the revenue that LONG MARCH got over that 12-year period enabled them to improve and enhance and increase their capacity to operate their ballistic missile system. And according to published accounts, some of those ballistic missiles are trained on U.S. cities and again, according to published accounts, can reach any city in the United States of America.

Thus that is the threat, thus that is the fear. That fear has increased since we have seen on the 13th and 11th of May India detonate nuclear weapons followed by Pakistan. We fear a spread and a proliferation. We now fear nuclear weapons again.

Mr. Chairman, as I said, I look forward not only to the witnesses and to the hearing today, but I look forward to what I hope and expect will be the traditional effort on the part of this committee to keep our efforts focused on national security in a truly nonpartisan fashion.

Chairman SHELBY. You may proceed as you wish.

Ms. SCHINASI. Mr. Chairman and members of the——

Chairman SHELBY. Do you want to bring your mike up a little closer?

STATEMENT OF KATHERINE V. SCHINASI, ASSOCIATE DIRECTOR, DEFENSE ACQUISITIONS ISSUES, NATIONAL SECURITY AND INTERNATIONAL AFFAIRS DIVISION, GENERAL ACCOUNTING OFFICE

Ms. SCHINASI. I'd like to thank you for the opportunity to appear today. And if I might, I'd like to try and summarize my statement and then have the full statement put into the record.

As you pointed out, my testimony today is based largely on our January 1997 report on the military sensitivity of commercial communications satellites. Let me also ask, if I could refer to these as COMSATS, it may save us some time.

Chairman SHELBY. You can.

Ms. SCHINASI. Commercial communications satellites is going to trip me up.

I will discuss the key elements in the export-control systems of the Departments of Commerce and State; how export controls for commercial satellites have evolved over the years, the concerns and issues debated over the transfer of the commercial communication satellites to the export-licensing jurisdiction in the Department of Commerce, and the safeguards that may be applied to those satellites. Lastly, I will share some observations on the current export-control system.

Let me just start by saying a few words about the control system overall.

The U.S. export-control system is about managing risk. Exports to some countries involve less risk than exports to other countries, and exports of some items involve less risk than exports of others. The planning of a satellite launch with the technical discussions and exchanges of information taking place over several months, involve risk, no matter which agency is the licensing authority.

The judgment as to the most appropriate way to control these exports is a difficult one. By design, Commerce's system gives greater weight to economic and commercial concerns, which implicitly accept greater security risks. And by design, the State Department system gives primacy to national security and foreign policy concerns, lessening but not eliminating, the risk of damage to U.S. national security interests.

The U.S. export-control system for items with military applications is divided into two regimes: The State Department licenses munitions items; and the Commerce Department licenses most dual use items, which are those that have both military and commercial applications.

Chairman SHELBY. Say that again, if you would.

Ms. SCHINASI. The State Department licenses munitions items. And the Commerce Department licenses most dual use items, which are those that have both commercial and military applications. The differences in the underlying purposes of the control system are manifested in the system's structure. And I have a chart that reflects some of the key differences in those systems.

Senator GLENN. That's in your handout here.

Ms. SCHINASI. Yes.

Chairman SHELBY. Are you going to go over that chart with us?

Ms. SCHINASI. I am. I am going to talk through it right now.

Senator LEVIN. Why don't you back it up just a little bit.

Senator GLENN. The same chart here.

Ms. SCHINASI. You should have a copy of this also in your package or on the back of your statement.

Chairman SHELBY. Okay. I have it.

Ms. SCHINASI. As you can see, the Commerce Control List, on the right side, which is the system which controls dual use items, involves five agencies: Commerce, State, the Department of Defense, Energy, and the Arms Control and Disarmament Agency. There is a formal appeals process that exists during this system which involves those participants when there is a disagreement.

In contrast, the munitions list system, which commonly only involves the Departments of Defense and State, has no multi-level appeals process such as exists under the other system.

Let me note here that the Intelligence Community is brought into the licensing process in different ways. Under either system, the Department of Defense can refer license requests to the National Security Agency, the Defense Intelligence Agency and other components. And they frequently do so for COMSAT license requirements.

In addition, under the Commerce system, representatives of the Intelligence Community also participate as non-voting members during the appeals process.

Let me move on to talk about the way the two systems also differ in the scope of controls.

The Commerce Department controls items to specific destinations for specific reasons, while munitions items are controlled to all destinations under the very broad authority that State Department has to deny a license.

With respect to time frames, the Commerce Department system process has clearly established time frames by which they consider and come to a decision on license applications. Under the state system, there are goals that the State Department has established to do this, but there is nothing—there are no clearly-established time frames.

On the Congressional notification item, exports under the state system that exceed certain dollar thresholds—and these include all satellites—require a notification to the Congress. Licenses for Commerce controlled items, however, are not subject to Congressional notification, with the exception of items that are controlled for anti-terrorism purposes.

And the final category of sanctions is a very complicated one, but there are two types of sanctions that are important for COMSATS. The first is the Missile Technology Control Regime and the second is the Tiananmen Square sanctions. Under the Tiananmen Square sanctions, exports under both systems receive identical treatment. Those sanctions prohibit the export of satellites for launch from launch vehicles owned by China, but under both systems the President can waive the prohibition if such a waiver is determined to be in the national interest.

For the missile technology sanctions, there is a difference in the way that exports are treated. For example, when the United States imposed missile technology sanctions on China in 1993, the export of communications satellites controlled by the State Department

were not approved, while the export of satellites controlled by the Commerce Department were permitted.

If I could turn now to a discussion of the evolution of the export controls for commercial satellites—and I also have a chart that lists some of the key events in the evolution, and I'd just like to run through that quickly. We start this time frame in 1988, when the U.S. first proposed launching U.S. origin satellites from China. In 1989, the U.S. and China signed a series of agreements under which China agreed to charge prices for commercial launch services similar to those charged by other competitors.

Vice Chairman KERREY. Mr. Chairman, do you mind if—Miss Schinasi, I understand that we're looking at China only, but in 1988, wasn't the policy to allow all foreign entities, including China, to launch? Or was it—was the September executive directive by the President specifically only China? Didn't it include Ariane Space as well as——

Ms. SCHINASI. Yeah. I think that's correct.

Chairman SHELBY. This is under President Reagan, right?

Ms. SCHINASI. Yes, that's correct.

Chairman SHELBY. Okay. The first deal you're talking about in the evolution.

Ms. SCHINASI. Right.

Chairman SHELBY. Will you go through that?

Ms. SCHINASI. Yes. There are a number of launch sites that U.S. manufacturers use overseas. So in January, 1989, the U.S. agreed to launch nine satellites—nine U.S. built satellites—through 1994.

Then we move to June, 1989, when the Tiananmen Square incident occurred, and the U.S. imposed export sanctions on China, commonly known as the Tiananmen Square sanctions.

In December 1989 the President subsequently waived those sanctions for the export of three U.S. origin satellites to launch from China.

Then in February of 1990, the Congress passed the Tiananmen Square Sanctions Law, P.L. 101–246.

In 1990, November, the President ordered a review of all items on the State Department munitions list, with the idea that all dual use items would be removed unless significant U.S. national security interests would be jeopardized——

Chairman SHELBY. Would you elaborate on that just a minute? I think that's a very important thing, because this is the first step in removing, is that right?

Ms. SCHINASI. That's correct.

Chairman SHELBY. Would you elaborate on that for the committee?

Ms. SCHINASI. This was known as the Commodity Jurisdiction Review.

Chairman SHELBY. Okay.

Ms. SCHINASI. And it applied to all dual use items that were being controlled by the State Department. The direction was to review all of these items to see which ones could be moved over to the Commerce Department list. And the presumption was that items would be moved, unless significant U.S. national security interests would be jeopardized.

The action was taken in part to bring the U.S. into conformance with the multilateral controls that were in place under what's known as COCOM, the Coordinating Committee. And the President said that that was part of the reason behind this. There was also some congressional action at that time.

Chairman SHELBY. But that was the first loosening of the exports, in a sense, was it not?

Ms. SCHINASI. That was the first broad review of all the items that were controlled.

Pursuant to this order, the State Department led an interagency review as part of which a working group was established to look specifically at COMSATS, to identify and establish performance parameters for militarily sensitive characteristics of communications satellites.

In October of 1992 the State Department issued regulations that transferred the jurisdiction of commercial communications satellites which did not have any of nine militarily significant characteristics to the Commerce Department.

Senator INHOFE. Excuse me, Mr. Chairman.

Chairman SHELBY. Go ahead.

Senator INHOFE. What was that date, please?

Ms. SCHINASI. In October of 1992.

Senator INHOFE. October of 1992. All right.

Ms. SCHINASI. That's correct. Selected satellites were transferred to Commerce.

Chairman SHELBY. And what did this mean, selected satellites? I know this was under the Bush administration, October of '92. What's the significance of that?

Ms. SCHINASI. The working group established nine characteristics that were militarily sensitive, such things as antennas——

Chairman SHELBY. Okay.

Ms. SCHINASI [continuing]. Cross-link capabilities, anti-jamming capability. And they established certain performance parameters for each of those nine characteristics. Of course, COMSATS that did not have any of those nine characteristics were moved to the Commerce Department list.

I will note that after that transfer the Commerce Department noted that it did not believe that that was all that the President had in mind in 1990 when he ordered the review. So we take up export controls again in September 1993. And there was an interagency body—the Trade Promotion Coordinating Committee—which issued a report that again committed the administration to review dual use items across the board.

Chairman SHELBY. And who produced this report?

Ms. SCHINASI. The Trade Promotion Coordinating Committee is the name of the group, and it is composed of representatives of basically all the agencies in the government.

As part of this review, there were numerous discussions between the agencies and with industry, and the State Department formed a technical working group to take a look again at the communications satellites and to recommend whether those that were still on the State Department list that possessed those militarily sensitive characteristics could be more narrowly defined while still being consistent with national security and intelligence interests.

Chairman SHELBY. Now is this October of '95 is your reference point up there?

Ms. SCHINASI. Right. Well, I'm talking about the period between September of '93 and October of '95.

Chairman SHELBY. Okay.

Ms. SCHINASI. There was an interagency group formed, a technical working group, to look at the satellites that were still under the State Department control to see if they could narrow those nine militarily significant characteristics.

And as a result of the deliberations that went on between the agencies and with the industry, the Secretary of State in October of 1995, denied the transfer of the remaining COMSATS and approved a plan instead, to narrow but not eliminate, State's jurisdiction over these satellites.

Unhappy with the State Department decision to retain jurisdiction of the COMSATS, the Commerce Department appealed that decision to the National Security Council and the President. And that began—that touched off another series of interagency meetings.

A key part of these discussions was the issuance, in December of 1995, of an Executive Order that modified the Commerce Department procedures across the board for how they would handle license applications. And what that Executive Order did was require the Commerce Department to refer all license applications that it received to a number of agencies. That had previously not been the case. It was left up to the agencies to decide—well, the group is the group that I had up on the chart before—the State Department, Defense, Energy, and the Arms Control and Disarmament agencies. It was left up to those agencies to decide what portion of the licenses they wanted to see. The Department of Defense said they wanted to see 100 percent. Some of the other agencies were not interested in quite that level of a review.

So the December 1995 order was issued during the process that was going on to review those satellites and whether or not they could be moved. And in March 1996, the President decided to transfer the remaining satellites to the Commerce Department.

Chairman SHELBY. What was the date? March what, do you not recall?

Ms. SCHINASI. March 28th, I believe.

Chairman SHELBY. Okay.

Ms. SCHINASI. In response to concerns that officials at the Department of State and the Department of Defense had about the transfer, the Commerce Department agreed to add additional controls to the exports of satellites that were designed to mirror the stronger controls already applied to items on the State Department Munitions List. Changes included such things as the establishment of a new control called the significant item control, which gave them a broader authority to control satellites to all destinations.

There was also a change made in the appeals process whereby a majority vote was now required to come to a decision when there was a disagreement. Previously, the Commerce Department, as the chair of the committee, had had the authority to make a decision when there was a disagreement.

Chairman SHELBY. What you're talking about here, as I understand it, are big changes in the evolutionary process you've described, is that right?

Ms. SCHINASI. Yes, I would say they are significant changes.

Chairman SHELBY. Significant changes in 1995 and '96, is that correct?

Ms. SCHINASI. Yes.

Chairman SHELBY. Go ahead.

Ms. SCHINASI. And then finally the President's decision was implemented in the regulations published in October and November of 1996 by the Departments of Commerce and State. Those regulations formally transferred the licensing jurisdiction for the commercial satellites and also laid out the new procedures that I talked about.

Let me just lay out briefly some of the concerns and issues that were raised during this process.

Generally, the Commerce Department argued that the commercial communications satellites were intended for commercial end use and are therefore not munitions. And transferring jurisdiction to the dual use list also make U.S. controls consistent with multilateral export control regimes.

Manufacturers of the satellites supported the transfer, as they also believed that such satellites are intended for commercial end use and are therefore not munitions. They also believed that the Commerce Department process was more responsive to business due to its clearly established time frames and the predictability of the process.

The Departments of State and Defense pointed out that the basis for including items on the munitions list is the sensitivity of the item and whether it has been specifically designed for military application, not how the item will be used. Those officials expressed concern about the potential for improvements in missile capabilities through the disclosure of technical data needed to integrate the satellite with the launch vehicle and also the operational capability that specific satellite characteristics might give to a potential adversary.

Let me talk a little bit about safeguards that can be applied as conditions to a license during the licensing process.

I think it's important to note that no export license application for a satellite launch has been denied under either the State Department or the Commerce Department regime. Therefore, the conditions that get attached to the licenses become very important.

Officials point to two principal safeguard mechanisms that can be included in those conditions. The first are what is known as technology transfer control plans, and the second is the physical presence of Department of Defense monitors during a launch.

The State Department has traditionally required both of these conditions in its license approvals. The Commerce Department may choose to do so.

The tech transfer control plans outline internal control procedures that a company will follow to prevent the disclosure of technology, except as authorized. The plans typically include requirements for the presence of Department of Defense monitors at technical meetings, as well as procedures to ensure that the Depart-

ment of Defense reviews and clears the release of any technical data provided by the company. Defense monitors—Department of Defense monitors at the launch site help ensure that the physical security over the satellite is maintained, and they monitor any on site technical meetings.

There are additional types of government control that may be exercised on technology transfer through the State Department's licensing of technical assistance and technical data. These are known as TAAs, Technical Assistance Agreements, which detail the type of information that can be provided and give the department an opportunity to scrutinize the type of information being considered for export.

The Commerce Department licensed satellites do not have a separate technical assistance licensing requirement, although satellites licensed by Commerce may require a State Department technical assistance license if the technical discussions go beyond what is known as form, fit, and function. Okay.

And finally, let me offer some observations on the current export control system for COMSATS. I have one more chart.

What we have really in the current system is a melding of the two processes that I talked about before. Under the process that currently exists, where COMSATS are licensed by Commerce, but have special procedures applied to them, congressional notification requirements do not apply. Now, currently, Congress is notified because of the Tiananmen waiver process. It's the Tiananmen sanctions that kick off the congressional notification, but there's nothing in the system itself that requires congressional notification.

Sanctions also do not always apply. The missile technology sanctions in particular are the ones that I'm talking about, and we haven't imposed missile tech sanctions since 1993. So, it's not clear how they would be implemented in the new system. But as I mentioned before, when the missile tech sanctions were put on, the satellites under the Department of Commerce control at that point in time, which is before the '96 transfer, were allowed to be exported while those under the State Department system were not.

We also have a situation now where Defense Department's power to influence the decisionmaking process has diminished. Under the State Department jurisdiction, State and Defense officials have stated that State routinely defers to the recommendations of the Defense Department if national security concerns are raised. Under the Commerce Department jurisdiction which currently exists, the Defense Department must either persuade a majority of the other agencies involved in that process to agree with its position to stop an export, or escalate their objection to the Cabinet level board, the Export Administration Review Board.

Chairman SHELBY. In other words, they don't have a veto, do they?

Ms. SCHINASI. That's correct.

Chairman SHELBY. Okay.

Ms. SCHINASI. And that escalation has not occurred in recent years.

Technical information is also not clearly controlled. I spoke before about the State Department requirement for technical assistance agreements. Commerce does not require a company to obtain

a separate license for certain technical data. Part of that is the form, fit and function category that I referred to earlier, but there has been no separate category created in the Commerce Department system for technical data, so it's not always clear what kind of technical data you're talking about transferring.

Without clear licensing requirements, the Defense Department may not have an opportunity to review the need for the monitors and safeguards we talked about earlier.

And finally, just let me point out that the additional controls that are now in place for the satellites that were transferred after 1996 do not apply to the satellites that were transferred earlier, during the 1993 process. Those satellites are controlled under the normal Commerce Department rules and are subject to more limited controls.

That concludes my prepared statement. I'd be happy to respond to any questions.

Let me add that we have attempted, since we got notice of the hearing, to bring ourselves up to speed. We have not looked at this issue in depth since the issuance of our report in January 1997, and it's a complicated area, so I may have to offer to provide answers for the record.

Chairman SHELBY. We might want to bring you back at a later time.

Ms. SCHINASI. Okay. That's fine.

Chairman SHELBY. We appreciate it.

Would it be fair to say what you've described here is a rather loose system of controls dealing with exports?

Ms. SCHINASI. No, I don't think it would be a loose system of controls.

Chairman SHELBY. Would it be a tight system?

Ms. SCHINASI. I think it's a very complicated system.

Chairman SHELBY. Complicated.

Ms. SCHINASI. And that we do have very tight controls that we can put in place——

Chairman SHELBY. Can put in place?

Ms. SCHINASI [continuing]. When we believe they are necessary. As I pointed out at the beginning, we're talking about risk.

Chairman SHELBY. Okay.

Ma'am in the deliberations leading up to Secretary Christopher's decision, I believe it was October of '95, to retain the commercial satellites in question under State Department jurisdiction—is that the right date?

Ms. SCHINASI. That's correct.

Chairman SHELBY. What were the positions of the different agencies that participated in the interagency process? In other words, who supported the shift to Commerce, and who opposed it? What concerns were expressed by those agencies or offices that opposed the shift? Which agencies presented the national security issues associated with the shift, if you know? Would you comment on that?

Ms. SCHINASI. The Departments of Defense and State——

Chairman SHELBY. Opposed the shift.

Ms. SCHINASI [continuing]. Supported retaining the satellites under the State Department regime.

Chairman SHELBY. Okay.

In the 1997 GAO report that you've been talking about, you note the Commerce Department's insistence that the '96 shift in jurisdiction was unanimous. This view, which Commerce stands by today, I understand, is apparently based on the fact that after Secretary Brown appealed Secretary Christopher's decision to the President, and the President ultimately sided with the Commerce Department, the State Department and others, not surprisingly, saluted and supported the President's decision, you know. We understand.

In your view, does this constitute a unanimous decision in the commonly understood sense of the word, or a loyal, you know, it was troopers, for President. In other words, it wasn't everybody voting on it. It was not unanimous in that sense, was it?

Ms. SCHINASI. The decision was unanimously supported by the agencies that were involved in the process.

Chairman SHELBY. After the President made the decision.

Ms. SCHINASI. We did not look, we did not investigate specifically the decisionmaking process. And there's not much documentation involved with it.

Chairman SHELBY. Okay.

In your testimony you also described some of the enhanced controls that the Commerce Department agreed to impose on commercial satellite exports after the '96 transfer to the Commerce Control List, which were designed, in your words, to, quote, "mirror the stricter State Department controls." You recall that?

Ms. SCHINASI. That's correct

Chairman SHELBY. Could you describe for the committee today to what extent those changes do, in fact, mirror the State Department controls and what differences remain between the two processes, both on paper and in the practical, day to day practice and implementation. Especially, we're interested in the security and the monitoring procedures required during the actual export, transfer and launch of a satellite. For example, the technology transfer control plans, technical assistance agreements, and the use of Defense Department monitors. You understand what I'm——

Ms. SCHINASI. Yes, I do.

Chairman SHELBY. Okay.

Ms. SCHINASI. We have not looked at how the system is working since it's been put in place. I think you ask a good question, how have the conditions—we do make the point that the conditions put on the licenses are very important.

Chairman SHELBY. But you could do this and come back to the committee later, could you not, on that?

Ms. SCHINASI. Yes.

Chairman SHELBY. Would you conclude that under the State Department process that safeguards were mandatory while under the Commerce Department process the safeguards are now essentially optional, and who decides whether they will be applied? How would you describe that? Is that——

Ms. SCHINASI. What we have is experience, and the State Department historically imposed at least the two safeguards that I talked—the three safeguards that I talked about, requiring the technology transfer plans, having DOD monitors on site at the launch, and having the technical assistance agreements, a license

for which was granted separate from the license to launch. The Commerce Department has those tools to use if it chooses to do so.

Chairman SHELBY. But you haven't checked the trend since this has happened.

Ms. SCHINASI. That's correct.

Chairman SHELBY. This is something you'd get into and get back with us at the proper time?

Ms. SCHINASI. Yes.

Chairman SHELBY. In the export control process, the Defense Department has traditionally been regarded as the hardline advocate for national security concerns. These are my words. There have been suggestions that in recent years, the Defense Department has abandoned that role and moved closer to the positions more typically taken by the Commerce Department. Is that an accurate assessment, and if so, how do you explain the shift?

Ms. SCHINASI. I think I would look at the items that were being controlled and the process by which they were being controlled. We have seen the movement of a number of items traditionally controlled on the munitions list over to the Commerce Department list that brings into play all of the various different interagency processes that I referred to earlier, in which the Defense Department becomes one of many votes.

Chairman SHELBY. If this is true, you know, that is, the shift in attitudes, if that were true and it's shared by—is this shift shared by the Defense Technology Security Administration, DTSA, or does it originate in other elements of the Defense Department? In other words, how are these issues resolved in reaching a final, coordinated Defense Department position and reconciled with DOD's core mission, that is, protecting our national security?

Ms. SCHINASI. The DTSA, as you referred to, still maintains the primary role in evaluating technology transfers and their military significance. And I am not aware of any shift in the position of the department overall, other than——

Chairman SHELBY. You said you hadn't tracked that trend, though.

Ms. SCHINASI. No, we haven't looked.

Chairman SHELBY. But you will do this on behalf of the committee, would you not if we ask you to do that?

Ms. SCHINASI. Yes, we would be happy to do that.

Chairman SHELBY. Senator Kerrey.

Vice Chairman KERREY. Thank you very much, Mr. Chairman.

Miss—is it Schinasi?

Ms. SCHINASI. Schinasi, yes.

Vice Chairman KERREY. Schinasi. Thank you.

Just to clarify something, on page 13 of your testimony, you say that Defense monitors at the launch, this is one of the additional, what do you call, safeguards and controls after the waivers. And I must say, I was not aware that there has not been a single waiver denied over the entire——

Ms. SCHINASI. For launch.

Vice Chairman KERREY. For launch?

Ms. SCHINASI. That's correct.

Vice Chairman KERREY. Over the entire history of the waivers, there has not been a single waiver denied for launch?

Ms. SCHINASI. A license application. Yes.

Vice Chairman KERREY. But my understanding is, in addition, that the Defense does much more than monitor the launch, that they actually accompany the satellite from the manufacturer all the way to the launch, and that, in the case of the Chinese, they actually never take physical access or have physical opportunity to access the satellite.

Ms. SCHINASI. That's my understanding.

Vice Chairman KERREY. I think that is correct, that there is an additional effort. And I also find—let me say that I completely agree that in the case of the Chinese, that there is substantial risk here. And I am wondering if you all have done any evaluation of whether or not the benefits, because there apparently are benefits to using Chinese launch, in addition to getting satellites up. I have heard National Security Adviser Berger talk about the benefits. But in any transaction like that, we evaluate risk versus benefit, have you personally evaluated risk versus benefit in this?

Ms. SCHINASI. No, we have not done any of that.

Vice Chairman KERREY. I think it might be useful to do so, frankly. I don't know how—what the benefits are. I mean, I am looking at the—and we don't have numbers for '97, '98, but one of the things, it seems to me as we evaluate this, in addition to trying to evaluate the process, determine if there are any improvements that can be made, and I find the process not only to be complicated; I think it lacks a central leader that perhaps is in charge of proliferation questions and evaluates on the basis of proliferation, that sort of pulls everything together so the President's got a final proliferation recommendation, as opposed to maybe three or four competing views coming simultaneously. It seems to me that proliferation is the number one question. That's why I do find the process to be a bit complicated and perhaps not serving the President well enough as he makes a decision ultimately, as to whether or not to proceed with a waiver. And most compelling, that throughout this entire time, no waiver to launch have ever been denied. And there's been a lot of incidences during this period of time that would cause, it seems to me, a commander-in-chief to say I am concerned about proliferation, thus, I am going to deny a waiver to launch. It seems to me that that risk-benefit calculation has got to take place, because we're going to—we are seeing an increasing number of launches. In '87, commercial satellite launches, according to Office of Technology Assessment—I am wondering, Ms. Schinasi, if you all looked at the commercial satellite launch as the backdrop for all this, the increased demand for commercial satellite launch as the backdrop for this waiver process? Did you look at both the increasing demand and the changing mix of the launch?

Ms. SCHINASI. No, we did not.

Vice Chairman KERREY. Well, I am looking at it in 1987, as I said, there's been a tremendous change, and the changes continue. Four satellites were launched in 1987: one by U.S.; three by, it says France, but it's France——

Ms. SCHINASI. New Guinea?

Vice Chairman KERREY. It's in New Guinea, yeah, but it's a consortium. Anyway——

Ms. SCHINASI. Oh, the Ariane?

Vice Chairman KERREY. Ariane launch. So there was only four in 1987. In 1996, according to the Office of Technology Assessment, there were 49, 16 of them—about a third—still being done U.S., and all the rest of it, France, Russia, China. China only composed in that year, three. I understand there may be a larger fraction now.

It seems to me that one of the things in addition to looking at the process and evaluating is the process too complicated, does it serve the President well, is it subject to political influence that might compromise national security, all those sorts of questions. In addition to that, we ought to be looking secondly at whether or not the risk just exceeds the potential benefit. Sometimes it does. Then you just don't do it. In this case, we've got an incident after the so-called St. Valentine's massacre, the 14th of February '96 when there was a failure and then a follow-up as a consequence of an international insurance group saying we've got to get this done, this evaluation done. And the potential, according to Customs anyway, the potential for a violation of a U.S. law to have occurred, I'm wondering, it seems to me, secondly, we ought to be looking at the entire risk-benefit equation.

And then thirdly, we've got to answer the question still today in 1998, did we—is it wise for the United States of America, given not only our need to launch commercial satellites, but the increasing dependency on open source technology for our intelligence. I mean, this thing sort of has a circular nature to it.

We use open source information increasingly as the source for our decisionmaking. Is it wise for the United States to go forward in an era where we are increasingly going to need launch, is it wise for us to go forward not having a sufficient amount of launch capacity to take care of all of our needs, being dependent whether it's on—whoever it's dependent upon, depending upon others to do something as vital as this is for national security.

And I wonder if GAO has done any evaluation of that particular aspect, looking at the overall launch capacity and the decision in '88 as well as the decision now. We continue to—we continue to reaffirm the wisdom of that decision because we have made no effort to alter it.

Ms. SCHINASI. We have nothing specific under review. We are looking generally at those issues through our work on satellite programs, such as the Expendable Evolved Launch Vehicle.

Vice Chairman KERREY. And you also say in page 3 of your testimony, Arms Control Export Act—excuse me—Arms Export Control Act gives State Department the authority to use export controls to further national security and foreign policy interests without regard to economic or commercial interest.

Now, I must say, I have had many contacts with the State Department, and at least half of them are trying to press the State Department to consider economic and commercial interests when they're doing business. And indeed, every embassy throughout the world now has an effort underway to try to promote U.S. economic interests. And I wonder, in your evaluations, GAO's evaluation, if you looked at congressional pressure to get first President Bush and then President Clinton to transfer the authority from State to Commerce just for this reason. I'm looking at a—I had staff dig it

out, because I know that I've been asked—not, significantly, by Loral, I'd point out—but I've been asked in many other areas, would I contact the State Department and try to get them to expedite a decision they're making. And I've wondered if Congress had intervened on this one. And there's, I think, 33 signatures on a letter to Warren Christopher, October 27, 1993, members of Congress, urging the transfer from State to Commerce. I wonder if GAO evaluated any of these kinds of interactions. I mean, we—you say that it makes it without regard to economic or commercial interests, but certainly members of Congress, myself included, have gone to State on many occasions and said, we want you to consider economic and commercial interests when you make a decision.

Ms. SCHINASI. I think in this instance we were trying to point the difference in the laws and what the laws put forward.

Vice Chairman KERREY. Okay. You're looking only at the law gives them the authority to do that.

Ms. SCHINASI. That's correct.

Vice Chairman KERREY. Not as to whether or not, in the execution of their duties, they use that authority exclusively to consider national security and don't factor in economic commercial interests.

Thank you.

Thank you, Mr. Chairman.

Chairman SHELBY. Senator Levin.

Senator LEVIN. Thank you, Mr. Chairman. And welcome.

The first question that I have relates to the transfer decision in October of 1995 where the Secretary of State opposed the transfer at that time, and Commerce, as I understand it, appealed to the National Security Council. Is that correct?

Ms. SCHINASI. That's correct.

Senator LEVIN. Now as far as we know, and as far as you can document, that appeal went to the National Security Council; we don't know whether it went to the President. Is that correct?

Ms. SCHINASI. That's correct.

Senator LEVIN. And then following that appeal and between October of 1995 and March of 1996, when a Presidential announcement was made, a number of very important events took place. One is on your chart, specifically in December of 1995 an Executive Order was issued requiring all Commerce licenses to be referred to the Department of Defense, State, and others. Is that correct?

Ms. SCHINASI. Yes.

Senator LEVIN. So that the reference of applications on the Commerce list was tightened, as far as national security is concerned, in December of 1995, by requiring that those items be referred to the Department of Defense. Is that correct?

Ms. SCHINASI. Yes, that's correct.

Senator LEVIN. Now something else of great importance happened between October 1995 and March of 1996, and that is that the agencies met to see if they could come up with a common recommendation to the President. Is that correct?

Ms. SCHINASI. Our understanding from discussing this with participants in the process is that there were numerous meetings.

Senator LEVIN. All right.

So that there were numerous meetings between the agencies to see if they could come up with a common recommendation on this issue to the President.

Ms. SCHINASI. That's correct.

Senator LEVIN. And did they achieve a common position relative to this issue that they then recommended to the President?

Ms. SCHINASI. I don't know that I can say yes, they recommended to the President, because this was a very informal process. This was not something that was done on paper. But part of the discussions taking place set out different scenarios as to how items would be controlled under the two systems.

And so we had, for example, the creation of a new item, Significant Item Control, and other things like that.

Senator LEVIN. But I'm referring, though, to the recommendation to the President about the transfer in March of 1996. That's what I'm referring to.

Ms. SCHINASI. Okay.

Senator LEVIN. Do you have a copy of the press release issued by the White House in March of 1996?

Ms. SCHINASI. Yes, I do. Not——

Senator LEVIN. Could you take a look at the press release?

Ms. SCHINASI. Yes.

Senator LEVIN. Starting with the middle, where it says, "Second, new control procedures and regulations." Do you see that?

Ms. SCHINASI. Yes.

Senator LEVIN. Okay.

Now this was a press release which the White House issued in March of 1996, is this correct?

Ms. SCHINASI. Yes.

Senator LEVIN. At the time of the Presidential announcement we are discussing? Is that correct?

Ms. SCHINASI. Yes.

Senator LEVIN. And I'm going to read it, and stop me if I'm not reading it accurately. "Second, new control procedures and regulations will be developed within 30 days that will provide for strong national security and foreign policy controls to all destinations and end users worldwide for these items. Also, there will be established enhanced procedures for interagency review of Commerce licenses for these sectors to ensure that all national security and foreign policy concerns are comprehensively considered for these sectors. These procedures will provide for expanded participation by reviewing agencies, including the Departments of State and Defense, with initial decisions subject to majority vote of the reviewing agencies. As under current procedures, dissenting agencies will have the right to escalate cases to higher levels, including the President."

Have I read that correctly?

Ms. SCHINASI. Yes.

Senator LEVIN. Now, the next paragraph reads. "This decision does not decontrol any of these items. The President's decision only serves to make clear from which agency exporters must obtain licenses for exports of commercial jet engine hot section technologies and commercial communications satellites."

So far, so good?

Ms. SCHINASI. Yes.

Senator LEVIN. Now, the last paragraph on this page, and this is what I want to discuss further.

"The President's decision to clarify the export-control jurisdiction for these items is the result of an intensive interagency review over the past few months, involving the Departments of State, Commerce, Defense, and the Intelligence Community. All agencies developed a common recommendation to the President. It clarifies the licensing jurisdiction of these items and protects our national security and foreign-policy interests."

Did I read that accurately?

Ms. SCHINASI. Yes, you did.

Senator LEVIN. Do you have any reason to believe that that is not accurate?

Ms. SCHINASI. No, I do not.

Senator LEVIN. Is my time up, Mr. Chairman?

Senator LAUTENBERG. The red light means go, fast.

Senator LEVIN. Thank you, Mr. Chairman.

Chairman SHELBY. Senator Glenn.

Senator GLENN. Do you want to finish your question, Carl?

Senator LEVIN. I've got a lot more, so——

Chairman SHELBY. Yeah. He'll have to wait another round, like all of us.

Senator GLENN. Do we have any policy that was established to permit launches by foreign nations? Now, that's been exercised with China. Have there been other nations that have also launched commercial satellites for this country?

Ms. SCHINASI. Yes.

Senator GLENN. What were those countries?

Ms. SCHINASI. A launch facility in Russia has also launched U.S. satellites.

Senator GLENN. Just Russia? Hasn't France also?

Ms. SCHINASI. And I believe the facility is in the New Guinea, as well.

Senator GLENN. I think that's correct.

We had this change of policy to enable us to use the PRC. Then we were going along okay. Then they had the blowup. Then, as I understand it, there was an insurance company, or the companies wanted to check out what had happened before they were willing to insure future launches. Is that correct, as far as you know?

Ms. SCHINASI. I don't know anything to the contrary.

Senator GLENN. You don't know on that. Okay.

Well, let's say that that's what happened, because I think that's what did happen. With the permit system that you are an expert on here, were permits required to do an investigation of a satellite failure?

Ms. SCHINASI. If there is going to be a transfer of technical data for a system licensed under the State regime, then a technical assistance license is required—a technical assistance agreement license, it's known as.

Senator GLENN. But what if they're just investigating to find out why it occurred? That wouldn't necessarily mean a technology transfer. Under any of our permitting systems, would that be prohibited, as far as you know?

Ms. SCHINASI. I'm trying to imagine—under the current Commerce Department system, you do not need a separate license to discuss what's known as form, fit, and function issues, which is——

Senator GLENN. What is form, fit, and function? Define that, if you would, please.

Ms. SCHINASI. Those—that knowledge which is required to put a satellite onto a launch. It has to do with the size, the electrical connections required, how you bolt it together.

Senator GLENN. Would it be wrong for an American company to contract to help launch a vehicle in a foreign company, France or Russia or China or wherever, according to any of our requirements in law, that you know of?

Ms. SCHINASI. You're asking whether or not they need to apply for a license——

Senator GLENN. Right.

Ms. SCHINASI [continuing]. To launch in a foreign country?

Senator GLENN. To be part of a foreign launch crew, say to give advice on how to launch. Would that require a license?

Ms. SCHINASI. Yes, I believe it would.

Senator GLENN. Under which law would that be required? Do you know?

Ms. SCHINASI. That answer assumes that there would be technical discussions that would take place. So it's hard for me to answer without specific knowledge of whether or not technical——

Senator GLENN. If the thing failed, would it be illegal—or would it be—I assume from what you said before then, it would be legal, or there would be nothing in law that said they could not investigate a satellite failure. Is that correct?

Ms. SCHINASI. Senator Glenn, you're getting me beyond—if you're asking for a legal opinion, I'm sorry. I can't give it.

Senator GLENN. No, I'm asking for what you know about the permitting system and whether that would be required or not.

Ms. SCHINASI. It would have to be determined on a case-by-case basis.

Senator GLENN. Okay.

Ms. SCHINASI. I don't think I can answer that with a general answer.

Senator GLENN. All right.

Chairman SHELBY. Are you finished, John?

Senator GLENN. I guess so. That's all.

Chairman SHELBY. Senator Allard.

Senator ALLARD. Thank you, Mr. Chairman.

I have been reading over your report here. On page 19 you'd indicated that it was only after the Commerce appealed the Secretary of State's decision to the President, and then the President——

Chairman SHELBY. Senator, could you bring your mike up a little closer, please? Thank you.

Senator ALLARD. Mr. Chairman, is that better?

Chairman SHELBY. That's better for everybody.

Senator ALLARD. I'll repeat my question.

It was only after Commerce appealed—and this is on page 19—it says it was only after Commerce appealed the Secretary of State's decision to the President, and then the President decided jurisdiction for both commercial communications satellites and

commercial jet engines hot section technology to the Department of Commerce that unanimous support for the transfer of jurisdiction came about.

In other words, in reading your report, I got the impression that there was a lot of controversy, maybe—but there was at least some controversy—you didn't qualify one way or the other—among the agencies, and the President stepped in, made his decision, and then a unanimous consensus evolved after the President made that decision.

Did you have any way of tracing how that transfer from dissension among the various agencies moved over to a unanimous consent to support the President? Was there sort of a decisionmaking record there?

Ms. SCHINASI. We also have a discussion of the process that you're talking about on page 11 of that report, which is part of the initial review we did. What you're reading from is the response that we made to agency comments when they came back and commented on the report. I would ask you to use the page 11 discussion as the——

Senator ALLARD. I know you want me to use page 11——

Ms. SCHINASI [continuing]. More comprehensive one. Right.

Senator ALLARD. But am I correct that there was dissension among the agencies initially on this licensing transfer to the Department of Commerce of the——

Ms. SCHINASI. Yes.

Senator ALLARD. And then am I correct that the President made a decision, then the agency decision was unanimous? Or was there still dissension among the agencies?

Ms. SCHINASI. No. The President's decision reflected a unanimous agreement among the agencies to transfer the satellites.

Senator ALLARD. And I would repeat my question again, then. What process intervened to change those agency decisions so that it became a unanimous decision supporting the President? Was it the President's decision alone that made that happen, or was there some record of decision within the agencies that brought about a change in the decision?

Ms. SCHINASI. Once that decision went into the National Security Council process, we had a lot less visibility over it. From what we know of discussions with officials involved in it, there were a number of meetings about, as I said earlier, kind of what—how the controls would change. There's no formal agreement that we know of or formal recommendation or anything formal or documented about what actually went on during that process.

Senator ALLARD. So how that happened, I guess, is just open to speculation; is that correct?

Ms. SCHINASI. I don't have anything to offer in terms of documentation.

Senator ALLARD. Okay.

I'm a little bit interested in knowing if the intelligence agencies themselves—how they played a role in this decision, and whether the Intelligence Community was consulted at all as to whether licenses should be approved. Did you get any indication that they had been consulted?

Ms. SCHINASI. Generally speaking, the Department of Defense referred license applications, with respect to COMSATS anyway, they frequently referred those to the intelligence agencies, yes.

Senator ALLARD. And under what circumstances do current regulations compel Commerce to send license applications which include sensitive technology for interagency review?

Ms. SCHINASI. The Commerce Department is required to send all license applications to the Departments of State, Energy, ACDA, the five agencies.

Senator ALLARD. Based on the Tiananmen Square, or is it——

Ms. SCHINASI. No, based on the Executive Order from December of 1995.

Senator ALLARD. I see. And more specifically, is the Intelligence Community assured the opportunity to give an opportunity in all such cases?

Ms. SCHINASI. I'm sorry?

Senator ALLARD. Is the—specifically, is the Intelligence Community assured the opportunity to give an opinion in all such cases?

Ms. SCHINASI. The Intelligence Community is represented as a non-voting participant in the process of appeals under the Commerce Department system.

Senator ALLARD. Okay.

And so it does not have any veto over any of the items of concern?

Ms. SCHINASI. No. It's a non-voting member.

Senator ALLARD. Are you aware of any cases where an element of the Intelligence Community expressed concern regarding a transfer, but was unable to stop the license?

Ms. SCHINASI. Not—not right off the bat, no.

Senator ALLARD. Mr. Chairman, I see my time has expired. Thank you.

Chairman SHELBY. Thank you.

Senator DeWine?

Senator DEWINE. Mr. Chairman, thank you very much.

Let me read from one of your concluding paragraphs on page 14. At the bottom of the page, Defense's power to influence the decision-making process was diminished since the transfer. When under State jurisdiction, State and Defense officials stated that State would routinely defer to the recommendations of Defense if national security concerns are raised. Under Commerce jurisdiction, Defense must now either persuade a majority of other agencies to agree with its position to stop an export or escalate their—or escalate their objection to the cabinet level Export Administration Review Board, an event that has not occurred in recent years. I want to make sure I understand. The event that has not occurred in recent years is——

Ms. SCHINASI. The escalation to the Review Board.

Senator DEWINE. That has never happened?

Ms. SCHINASI. It's happened; it's not happened recently.

Senator DEWINE. Recently meaning, roughly what?

Ms. SCHINASI. Four or five years.

Senator DEWINE. Do you find that unusual? Or do you care to comment?

Ms. SCHINASI. Since you've given me the option——

Senator DEWINE. Well, you always have the option, I guess.

Ms. SCHINASI. The interagency process is a very active one. There are a lot of deliberations that go on. As we pointed out earlier, there are number of different interests that the various agencies are attempting to serve as they go through this process, and it is always a balancing act. Every case is different, and every case requires intensive discussion when there is a disagreement.

Senator DEWINE. But what does that have to do with it not going to the Export Administration Review Board?

Ms. SCHINASI. I think the fact that there are the discussions—that the discussions take place——

Senator DEWINE. Prior to that?

Ms. SCHINASI [continuing]. Gives the opportunity to work out the various interests that are involved.

Senator DEWINE. I want to get back, if I could, to the question about—that was raised earlier in regard to Defense personnel overseeing the satellite launches. How long are the Defense people in place at the launch site, do you know? And how do we know, or do we know, that the people with the right expertise are available? And do they monitor the integration of satellite onto the launch vehicle itself? In other words, do you know exactly how this process works?

Ms. SCHINASI. No, we do not. We have not looked at that.

Senator DEWINE. Was that beyond—when you'd do this, if you do an additional follow-up, is that type information, do you think, beyond your ability to gather?

Ms. SCHINASI. Part of it may be, because of the classified nature of the information. I don't know until I look into it.

Senator DEWINE. I don't want to belabor the point, but I am still a little confused. I want to go back to page 19. And again I want to read from the bottom. It's been read to you before, portions of it.

The Secretary of State upheld these recommendations. It was only after Commerce appealed the Secretary of State's decision to the President and the President decided to transfer jurisdiction for both commercial communications satellites and commercial jet engine hot section technology to the Department of Commerce, that unanimous support for the transfer of jurisdiction came about.

I mean, it just seems what you are saying here is, yeah, once the decision is made at the highest level, then people agree to it. Isn't that—that's all you're saying, isn't it? I mean, that's what would happen and you'd expect to happen in an organization? You fight it out, and the top person makes the decision. Then everyone goes along with it.

Ms. SCHINASI. We did not have, as an objective of the review of this report, to look at the process by which the decision was made. As I said earlier, the description earlier in the body of the report, I think, accurately reflects our understanding of the events that took place. The Commerce Department, in responding to the report, came back and said that—implied that there were no objections from the State Department and the Department of Defense. Our understanding——

Senator DEWINE. Objections to?

Ms. SCHINASI. To moving the controls over. That was the Secretary's position in 1995. Our understanding is that there were repeated, frequent and long meetings on an interagency basis to try and work through some of the issues where there was a difference between the State Department's position in 1995 and what it would mean to transfer those satellites to Commerce Department. So I think that, as I said before, the characterization of that process is better in the body of the report.

Senator DEWINE. All right.

Thank you, Mr. Chairman.

Chairman SHELBY. Senator Hatch.

Senator HATCH. I've been very interested in—the White House points out that all commercial satellite licenses or waivers reviewed by the Departments of Defense and State—that they have to be reviewed by the Departments of Defense and State. Why do you believe that the role of the Department of Defense was diminished in this matter?

Ms. SCHINASI. For the satellites that were on the munitions list before the transfer to the Commerce Department system, the Department of Defense had a larger role in that decision. Commonly, it was only the Departments of State and Defense that participated in those licensing decisions. So the very fact that the Department of Defense became one of many, one of a larger group of players in the transfer, when those satellites transferred to Commerce Department, by the very nature of the process the Department of Defense had a smaller—had a diminished role.

Senator HATCH. Well, what impact would a reduced role of the Department of Defense reasonably be expected to have on DOD's ability to effectively advocate national security interests?

Ms. SCHINASI. We have not looked at how that process has operated.

Senator HATCH. It sounds logical that that reduced basis makes it more difficult for them to argue for national security interests.

Ms. SCHINASI. We do point out that they are—as one of many now, they are required to get a majority of the agencies that participate in the process to agree with them, or to escalate to the Cabinet level, if there is a disagreement.

Senator HATCH. Well, can the United States be confident that the Chinese will not gain technology, or information that enhances their missiles or satellites? What level of confidence? High? Mid-level? Low? Can't answer?

Ms. SCHINASI. I'm sorry, but as I pointed out in the beginning, this is about managing risk and that risk can occur regardless of what regime a satellite is being launched under.

Senator HATCH. Well, how well has the Department of Commerce controlled exports of satellites and other dual use items to ensure that technical information is not transferred? You know, is there case history here, or in the computer—is there a case history in the computer or machine tool or other areas that may be relevant on this issue?

Ms. SCHINASI. It's possible that there are a variety of things you can look at. As I said, we have not done that review.

Senator HATCH. I see.

Well, what other countries sell satellites that are comparable to U.S. satellites in technological sophistication?

Ms. SCHINASI. For commercial communications satellites, you're referring to?

Senator HATCH. Yes.

Ms. SCHINASI. I can't comment on the military satellites, but our U.S. satellite manufacturers are very competitive. And part of that is because of the technology that they are able to put into the satellites.

Senator HATCH. But what other countries come close to us in competition?

Ms. SCHINASI. The French manufacture satellites. That would—that would be the only one.

Senator HATCH. Okay. How strictly do other countries treat communication satellite exports?

Ms. SCHINASI. Part of the Commerce Department argument to move all commercial satellites to their list was to bring U.S. export control procedures into conformance with those typically used by other countries. So, to license them as dual use items, rather than munitions.

Senator HATCH. If you know, are these other countries' procedures more akin to the Commerce Control List procedures, or the munitions list procedures?

Ms. SCHINASI. We haven't looked specifically at that question——

Senator HATCH. So you don't know.

Ms. SCHINASI [continuing]. But I——

Senator HATCH. Have previous administrations generally followed or led other countries in deciding whether to export technologies to other countries?

Ms. SCHINASI. That's a difficult question to answer generally. I'm not sure that there is an answer to it generally.

Senator HATCH. What other multilateral export regimes are there, really?

Ms. SCHINASI. With the dissolution of the Coordinating Committee, COCOM, the basic multilateral regime for dual-use exports is known as the Wassenaar Agreement, which is a very loose system of multilateral controls. There are additional controls such as those under the Missile Technology Control Regime, which look at components and technologies unique to missiles. And that is a more stringent regime with more clearly defined procedures.

Senator HATCH. Would you just clarify the role of the Intelligence Community in deciding whether licenses should be approved? What would be the role of the Intelligence Community?

Ms. SCHINASI. The Department of Defense—according to Department of Defense officials, they routinely refer satellite license applications to the Intelligence Community. In terms of a say in the process, a vote in the process, the Intelligence Community is represented only as a non-voting member on the operating committee and the other committees within the commerce system that come into play when there is a disagreement about a license approval.

Senator HATCH. Mr. Chairman, could I just ask two follow-up questions?

Chairman SHELBY. Go right ahead, Senator. Thank you.

Senator HATCH. Under what circumstances do current regulations compel Commerce to send license applications which include sensitive technology for interagency review? And specify—specifically is the Intelligence Community assured the opportunity to give an opinion in all such cases, and does it have a veto over items of concern? And if no veto, why not?

Ms. SCHINASI. There is no agency of the Intelligence Community that is listed as a participant in the process, so their involvement comes when items are referred to them for discussion.

Chairman SHELBY. Excuse me a minute, Senator, if you would yield.

Relate to us again what agencies are part of the process.

Ms. SCHINASI. There are five agencies that participate: the Departments of State, Commerce, Energy, the Arms Control and Disarmament Agency.

Senator HATCH. And Defense.

Ms. SCHINASI. And the Department of Defense.

Chairman SHELBY. But none of them have a veto, do they?

Ms. SCHINASI. No.

Chairman SHELBY. See, that changed, did it not?

Ms. SCHINASI. Yes, that's correct.

Chairman SHELBY. Thank you, Senator.

Senator HATCH. One last question, and I think it's very pertinent. Are you aware of any cases where an element of the Intelligence Community expressed concern regarding a transfer but was unable to stop the license?

Ms. SCHINASI. As I answered before, I don't recall any right off the bat, no.

Senator HATCH. None whatsoever.

Ms. SCHINASI. I don't recall any. I could get back to you with that information.

Senator HATCH. If you would; if there are any, I'd sure like to hear about it.

Thank you, Senator—Mr. Chairman.

Chairman SHELBY. Senator Bryan.

Senator BRYAN. Thank you, Mr. Chairman.

Ms. Schinasi, this has been very helpful, but I am not altogether clear as to the process. Could I ask you to give me a very thumbnail sketch of the procedure, both before and after the Presidential announcement of March of 1996? Assume for the purpose of my question that I am an American satellite manufacturer. I have a satellite that I want to launch. For whatever reason, there is not a domestic capability, and we need either the French, the Chinese or the Russians to launch. What would I do? And again, encapsulate. What is the first step I would take, as part of this process that you've described to us?

Ms. SCHINASI. You would need to obtain a License to Launch from the Department of Commerce.

Senator BRYAN. The Department of Commerce.

Ms. SCHINASI. And you would——

Senator BRYAN. I'd file an application. Then just kind of walk me through this very briefly, because I know we've got MTAC and we've got a whole lot of processes here that I am just trying to put into some context.

So we apply to Commerce.

Ms. SCHINASI. You would apply. And there are certain time restraints. They are required to get back to you in nine days, for example——

Senator BRYAN. Forgetting the time line, just take me through this process as to how it would work.

Ms. SCHINASI. Your application would also trigger the beginning of the waiver process, which for communication satellite exports to China involves two sanctions—the missile technology sanctions and the Tiananmen sanctions. The missile technology sanctions are not now in place. The last time they were imposed was in 1993, so you would not be concerned with those. But the Tiananmen sanctions are in place.

Senator BRYAN. So we have dual tracking then, the license itself and then the waiver regime?

Ms. SCHINASI. That's correct.

Senator BRYAN. Am I correct?

Ms. SCHINASI. That's correct.

Senator BRYAN. Follow forward, if you would, please.

Ms. SCHINASI. Okay.

The State Department handles the waiver process, if that's the way I can put it. But this is all done in an interagency environment. My understanding of the way that it works is the Commerce Department will refer your license application to the Department of Defense because they have asked for 100 percent referral. And if the other participating agencies have asked to see the license in question or the type of license that you've applied, the license application will also be referred to them.

Senator BRYAN. And this procedure existed both prior and after the March 1996 Presidential announcement?

Ms. SCHINASI. This procedure changed in December of 1995.

Senator BRYAN. 1995.

Ms. SCHINASI. Yes.

Senator BRYAN. Okay.

Ms. SCHINASI. With the Executive Order from the President that said Commerce is required to refer all license applications.

Senator BRYAN. So, I mean, there's this interagency discussion. There's still a waiver that has to be secured, and a license to be issued, if I understand.

Ms. SCHINASI. That's correct.

Senator BRYAN. Okay.

This is kind of an informal colloquy that occurs between the various agencies. Is that accurate? Or is this structured or formalized?

Ms. SCHINASI. My understanding of the process is that there are regular meetings, at which time they discuss a variety of license applications that have been submitted.

Senator BRYAN. And the agencies that are involved are the same five that you responded to in terms of Senator Hatch's question just a moment ago?

Ms. SCHINASI. Yes, that's correct.

Senator BRYAN. Okay.

Then what happens? How is the decision reached, both as to the waiver and the license approval? Again, take me through the process.

Ms. SCHINASI. If there is agreement that your license be approved, then the waiver process moves forward, and——

Senator BRYAN. So let me just stop you there. First of all, it's a question of whether the license should be approved, and then the question as to whether the waiver should be issued. Am I correct sequentially?

Ms. SCHINASI. That's my understanding of the practice.

Senator BRYAN. Okay.

Ms. SCHINASI. I'm not sure that that is laid out in written procedure anywhere.

Senator BRYAN. And so the Department of Defense, or the Department of Commerce, rather, in terms of this waiver, or not waiver, but the license procedure, the five agencies work themselves through that process, reach some kind of a consensus——

Ms. SCHINASI. Yes.

Senator BRYAN [continuing]. Go forward, and then either concurrently or shortly thereafter the waiver is issued.

Now if that occurs, that completes the process. Am I correct?

Ms. SCHINASI. The waiver is issued, and then the license is granted.

Senator BRYAN. The waiver is issued, and then the license is granted.

Now how did all of that change? If you'll explain to us how the procedure changed after the Executive Order and again after the March 1996 Presidential announcements, what part of that process changed, if any?

Ms. SCHINASI. The dual track of waiver and licensing has been in existence since the Tiananmen sanctions were imposed. So that does that—was not affected by any events.

Senator BRYAN. So that has not changed.

Ms. SCHINASI. The interagency discussion has been in process since December of 1995.

Senator BRYAN. And that has not changed.

Ms. SCHINASI. That has not changed. What changed with the decision in 1996 to move the remaining satellites to the Commerce Department control is how you handle a disagreement on the license.

Senator BRYAN. Okay. So prior, the State Department had the final say and after the transfer the Department of Commerce, am I correct on that, ma'am?

Ms. SCHINASI. For satellites licensed under the State Department munitions list system, the State Department had the final say. For satellites licensed under the Commerce Department system, the Commerce Department had the final say. What we have now is a hybrid system. For those satellites that were transferred after 1996, the process is such that there must be a majority decision on whether or not a license is to be granted, instead of the Commerce Department making the decision for their items or the State Department making the decision for their items. All of those items have moved to Commerce, but Commerce no longer has the final say. The final say is made by a majority vote of the five agencies that we talked about.

Senator BRYAN. Is it fair to conclude then the authority of Commerce has been diminished as a result of this change of procedure?

Ms. SCHINASI. This is a stricter—stricter requirement for the Commerce Department relative to the other items they license for dual use purposes. There was a second——

Senator BRYAN. Mr. Chairman, if——

Ms. SCHINASI. Let me just add——

Chairman SHELBY. Go ahead.

Ms. SCHINASI. There was a second category of items that came over in that '96 decision and had to do with jet engine hot section technologies.

Senator BRYAN. I understand that you perhaps do not have any details with respect to the waiver that occurred after the St. Valentine's Day Massacre, as Senator Kerrey characterized the February 14th launch failure. Again, in that context, how did that waiver—how did that processing proceed in this context of the discussion that you've just given to me, or—if you have any knowledge?

Ms. SCHINASI. Yeah. We have not looked at that process; what I've described to you is generally the way the process works. But I have no information, I'm sorry, on how that specific process——

Senator BRYAN. So currently we have this hybrid that you've just outlined——

Ms. SCHINASI. That's correct, for the satellites that were transferred after the '96 decision.

Senator BRYAN. What satellites were not, just to—in a generic sense what satellites were not transferred to this new protocol?

Ms. SCHINASI. Military satellites.

Senator BRYAN. Military. Okay.

So we're talking about commercial.

Ms. SCHINASI. All dual use, commercial communications satellites.

Senator BRYAN. And does dual use have reference to commercial only as opposed to a military satellite?

Ms. SCHINASI. Dual use means they can used for either military or commercial purposes.

Senator BRYAN. Thank you so much.

And Mr. Chairman, thank you for your indulgence.

Chairman SHELBY. Senator Graham.

Senator GRAHAM of Florida. Thank you, Mr. Chairman.

I want to go back to 1988, when the original decisions were being made to utilize non-U.S. launch capacity for U.S. made commercial satellites. It seems to me that there were two categories of risk that were involved in that decision. One was the kind of risk that we've just been discussing, and that is the issue of the inappropriate transfer or provision of access to foreign nations of technology that might have an adverse effect on U.S. national security interests.

The second risk was that associated with the declining U.S. market share and competence in the area of launch of commercial satellites.

First, did your report review any evaluation of the assessment of those categories of risk at the time in 1988 when the decision was made to go forward with foreign launch capability for U.S. commercial satellites?

Ms. SCHINASI. Senator, we did not. That actually predates the period of time that we reviewed for this report. What we've tried to

do for the hearing is put together sort of a more—a fuller chronology of what happened. But in terms of asking the kinds of questions that you're talking about, no, we have not done that.

Senator GRAHAM of Florida. So you would then not have any information as to the degree to which the Intelligence Community contributed their assessment of those two categories of risk in the process of making the 1988 decision.

Ms. SCHINASI. No, we do not.

Senator GRAHAM of Florida. On the risk associated with the declining U.S. market share, are you aware of any analysis that's been done as to what has been the effect on our relative competitive position in the launch of commercial satellites as a result of the diversion of a significant number of our satellites to non-U.S. launch sites and capabilities?

Ms. SCHINASI. No, we have not done that. It's an area that I believe the Department of Defense is looking into. As I mentioned before, it has certain programs underway to try and address the issue of U.S. launch capability.

Senator GRAHAM of Florida. Well, that gets to my next question, is during the now more than 10 year period that we've been utilizing foreign launch capabilities, has there been any evidence that that use of foreign capabilities has had the effect of reducing the assertiveness of our efforts to improve, enhance, make more useful, including making more economically competitive, our own domestic launch capability?

Ms. SCHINASI. I'm sorry, we haven't looked at that.

Senator GRAHAM of Florida. On the second category of risk, the risk associated with the potential abuse of technology, what has been the role of the U.S. Intelligence Community in evaluating that element of risk?

Ms. SCHINASI. As I've tried to describe, we believe that the Intelligence Community, through the referrals by the Department of State, has participated in some of the decisions in licensing. I don't have information on specifically when they've been involved or what their position has been.

Senator GRAHAM of Florida. Do you know, has that participation been both at a, what I would call the micro level, assessing individual license applications, as well as at the macro level, that is, assessing the environment of a particular country into which we were about to insert our communication satellites?

Ms. SCHINASI. I'm sorry, I don't know.

Senator GRAHAM of Florida. Mr. Chairman, I recognize that the questions that I've been asking are outside the parameters of the report that we just received, a report that I found to be very helpful. I would hope that at some time in the course of these hearings, we could have some appropriate witnesses who could comment on the category of risks that we have subjected ourselves to both by the exposure of our technology to foreign nations and the self-imposed decline in our relative competitiveness in the area of commercial launch capability.

Chairman SHELBY. Senator Graham, that's a good point. We will have that.

Senator GRAHAM of Florida. Thank you.

Chairman SHELBY. Start another round if we can.

The press release, I believe it's my understanding, Senator Levin, is dated March 14th, 1996, that you asked her to read from? The staff tells me that, '96, from the administration, that you have before you. The press release Senator Levin read from included the statement—I believe it's the second paragraph—commercial communication satellites will be controlled on the dual use list as well, even if they include individual munitions list components or technologies. Do you follow me on that?

Ms. SCHINASI. Yes.

Chairman SHELBY. Can you explain to the committee what this means and some examples of individual munition list items, if you have it? And does this include encryption hardware for securing the command and control of the satellite while it's in orbit? In other words, did any agency, to your knowledge, thus far in your investigation, raise concerns about these items being placed, in effect, on the Commerce Control List, even though they remained individually tightly controlled sensitive technologies on the munitions list? You follow what——

Ms. SCHINASI. Yes.

Chairman SHELBY. Okay.

Ms. SCHINASI. The components that you're talking about—and I believe we attached something to the end of the statement—were those that, prior to 1996, differentiated between satellites that were controlled on the munitions list and satellites that were controlled on the Commerce list. Having any of those nine militarily critical capabilities meant that they were controlled by the State Department. In the current situation, components that are exported as components—any of those components—are still controlled by the State Department. But if those components are incorporated into a commercial communications satellite, those come under the control of the State Department. Encryption devices is one of those nine militarily significant items.

Chairman SHELBY. Okay.

Your report states—says that you interviewed officials from a number of agencies, including representatives from the Intelligence Community, which there are a number of agencies——

Ms. SCHINASI. Yes, that's correct.

Chairman SHELBY [continuing]. Such as the NSA, National Security Agency. Is that correct?

Ms. SCHINASI. Yes, that is.

Chairman SHELBY. The Defense Intelligence Agency—you mentioned them earlier.

Ms. SCHINASI. Yes.

Chairman SHELBY. Are you aware, I should say, are you aware of any dissent within the Intelligence Community regarding the inclusion of commercial communications satellites, even if they include individual munitions list components, on the Commerce Control List? I know this is very complicated.

Ms. SCHINASI. Right. No, I'm not aware of any——

Chairman SHELBY. Do you want to go over that again? You understand the——

Ms. SCHINASI. No, I understand the question, and I'm not aware—I can't recall any specific——

Chairman SHELBY. Will you check the record on all this?

Ms. SCHINASI. Yes, I would be happy to do that.

The Export Administration Regulations, that govern the Department of Commerce export system, identify the type of technical data that can be licensed by the Department of Commerce as part of the launch. This data is commonly referred to as "form, fit and function" data. The Regulations provide that technical data provided to the launch provider—including form, fit function, mass, electrical, mechanical, dynamic/environmental, telemetry, safety, facility, launch pad access, and launch parameters—that describe the interfaces for mating of the satellite to the launch vehicle and parameters for launch—for example, orbit, timing—can be licensed by the Department of Commerce.

Chairman SHELBY. Because, as you said, you want to bring your report up to date, and I think there have been a number of other questions asked that you want to respond to here.

Ms. SCHINASI. Let me add that there may be some that we would not necessarily know or have access to.

Chairman SHELBY. Because of classification.

Ms. SCHINASI. A number of the discussions that probably would have taken place or could have taken place.

Chairman SHELBY. And we'd have to get that through someone else, is that correct?

Ms. SCHINASI. Yes.

Chairman SHELBY. I want to get into some of the effects of the transfer to the Commerce—or Commerce Control List, is that what you call it, the CCL?

Ms. SCHINASI. CCL.

Chairman SHELBY. As opposed to the Munition List.

Ms. SCHINASI. Yes.

Chairman SHELBY. Two different things.

You state that items moved from the Munitions List to the Commerce Control List are no longer subject to certain missile technology sanctions or to congressional notification requirements. Is that correct?

Ms. SCHINASI. Yes, that's correct.

Chairman SHELBY. Do you believe that these sanctions and reporting requirements were among the reasons that the aerospace industry pushed so hard for the transfer? Was the Commerce Department sympathetic to these concerns in your judgment?

Ms. SCHINASI. The industry has stated that those are two of the reasons that it——

Chairman SHELBY. Okay.

In your opinion, when the issue at hand is missile proliferation and the country is China—is what we're talking about here, although we've talked about some other countries, and I am sure will—and China is basically known as one of the big proliferators or worse proliferators of missile technology—does it make sense to exempt missile related technologies from those sanctions or to remove those transactions from congressional scrutiny?

Ms. SCHINASI. Mr. Chairman, you've gone way beyond the basis of——

Chairman SHELBY. Beyond your scope?

Ms. SCHINASI [continuing]. The knowledge that I have, yes.

Chairman SHELBY. In one of your charts—if we can get back into some technical information—you make the following observation about the current export control system. I'll quote you. "Technical information not clearly controlled."

Ms. SCHINASI. That's correct. And——

Chairman SHELBY. Is that the other chart?

Ms. SCHINASI. The chart is not up. Yes, it's——

Chairman SHELBY. Now, what did you mean when you said "technical information not clearly controlled"? Why and in what manner is technical information not clearly controlled? That was alluded to some other Senators.

Ms. SCHINASI. When the satellites moved over in 1996 to be controlled by the Commerce Department under some of these new procedures, there was not a category set up specifically for technical data. Under the State Department system, there is a specific category for technical data that requires a license. A Technical Assistance Agreement License is required for the transmission of technical data.

There is no specific category set up for the satellites now that they are under the Commerce Department control.

For that data which is at the level of form, fit and function, it is considered to be part and parcel of the communications satellite. So a license to be able to launch is also a license to be able to discuss form, fit and function data.

Chairman SHELBY. Form, fit and function.

Ms. SCHINASI. Yes.

Chairman SHELBY. Now, what does that mean to us on the committee and to the American people—form, fit and function?

Ms. SCHINASI. Those are——

Chairman SHELBY. From your knowledge, is what——

Ms. SCHINASI. Right. That is the basic information that is required to put a satellite onto a launcher. It has to do with the size of the satellite relative to the size of the launcher, how you bolt it on or how you attach it, how the electrical connections hook up to put the satellite on there and keep it there during launch. So, it's just the basic parameters of mechanical and electrical information that's needed to mate the satellite to the launcher.

Chairman SHELBY. Would that include information or analysis of—transfer of technical information as to why a launch failed? You know, this is part of the inquiry, I know.

Ms. SCHINASI. Right.

Chairman SHELBY. You don't know?

Ms. SCHINASI. There is a very good—I mean, there——

Chairman SHELBY. Form—say it again. Form.

Ms. SCHINASI. There is a clearer definition of form, fit and function that has existed. I don't have it with me——

Chairman SHELBY. Can you furnish this to the committee?

Ms. SCHINASI. I'd be happy to do that.

Chairman SHELBY. And as I said, we'll get back.

Senator Kerrey.

Vice Chairman KERREY. Earlier, I think it might have been Senator Hatch, Ms. Schinasi, who was asking about whether or not there's any other competitive makers of satellites, and that was also beyond your pay grade——

Ms. SCHINASI. Yes.

Vice Chairman KERREY [continuing]. As it was mine as well. And I would like to point out for the record that it is one of the significant arguments that people make when they're urging the Secretary of State or the Secretary of Commerce to grant a waiver. Indeed, I'd just like to state, put into the record a letter that was signed by 30 Members of Congress on October 27, 1993, equally divided, approximately Republican-Democrat. Their principal argument is since foreign competitors stand willing to sell their satellites to China, the only people actually affected are those employed by US satellite manufacturers. And a letter on the 16th of November, 1993, Governor Pete Wilson, making the same argument, that these sanctions not only prohibit the sale of satellites to the PRC but they also preclude us from sending satellites. It says, because of the availability of satellites from other countries, the impact, including commercial satellites in the US, sanctions will have little effect on the PRC but enormous impact on the United States, especially California, which is the home of many of the nation's satellite manufacturers.

I point out that in the '97 January 13 Aviation Week, Space and Technology publication called Aerospace Source Book, there are two pages, single spaced, of various manufacturers of satellites, including companies in Brazil, Israel, Germany, France, the UK, Russia and Sweden. So it's one of the reasons that there's—one of the—it's one of the arguments given, when political pressure is put upon either Commerce or State, that waivers should be granted to China, that the failure to grant the waiver will not hurt China, it will hurt US satellite manufacturers.

Let me ask if you have read—I have had made available to me, since we've gotten into this stuff, a variety of different opinions. And I wonder if you have read an article by a man, a gentleman by the name of Henry Sikolski. He is the executive director of the Nonproliferation Policy Education Center and was an official for nonproliferation issues in the Bush Defense Department.

Ms. SCHINASI. I am aware of his writings generally. I——

Vice Chairman KERREY. Can I—and again, I have no quarter with this individual, I don't know if what he's saying is correct, and I'd like to ask you to comment on some of the assertions that he makes in his article. This is an article that appeared in the Weekly Standard on June 1, 1998. He says that anticipating proliferation problems, State and Defense officials drew up strict rules in the late 1980s covering precisely what information companies could share with the Chinese. These rules required monitoring of all contractor-Chinese exchanges. Did it prevent useful information from being conveyed to the Chinese? No. Because all exchanges were monitored, there was a clear record of what was conveyed and a concerted effort to keep such transfers to a minimum. Where there infractions? Yes. But when they were reported to senior officials—and he goes on to describe this system that was in place in the late 1980s. And then there were changes made to stop this kind of monitoring. And he goes on to say that dropping this kind of monitoring decreased our capacity to discover whether or not infractions occurred.

Are you aware, is that part of your observation as well? Do you agree with Mr. Sikolski?

Ms. SCHINASI. I was not aware that there was a formal dropping of the monitoring process. In fact, the ability to have monitors at the site is still one of the safeguards that I referred to earlier as something that is very important. There was a decision about who should pay for those, and for awhile that was in dispute.

Vice Chairman KERREY. Well, I would appreciate it very much if you would evaluate this particular section of Mr. Sikolski's essay, because it does seem to bear upon the question of whether or not some laxity occurred. Although, again, if all waivers for launch were granted since this whole process began, and especially since the Chinese never physically held one of these satellites, ever, the monitor, no matter what kind of conversations were going on back and forth, they never hold one of these satellites on their own, they're delivered, they're monitored every step of the way up to and including the launch, but these conversations could result in transfer of information that improved Chinese capacity to launch. And again, given the dual use with ballistic missiles, it is a very serious question, it seems to me.

There's a number of other questions. I won't go through all of them. But I would be very grateful, since you obviously have the capacity to evaluate these sort of things, to look at these arguments made by this gentleman and advise, at least me if not the entire committee, as to whether or not you agree with representations being made.

Finally, I would just ask you if you, in your evaluation of this thing, think that if we were to under law create a new Under Secretary of State for Proliferation or of Defense or somewhere at the Federal level that would have overall responsibility for evaluating the problem of the proliferation of technology that could increase the likelihood of Americans being at risk as a result of this transfer, I wonder if you would have a comment on whether or not you think designating somebody that would have overall responsibility—and currently there is no one with overall responsibility, it's very fragmented, and no one really is in charge other than ultimately the President himself, I wonder if you could comment as to whether or not you think that kind of change in the law would increase the likelihood that we would get this right?

Ms. SCHINASI. We have done a variety of work, more specifically on the proliferation issue, and I have not been associated with that. I would appreciate the opportunity to get back, after some discussions and thought on that issue.

Vice Chairman KERREY. Thank you.

Thank you, Mr. Chairman.

Chairman SHELBY. Senator Levin.

Senator LEVIN. Thank you, Mr. Chairman.

Earlier you testified relative to the decision in March of 1996 that the characterization of the process is better in the body of your report, to use your words. And then I assume that that refers to page 11; is that correct?

Ms. SCHINASI. Yes.

Senator LEVIN. And the description on page 11, which is in the body of the report—page 19 not being in the body of the report, as

I understand your testimony—the description on page 11 at the top reads as follows: "The Executive branch's decision is the result of an interagency review involving State, Commerce, Defense and the Intelligence Community in which the agencies developed a common recommendation to the President to clarify the licensing jurisdiction of these items." Is that accurately read?

Ms. SCHINASI. I'm sure it is. I'm sorry, I wasn't following along.

Senator LEVIN. Okay. Next question.

Following this March 1996 decision—well, in December of 1995 there had been an Executive Order which preceded that March decision and——

Ms. SCHINASI. Yes.

Senator LEVIN [continuing]. Subsequently in 1996 there were some interim regulations implementing that decision, which as I understand it, for the first time accomplished some important changes. And I'd like to go through some of those with you.

Is it true that for the first time after December 1995 and the interim regulations in October-November 1996, that Commerce had to refer all of its export license applications to the Department of Defense, State, DOE and ACDA?

Ms. SCHINASI. As a result of the December Executive Order, yes, that's correct.

Senator LEVIN. So DOD was referred every application which went to Commerce after December of 1995?

Ms. SCHINASI. Yes. Each of the agencies——

Senator LEVIN. Including DOD?

Ms. SCHINASI. Each of the agencies identified what part of those licenses that they were to receive. They were allowed to get 100 percent. Not all agencies choose to, but the Department of Defense choose to receive 100 percent of them.

Senator LEVIN. Right. But that was not true before December of 1995, is that correct?

Ms. SCHINASI. That's correct.

Senator LEVIN. Now, in addition, after December of 1995, is it correct that if an agency did not like the decision by Commerce, that the agency had the right to a number of appeals and that pending that appeal the license would not issue?

Ms. SCHINASI. That change was contained in the regulations that were issued by the Department of Commerce in October of——

Senator LEVIN. All right. And those regulations were implementing the decision of March 1996?

Ms. SCHINASI. That's correct. Yes, that's correct.

Senator LEVIN. So, in implementing that Presidential decision, each agency had a right to block the issuance of the Commerce license pending an appeal; is that correct?

Ms. SCHINASI. The decision was to be made by a majority vote of the five agencies, so it is——

Senator LEVIN. All right.

Ms. SCHINASI. Rather than an individual agency having a veto, the decision was to be made by a majority of those five agencies.

Senator LEVIN. I understand. And if any one of those agencies did not like the decision, it could appeal.

Ms. SCHINASI. There was an appeal process, yes.

Senator LEVIN. A four-step appeal process, is that not correct?

Ms. SCHINASI. It depends on how you count it. But I would characterize it——

Senator LEVIN. A minimum of three steps.

Ms. SCHINASI [continuing]. As a three step appeals process.

Senator LEVIN. A minimum of three steps.

Ms. SCHINASI. Yes.

Senator LEVIN. And if an agency appealed, the license would not issue pending that appeal process. Is that correct?

Ms. SCHINASI. That's my understanding, yes.

Senator LEVIN. All right. Would you confirm that?

Ms. SCHINASI. We have not looked, as I said earlier, at how this process is working. We finished our review as it was being put into place.

Senator LEVIN. All right. But I believe that's in the structure of the process, not in the way it's operated. But you could confirm that. In other words, will you let us know whether or not it is not true that the process set forth with these three——

Ms. SCHINASI. Yes.

Senator LEVIN [continuing]. Appeals says specifically there will be no license issued in the event of an appeal?

Ms. SCHINASI. Yes.

Senator LEVIN. You can double check that.

Ms. SCHINASI. Yes.

Executive Order No. 12981 provides for a licensing process of up to 90 days. Under this Executive Order, if any agency decides to appeal a decision of the Operating Committee, Advisory Committee on Export Policy, or Export Administration Review Board, a license is not issued until the matter is resolved by the appropriate appeal authority.

Senator LEVIN. All right.

Is it true that following the December 1995 Executive Order and the October-November 1996 interim regulations, that each of the agencies that was given a place in the license review had the same equal vote with Commerce?

Ms. SCHINASI. Yes.

Senator LEVIN. And, finally, is it true that the standard was broadened in October-November of 1996, as to whether the export was consistent with national security, so that Commerce had that broader standard?

Ms. SCHINASI. Yes, that is true.

Senator LEVIN. Now, it's my understanding that for every satellite licensed since 1996 and launched aboard a Chinese rocket, there's been a technical assistance agreement licensed by the State Department. Is that your information?

Ms. SCHINASI. For every license licensed since 1996 you said?

Senator LEVIN. For satellites licensed to China since 1996 there's been a technical assistance——

Ms. SCHINASI. Right. We have not looked at the condition that has existed since we finished this report, so I don't know the answer to that question.

Senator LEVIN. Up to the time of your report was it true that every license that was issued had a TAA?

Ms. SCHINASI. That is true for the licenses under the State Department control.

Senator LEVIN. Not under the Commerce Department control?

Ms. SCHINASI. I don't know. I don't know if it's true for them.

Senator LEVIN. All right. Has DOD concurred in every satellite export license to China as far as you know? That's my understanding. Do you know if that's true?

Ms. SCHINASI. They're not required to concur in the Commerce Department decisions for those satellites which were transferred during the '93 process.

Senator LEVIN. Since 1996?

Ms. SCHINASI. I don't know.

Senator LEVIN. You just don't know. All right.

Finally, let me ask you a question relative to the role of Congress. Under the Arms Export Control Act, is it true that Congress receives a 30-day notice of every transfer off the munitions list? Is that correct? Therefore, Congress received notice of the 1996 decision to remove the rest of the commercial satellites from the munitions list, is that true?

Ms. SCHINASI. A formal notification? Yes.

Senator. LEVIN. And in addition to that, we have this March 1996 public press release that you referred to and I referred to earlier that was issued more than seven months before the transfer was made, is that correct?

Ms. SCHINASI. Before the——

Senator. LEVIN. That was a public release.

Ms. SCHINASI [continuing]. Implementing regulations were put in?

Senator. LEVIN. Right.

Ms. SCHINASI. Yes.

Senator. LEVIN. Right.

My question is this: Do you know of any effort on the part of Congress to reverse the transfer of the remaining satellites from the State Department list to the Commerce Department list. Do you know of any efforts?

Ms. SCHINASI. I'm not aware of any, no.

Senator. LEVIN. Thank you.

Thank you, Mr. Chairman.

Chairman SHELBY. I'd like to go back over, just for clarity, because it's very technical, how the process worked, say before November—I'm looking at your chart, now—November 1990, Presidential Directive mandates removing items from the U.S. munitions list also contained in the International Industrial List. Was that the first step toward changing the policy on the export of satellites?

Ms. SCHINASI. That was the first review of the items on the State Department list, yes.

Chairman SHELBY. Okay.

And that moved certain things over to Commerce, from State, did it not?

Ms. SCHINASI. That's correct.

Chairman SHELBY. Now, what, for the record again, did this move to Commerce, and what did State retain at this time, in 1990?

Ms. SCHINASI. Items with certain militarily sensitive characteristics, and there are—there were nine of them.

Chairman SHELBY. Items with military sensitive characteristics were retained by State.

Ms. SCHINASI. The State Department, yes.

Chairman SHELBY. And did State Department have what you would call a veto over the export of that, of the licensing of that?

Ms. SCHINASI. Those were decisions made in the munitions list process I talked about earlier.

Chairman SHELBY. Okay.

But the other list was what, that was moved to Commerce?

Ms. SCHINASI. Those satellites that did not contain any of the nine militarily sensitive characteristics, were moved to the Commerce Department.

Chairman SHELBY. Okay.

That was in 1990.

Ms. SCHINASI. Yes. And it was roughly half of the satellites that were being licensed at that time.

Chairman SHELBY. And the term is military significant——

Ms. SCHINASI. Yes.

Chairman SHELBY [continuing]. Technology, is that right?

Ms. SCHINASI. Characteristics.

Chairman SHELBY. Characteristics.

Ms. SCHINASI. Yes.

Chairman SHELBY. So, from 1990, after the first movement of licensing some of those items to the Commerce Department, when was the next big step on your list?

Ms. SCHINASI. Okay. Let me just clarify something.

Chairman SHELBY. Go ahead.

Ms. SCHINASI. 1990 was when the process began to determine whether or not satellites could be moved. That decision was made in October of 1992. So, during that period of time, the working groups were created that identified the nine militarily——

Chairman SHELBY. That's a policy decision, was it not, to move it over——

Ms. SCHINASI. It was a policy——

Chairman SHELBY [continuing]. To where the procedure would be different. Is that correct?

Ms. SCHINASI. That's correct. It was a policy decision that those items which did not have to be controlled by the State Department for national security purposes, be moved.

Chairman SHELBY. Okay. And this worked from, say, 1990 until when? When did it change?

Ms. SCHINASI. That decision was made in 1992, to move the first——

Chairman SHELBY. Okay.

Ms. SCHINASI [continuing]. Set of satellites.

Chairman SHELBY. So from '92 to '96, that was the policy. In '96, the policy was changed again, was it not?

Ms. SCHINASI. That's correct. There was an intervening review, however, by the Secretary of State, to look at whether or not those—he convened a technical working group.

Chairman SHELBY. Is this when he basically vetoed, from his perspective, changing, or sending more of the export licensing from State to Commerce?

Ms. SCHINASI. The decision he reached was that——

Chairman SHELBY. And this was Secretary of State Warren Christopher?

Ms. SCHINASI. That's correct. The characteristics under those nine militarily sensitive categories could be narrowed. And so some of the satellites could transfer.

Chairman SHELBY. But State, up to now—correct me if I'm wrong—had a veto over that military——

Ms. SCHINASI. That's correct. Militarily sensitive characteristics, satellites that contained those.

Chairman SHELBY. Characteristics. Had a veto.

Ms. SCHINASI. Yes.

Chairman SHELBY. But once it was changed in '96, when the President announced, according to your chart, transfers of the remaining satellites to Commerce, in other words, that changed the licensing process altogether, did it not?

Ms. SCHINASI. That's correct.

Chairman SHELBY. Now, did this change the veto of State from a veto of something, although they were still a participant, to being—having to be a majority of the people to weigh in?

Ms. SCHINASI. That's correct.

Chairman SHELBY. Would you explain that again? I think it's very important.

Ms. SCHINASI. What we have now is a hybrid of two systems.

Chairman SHELBY. A hybrid system.

Ms. SCHINASI. When the satellites moved in 1996, there were additional controls put in place, and modifications made to procedures, that were neither Commerce Department or State Department, before that time. It was a hybrid of both. And those included being able to deny exports worldwide, under a broader authority than the Commerce Department had in the past. It also included a change in the procedure when there was a disagreement about whether or not a license should be approved. And under the previous system, for those satellites licensed by Commerce, the decision was made by the Commerce Department. For those satellites licensed by State, the decision was made by the State Department, with input from the Department of Defense. In the new system, the decision is made by a majority vote of the five participating agencies.

Chairman SHELBY. Wouldn't this be a profound change, or a sea change in the way we used to do, as the way we do now?

Ms. SCHINASI. It is a new—it is a new process, yes.

Chairman SHELBY. It's a big change, too, isn't it?

Ms. SCHINASI. Yes, it is.

Chairman SHELBY. Yes, it is.

You mentioned earlier something. I believe your phrase was export controls equal managing risk. We know that. That's why you do it, is it not?

Ms. SCHINASI. Yes.

Chairman SHELBY. But if the export controls are weakened, we're not managing risk, are we?

Ms. SCHINASI. There is a balance, as I said, to be struck. And it's a very difficult judgment to determine where the best place is to—or what the best system is for any individual.

Chairman SHELBY. Yes, ma'am. You've been asked a lot of questions here today, and you were real candid about not bringing the GAO report up to date. Senator Levin asked you some questions, I asked you some questions, Senator Kerrey, different ones. You will have those for the record, among other things. But you will, in your duties at GAO, bring all this up to date, in view of our questions, and we'll get you back up here. Would that be sufficient? We'll give you ample time.

Ms. SCHINASI. That would. I'd be happy to discuss how best to do that, yes.

Chairman SHELBY. Senator Levin, you have any other questions?

Senator LEVIN. Yes, I do, Mr. Chairman. I just want to be real clear about the appeal process. It is my understanding that any of these agencies can appeal the majority vote, if they disagree with it, first to the Assistant Secretary level, second to the Secretary level, and third to the President. Is that correct?

Ms. SCHINASI. That's correct.

Senator LEVIN. Any agency. The DOD can appeal, if they don't like the decision. Is that correct?

Ms. SCHINASI. That's correct.

Senator LEVIN. The State Department can appeal if they don't like it. Is that correct?

Ms. SCHINASI. That's correct.

Senator LEVIN. Now, what you're not sure of, and what you are going to confirm for the record, but what I'm very confident of, is that the process itself says that if any agency appeals a decision of the majority that it doesn't like, that that license does not issue until the appeal is resolved. Now, that is my understanding, and——

Ms. SCHINASI. That is my understanding as well. I do not believe it's actually contained in the regulations, that's why I'm——

Senator LEVIN. All right.

Ms. SCHINASI [continuing]. Being a little hesitant.

Senator LEVIN. But it's your understanding that the license doesn't issue pending the appeal, whether it's by explicit regulation or just by a pattern of practice. Is that correct?

Ms. SCHINASI. That's correct.

Senator LEVIN. Okay. So that no license can issue, if any one agency objects, and appeals a majority vote that it doesn't agree with. And they can appeal right up to the President. Is that correct?

Ms. SCHINASI. Given the stipulation that we put down before, that's my understanding, yes.

Senator LEVIN. All right.

That's just on the licensing part of this operation, that any of those agencies can block the license, pending the appeal to the President. That's just the licensing.

Ms. SCHINASI. Yes.

Senator LEVIN. Now let's talk about the waiver provision in effect since Tiananmen Square. A different channel, is that right?

Ms. SCHINASI. Yes.

Senator LEVIN. All right.

In that process, is it not correct that once the agencies reach a conclusion, if they do, it then goes to the National Security Council to begin the waiver process review. Is that correct?

Ms. SCHINASI. That's my understanding, yes.

Senator LEVIN. And that that process is the same, regardless of whether or not a license is being considered by the State Department or by the Defense Department. Is that correct?

Ms. SCHINASI. That's my understanding, yes.

Senator LEVIN. And that during the waiver process, the National Security Council gave its approval. Is that correct?

Ms. SCHINASI. It must be a Presidential approval.

Senator LEVIN. Based on a recommendation of the National Security Council.

Ms. SCHINASI. I'm not sure how that works, specifically, but yes.

Senator LEVIN. All right. But it goes to the National Security Council, before it goes to the President. Is that correct?

Ms. SCHINASI. That's my understanding, yes.

Senator LEVIN. All right.

But just to emphasize my point, that is a process which applies to all satellites relative to China. Is that correct?

Ms. SCHINASI. Yes.

Senator LEVIN. Since Tiananmen Square. Yes. So that, in addition to the licensing protections, including these additional protections put in place in December 1995 and October of 1996, we have a waiver requirement on top of that, which requires a Presidential approval following a reference to the National Security Council. Is that correct?

Ms. SCHINASI. Yes.

Senator LEVIN. All right.

Thank you, Mr. Chairman.

Chairman SHELBY. Thank you, Senator Levin.

I'm pleased at this point that we were able, at least partially, to go through what is a very complex story associated with the control of satellite technology exports. I think today we've begun, but we haven't finished, by any stretch of the imagination—we've begun a historical context to put this in, a clear history and evolution of the decision process for technology controls, and distinctions between decisions made in '92 and those made in '96. And we've gotten into some of that with you today. And the level of national security input for both of these processes.

We still, as you know, have many unanswered questions, which I'm glad that you and the GAO will follow up on questions we've asked here.

I'm also still concerned, and I'm sure Senator Levin and others are, about the level of the national security debate in '96 over the transfer of the nine militarily significant technologies that our witness, you know, referred to, and what brought about a consensus opinion at that time. I'm hoping that the administration will assist us on the committee in gaining access to the documents that record the national security debate during that time. I think it would help this committee in its journey through a very complex field.

Ms. Schinasi, we thank you for coming here today. And we look forward to another appearance.

The committee is adjourned.

Ms. SCHINASI. Thank you.
[Thereupon, at 4:49 p.m., the Committee was adjourned.]

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EXPORT CONTROLS

Issues Related to Commercial Communications Satellites

Statement of Katherine V. Schinasi, Associate Director, Defense Acquisitions Issues, National Security and International Affairs Division

GAO/T-NSIAD-98-208

Mr. Chairman and members of the Committee:

I am pleased to be here today to discuss the evolution of export controls on commercial communications satellites. The allegation that a major U.S. satellite manufacturer provided China with sensitive technologies that may have applicability to its missile programs has highlighted how the United States controls the export of such technology and how this policy has changed in recent years.

My testimony today is based largely on our January 1997 report, prepared at the request of the Chairman, House National Security Committee, on the military sensitivity of commercial communications satellites and the implications of the 1996 change in export licensing jurisdiction.[1] I will discuss (1) key elements in the export control systems of the Departments of Commerce and State, (2) how export controls for commercial satellites have evolved over the years, (3) the concerns and issues debated over the transfer of commercial communications satellites to the export licensing jurisdiction of the Department of Commerce, and (4) the safeguards that may be applied to commercial satellite exports. Lastly, I will share some observations on the current export control system.

SUMMARY

The U.S. export control system–comprised of both the Commerce and State systems–is about managing risk. Exports to some countries involve less risk than to other countries and exports of some items involve less risk than others. The planning of a satellite launch with technical discussions and exchanges of information taking place over several months, involves risk no matter which agency is the licensing authority. Recently, events

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[1]Export Controls: Change in Export Licensing Jurisdiction for Two Sensitive Dual-Use Items (GAO/NSIAD-97-24, Jan. 14, 1997).

have focused concern on the appropriateness of Commerce jurisdiction over communication satellites. This is a difficult judgement. By design, Commerce's system gives greater weight to economic and commercial concerns, implicitly accepting greater security risks. And by design, State's system gives primacy to national security and foreign policy concerns, lessening–but not eliminating–the risk of damage to U.S. national security interests.

BACKGROUND

The U.S. export control system for items with military applications is divided into two regimes. State licenses munitions items, which are designed, developed, configured, adapted, or modified for military applications, and Commerce licenses most dual-use items, which are items that have both commercial and military applications. Although the Commerce licensing system is the primary vehicle to control dual-use items, some dual-use items–those of such military sensitivity that stronger control is merited–are controlled under the State system.

Commercial communications satellites are intended to facilitate civil communication functions through various media, such as voice, data, and video, but they often carry Defense data as well. In contrast, military communications satellites are used exclusively to transfer information related to national security and have one or more of nine characteristics that allow the satellites to be used for such purposes as providing real-time battlefield data and relaying intelligence data for specific military needs. There are similarities in the technologies used to integrate a satellite to its launch vehicle and ballistic missiles.

In March 1996, the executive branch announced a change in licensing jurisdiction transferring two items–commercial jet engine hot section technologies and commercial communications satellites–from State to Commerce. In October and November 1996,

Commerce and State published regulations implementing this change, with Commerce defining enhanced export controls to apply when licensing these two items.

KEY ELEMENTS OF EXPORT CONTROL SYSTEM

State and Commerce's export control systems are based on fundamentally different premises. The Arms Export Control Act gives the State Department the authority to use export controls to further national security and foreign policy interests, without regard to economic or commercial interests. In contrast, the Commerce Department, as the overseer of the system created by the Export Administration Act, is charged with weighing U.S. economic and trade interests along with national security and foreign policy interests.

Differences in the underlying purposes of the control system are manifested in the systems' structure. These differences in the two systems are highlighted in figure 1. Key differences reflect

- who participates in licensing decisions,
- scope of controls,
- time frame for the decision,
- coverage by sanctions, and
- requirements for congressional notification.

Participants. Commerce's process involves five agencies–the Departments of Commerce, State, Defense, Energy, and the Arms Control and Disarmament Agency. Other agencies can be asked to review specific license applications. For most items,

Commerce approves the license if there is no disagreement from reviewing agencies. When there is a disagreement, the chair of an interagency group known as the Operating Committee, a Commerce official, makes the initial decision after receiving input from the reviewing agencies. This decision can be appealed to the Advisory Committee on Export Policy, a sub-cabinet level group comprised of officials from the same five agencies, and from there to the cabinet-level Export Administration Review Board, and then to the President.

In contrast, the State system commonly involves only Defense and State. Other agencies, such as the Arms Control and Disarmament Agency, can be asked to review specific license applications. No formal multi-level process exists. Day-to-day licensing decisions are made by the Director, Office of Defense Trade Controls, but disagreements could be discussed through organizational levels up to the Secretary of State.

This difference in who makes licensing decisions underscores the weight the two systems assign to economic and commercial interests relative to national security concerns. Commerce, as the advocate for commercial interests, is the focal point for the process and makes the initial determination. Under States's system, Commerce is not involved, underscoring the primacy of national security and foreign policy concern.

I should note that the intelligence community is brought into the licensing process in different ways. Under both systems, Defense could refer license requests to the National Security Agency, the Defense Intelligence Agency, and other components. According to DOD, license requests for commercial communication satellites are frequently referred to these agencies. Communications satellites that are exported under State-approved technical assistance agreements (covering launch technology) are also referred to the interagency Missile Technology Export Committee, which includes the intelligence community. The executive order governing the Commerce system provides for

participation by the Director of Central Intelligence as a non-voting member on the Export Administration Review Board and for participation by representatives of the Central Intelligence Agency in the Advisory Committee on Export Policy and the Operating Committee.

Scope of Controls. The two systems also differ in the scope of controls. Commerce controls items to specific destinations for specific reasons. Some items are subject to controls targeted to former communist countries while others are controlled to prevent them from reaching countries for reasons that include antiterrorism, regional stability, and nonproliferation. In contrast, munitions items are controlled to all destinations, and State has broad authority to deny a license; it can deny a request simply with the explanation that it is against U.S. national security or foreign policy interests.

Time frames. Commerce's system is more transparent to the license applicant than State's system. Time frames are clearly established, the review process is more predictable, and more information is shared with the exporter on the reasons for denials or conditions on the license.

Congressional Notification. Exports under State's system that exceed certain dollar thresholds (including all satellites) require notification to the Congress. Licenses for Commerce-controlled items are not subject to congressional notification, with the exception of items controlled for antiterrorism.

Sanctions. The applicability of sanctions may also differ under the two export control systems. Commercial communication satellites are subject to two important types of sanctions: (1) Missile Technology Control Regime and (2) Tiananmen Square sanctions. Under Missile Technology sanctions, both State and Commerce are required to deny the export of identified, missile-related goods and technologies. Communication satellites are

not so-identified but contain components that are identified as missile-related. The National Security Council left the decision of how to treat such exports to Commerce and State. When the United States imposed Missile Technology sanctions on China in 1993, exports of communication satellites controlled by State were not approved while exports of satellites controlled by Commerce were permitted.

Under Tiananmen Square sanctions, satellites licensed by State and Commerce have identical treatment. These sanctions prohibit the export of satellites for launch from launch vehicles owned by China. However, the President can waive this prohibition if such a waiver is in the national interest.

EVOLUTION OF EXPORT CONTROLS FOR COMMERCIAL SATELLITES

Export control of commercial communications satellites has been a matter of contention over the years among U.S. satellite manufacturers and the agencies involved in their export licensing jurisdiction–the Departments of Commerce, Defense, State, and the intelligence community. To put their views in context, I would now like to provide a brief chronology of key events in the transfer of commercial communications satellites to Commerce Control List.[2]

[2]For a chronology and background information on satellite launches from China, see China: Possible Missile Technology Transfers from U.S. Satellite Export Policy–Background and Chronology, by Shirley A. Kan, Congressional Research Service, May 20, 1998 (98-485 F).

Origin of Commercial Space Cooperation with China

As the demand for satellite launch capabilities grew, U. S. satellite manufacturers looked abroad to supplement domestic facilities. In 1988, President Reagan proposed that China be allowed to launch U.S. origin commercial satellites. The United States and China signed an agreement in January 1989 under which China agreed to charge prices for commercial launch services similar to those charged by other competitors for launch services and to launch nine U.S.-built satellites through 1994.

Following the June 1989 crackdown by the Chinese government on peaceful political demonstrations on Tiananmen Square in Beijing, President Bush imposed export sanctions on China. President Bush subsequently waived these sanctions for the export of three U.S.-origin satellites for launch from China. In February 1990, Congress passed the Tiananmen Square sanctions law (P.L. 101-246) to suspend certain programs and activities relating to the Peoples Republic of China. This law also suspends the export of U.S. satellites for launch from Chinese-owned vehicles.

First Transfer of Licensing Jurisdiction

In November 1990, the President ordered the removal of dual-use items from State's munitions list unless significant U.S. national security interests would be jeopardized. This action was designed to bring U.S. controls in line with the industrial (dual-use) list maintained by the Coordinating Committee for Multilateral Export Controls, a multilateral export control arrangement. Commercial communications satellites were contained on the industrial list. Pursuant to this order, State led an interagency review, including officials from Defense, Commerce, and other agencies to determine which dual-use items should be removed from State's munitions list and transferred to Commerce's jurisdiction. The review was conducted between December 1990 and April 1992. As part of this

review, a working group identified and established performance parameters for the militarily-sensitive characteristics of communications satellites. During the review period, industry groups supported moving commercial communications satellites, ground stations, and associated technical data to the Commerce control list.

In October 1992, State issued regulations transferring jurisdiction of some commercial communications satellites to Commerce. These regulations also defined what satellites remained under its control by listing nine militarily sensitive characteristics that, if included in non-military satellites, warranted their control on State's munitions list. (These characteristics are discussed in appendix I.) The regulations noted that parts, components, accessories, attachments, and associated equipment (including ground support equipment) remained on the munitions list, but could be included on a Commerce license application if the equipment was needed for a specific launch of a commercial communications satellite controlled by Commerce. After the transfer, Commerce noted that this limited transfer only partially fulfilled the President's 1990 directive.

Interagency Groups Consider
Whether to Transfer Additional Satellites

Export controls over commercial communication satellites were again taken up in September 1993. The Trade Promotion Coordinating Committee, an interagency body composed of representatives from most government agencies, issued a report in which it committed the administration to review dual-use items on the munitions list, such as commercial communication satellites, to expedite moving them to the Commerce control list.

Industry continued to support the move of commercial communications satellites, ground stations, and associated technical data from State to Commerce control. In April 1995,

the Chairman of the President's Export Council met with the Secretary of State to discuss issues related to the jurisdiction of commercial communications satellites and the impact of sanctions that affected the export and launch of satellites to China.

Also in April 1995, State formed the Comsat Technical Working Group to examine export controls over commercial communications satellites and to recommend whether the military sensitive characteristics of satellites could be more narrowly defined consistent with national security and intelligence interests. This interagency group included representatives from State, Defense, the National Security Administration, Commerce, the National Aeronautics and Space Agency, and the intelligence community. The interagency group reported its findings in October 1995.

Consistent with the findings of the Comsat Technical Working Group and with the input from industry through the Defense Trade Advisory Group, the Secretary of State denied the transfer of commercial communications satellites to Commerce in October 1995 and approved a plan to narrow, but not eliminate, State's jurisdiction over these satellites.

President Overturns State's Decision
to Retain Export Control of Satellites

Unhappy with State's decision to retain jurisdiction of commercial communications satellites, Commerce appealed it to the National Security Council and the President. In March 1996, the President, after additional interagency meetings on this issue, decided to transfer export control authority for all commercial communications satellites from State to Commerce. A key part of these discussions was the issuance of an executive order in December 1995 that modified Commerce's procedures for processing licenses. This executive order required Commerce to refer all licenses to State, Defense, Energy, and

the Arms Control and Disarmament Agency. This change addressed a key shortcoming that we had reported on in several prior reviews.[3]

In response to the concerns of Defense and State officials about this transfer, Commerce agreed to add additional controls to exports of satellites designed to mirror the stronger controls already applied to items on State's munitions list. Changes included the establishment of a new control, the significant item control, for the export of sensitive satellites to all destinations. The policy objective of this control–consistency with U.S. national security and foreign policy interests–is broadly stated. The functioning of the Operating Committee, the interagency group that makes the initial licensing determination, was also modified. This change required that the licensing decision for these satellites be made by majority vote of the five agencies, rather than by the chair of the Committee. Satellites were also exempted from other provisions governing the licensing of most items on Commerce's control list.

In October and November 1996, Commerce and State published changes to their respective regulations, formally transferring licensing jurisdiction for commercial communications satellites with militarily sensitive characteristics from State to Commerce. Additional export controls were implemented through an executive order and a presidential decision directive issued in October 1996.

[3]See Export Controls: Some Controls Over Missile-Related Technology Exports To China Are Weak (GAO/NSIAD-95-82, Apr. 17, 1995) and Export Controls: Concerns Over Stealth-Related Exports (GAO/NSIAD-95-140, May 10, 1995).

CONCERNS AND ISSUES
DEBATED IN THE DECISION

According to Commerce officials, the President's March 1996 decision reflected Commerce's long-held position that all commercial communications satellites should be under its jurisdiction. Commerce argued that these satellites are intended for commercial end use and are therefore not munitions. Commerce maintained that transferring jurisdiction to the dual-use list would also make U.S. controls consistent with treatment of these items under multilateral export control regimes.

Manufacturers of satellites supported the transfer of commercial communications satellites to the Commerce control list. They believed that such satellites are intended for commercial end use and are therefore not munitions subject to State's licensing process. They also believed that the Commerce process was more responsive to business due to its clearly established time frames and predictability of the licensing process. Under State's jurisdiction, the satellites were subject to Missile Technology sanctions requiring denial of exports and to congressional notifications. Satellite manufacturers also expressed the view that some of the militarily sensitive characteristics of communications satellites are no longer unique to military satellites.

State and Defense point out that the basis for including items on the munitions list is the sensitivity of the item and whether it has been specifically designed for military applications, not how the item will be used. These officials have expressed concern about the potential for improvements in missile capabilities through disclosure of technical data to integrate the satellite with the launch vehicle and the operational capability that specific satellite characteristics could give a potential adversary. The process of planning a satellite launch takes several months, and there is concern that

technical discussions between U.S. and foreign representatives may lead to the transfer of information on militarily sensitive components.

Defense and State officials said they were particularly concerned about the technologies to integrate the satellite to the launch vehicle because this technology can also be applied to launch ballistic missiles to improve their performance and reliability. Accelerometers, kick motors, separation mechanisms, and attitude control systems are examples of equipment used in both satellites and ballistic missiles. State officials said that such equipment and technology merit control for national security reasons. They also expressed concern about the operational capability that specific characteristics, in particular antijam capability, crosslinks, and baseband processing, could give a potential adversary.

SAFEGUARDS APPLIED TO COMMERCE AND STATE SATELLITE EXPORTS

No export license application for a satellite launch has been denied under either the State or Commerce systems. Therefore, the conditions attached to the license are particularly significant.

Exports of U.S. satellites for launch in China are governed by a government-to-government agreement addressing technology safeguards. This agreement establishes the basic authorities for the U.S. government to institute controls intended to ensure that sensitive technology is not inadvertently transferred to China. This agreement is one of three government-to-government agreements with China on satellites. The others address pricing and liability issues.

During our 1997 review and in recent discussions, officials pointed to two principal safeguard mechanisms to protect technologies. These safeguard mechanisms include technology transfer control plans and the presence of Defense Department monitors during the launch of the satellites. Commerce may choose to include these safeguards as conditions to licenses.

- Technology transfer control plans are prepared by the exporter and approved by Defense. The plans outline the internal control procedures the company will follow to prevent the disclosure of technology except as authorized for the integration and launch of the satellite. These plans typically include requirements for the presence of Defense monitors at technical meetings with Chinese officials as well as procedures to ensure that Defense reviews and clears the release of any technical data provided by the company.

- Defense monitors at the launch help ensure that the physical security over the satellite is maintained and monitor any on-site technical meetings between the company and Chinese officials. Authority for these monitors to perform this work in China is granted under the terms of the government to government safeguards agreement.

Additional government control may be exercised on technology transfers through State's licensing of technical assistance and technical data. State technical assistance agreements detail the types of information that can be provided and give Defense an opportunity to scrutinize the type of information being considered for export. Technical assistance agreements, however, are not always required for satellite exports to China.

While such licenses were required for satellites licensed for export by State, Commerce licensed satellites do not have a separate technical assistance licensing requirement.[4]

OBSERVATIONS ON THE CURRENT EXPORT CONTROL SYSTEM

The addition of new controls over satellites transferred to Commerce's jurisdiction in 1996 addressed some of the key areas where the Commerce procedures are less stringent than those at State. There remain, however, differences in how the export of satellites are controlled under these new procedures.

- Congress notification requirements no longer apply, although Congress is currently notified because of the Tiananmen waiver process.

- Sanctions do not always apply to items under Commerce's jurisdiction. For example, under the 1993 Missile Technology sanctions, sanctions were not imposed on satellites that include missile-related components.

- Defense's power to influence the decision making process has diminished since the transfer. When under State jurisdiction, State and Defense officials stated that State would routinely defer to the recommendations of Defense if national security concerns are raised. Under Commerce jurisdiction, Defense must now either persuade a majority of other agencies to agree with its position to stop an export or escalate their objection to the cabinet-level Export Administration Review Board, an event that has not occurred in recent years.

[4]A Commerce licensed satellite would also require a State technical assistance license if the technical discussions exceed the basic information required to attach the satellite to the rocket, commonly described as "form, fit, and function" data.

- Technical information may not be as clearly controlled under the Commerce system. Unlike State, Commerce does not require a company to obtain an export license to market a satellite. Commerce regulations also do not have a separate export commodity control category for technical data, leaving it unclear how this information is licensed. Commerce has informed one large satellite maker that some of this technical data does not require an individual license. Without clear licensing requirements for technical information, Defense does not have an opportunity to review the need for monitors and safeguards or attend technical meetings to ensure that sensitive information is not inadvertently disclosed.

- The additional controls applied to the militarily sensitive commercial communications satellites transferred to Commerce's control in 1996 were not applied to the satellites transferred in 1993. These satellites are therefore controlled under Commerce rules, which are reviewed under the normal interagency process and are subject to more limited controls.

Mr. Chairman, this concludes my prepared statement. I would be happy to respond to any questions you or other Members of the Committee may have.

Appendix 1: Militarily Sensitive Characteristics Integrated in Commercial Communications Satellites

Component or Characteristic	Definition	Military Sensitivity of Characteristics Exceeding Certain Performance Parameters
Antijam capability	Antennas and/or antenna systems with the ability to respond to incoming interference by adaptively reducing antenna gain in the direction of the interference.	Ensures that communications remain open during crises.
Antenna	Allows a satellite to receive incoming signals.	An antenna aimed at a spot roughly 200 nautical miles in diameter or less can become a sensitive radio listening device and is very effective against ground-based interception efforts.
Crosslinks	Provide the capability to transmit data from one satellite to another without going through a ground station.	Permits the expansion of regional satellite communication coverage to global coverage and provides source-to-destination connectivity that can span the globe. It is very difficult to intercept and permits very secure communications.
Baseband processing	Allows a satellite to switch from one frequency to another with an on-board processor.	On-board switching can provide resistance to jamming of signals.
Encryption devices	Scramble signals and data transmitted to and from a satellite.	Allows telemetry and control of a satellite, which provides positive control and denies unauthorized access. Certain encryption capabilities have significant intelligence features important to the National Security Agency.
Radiation-hardened devices	Provide protection from natural and man-made radiation environment in space, which can be harmful to electronic circuits.	Permit a satellite to operate in nuclear war environments and may enable its electronic components to survive a nuclear explosion.
Propulsion system	Allows rapid changes when the satellite is on orbit.	Military maneuvers require that a satellite have the capability to accelerate faster than a certain speed to cover new areas of interest.
Pointing accuracy	Provides a low probability that a signal will be intercepted.	High performance pointing capabilities provide superior intelligence-gathering capabilities.
Kick motors	Used to deliver satellites to their proper orbital slots.	If the motors can be restarted, the satellite can execute military maneuvers because it can move to cover new areas.

GAO Key Elements of Export Licensing Systems

	Munitions List	Commerce Control List
Key Participants	State and DOD	Commerce, State, DOD, Energy and ACDA
Scope of Controls	Worldwide, broadly defined	To specific destinations for specific reasons
Timeframes	No established timeframes	Clearly established timeframes
Sanctions	Routinely apply	Sometimes apply
Congressional Notification	Required	Not required

GAO Evolution of U.S. Export Policy for Commercial Communications Satellites

1988	U.S. proposes allowing China to launch commercial satellites.
January 1989	U.S. agrees to launch nine satellites from China through 1994.
June 1989	Tiananmen Square crackdown. U.S. imposes export sanctions on China.
December 1989	U.S. waives sanctions to launch three satellites from China.
November 1990	Presidential directive mandates removing items from the U.S. Munitions List also contained in the International Industrial List.
October 1992	Selected satellites transfer to Commerce.
September 1993	Administration commits to expedite moving militarily sensitive satellites to Commerce.
October 1995	Secretary of State denies transfer of militarily sensitive satellites to Commerce.
December 1995	Executive Order requires all Commerce licenses be referred to DOD, State, and others.
March 1996	Presidential announcement transfers remaining satellites to Commerce.
October and November 1996	Interim regulations implement transfer to Commerce.

GAO

Observations on Current Export Control System

- Congress not notified of satellite exports
- Sanctions do not always apply
- National security concerns compete with other interests
- Technical information not clearly controlled
- Satellites transferred before 1996 not covered by the new Significant Item protections

United States General Accounting Office

GAO

Report to Congressional Requesters

January 1997

EXPORT CONTROLS

Change in Export Licensing Jurisdiction for Two Sensitive Dual-Use Items

GAO/NSIAD-97-24

GAO

United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

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January 14, 1997

The Honorable Floyd Spence
Chairman
The Honorable Ronald V. Dellums
Ranking Minority Member
Committee on National Security
House of Representatives

The U.S. export control system for items with military applications is divided into two regimes. The Department of State licenses munitions items, which are designed, developed, configured, adapted, or modified for military applications, and the Department of Commerce licenses most dual-use items, which are items that have both commercial and military applications. Although the Commerce licensing system is the primary vehicle to control dual-use items, some dual-use items are controlled under the State system. In March 1996, the executive branch announced a change in licensing jurisdiction for two items—commercial jet engine hot section technology and commercial communications satellites—from State to Commerce.[1] In October and November 1996, Commerce and State published regulations implementing this change, with Commerce defining enhanced export controls to apply when licensing these two items. Commerce's regulations are interim regulations, effective on publication, and Commerce allowed for a 45-day public comment period on its regulations.

In response to your request, we reviewed the implications of this change in export licensing jurisdiction. Specifically, we (1) assessed the military sensitivity of the two items, (2) determined the executive branch's rationale for the change in jurisdiction, (3) compared the licensing systems that the two Departments use to control exports, and (4) analyzed proposed changes in Commerce controls for these two items.

Background

The Department of State controls munitions items under the authority provided in the Arms Export Control Act. State promulgates the International Traffic in Arms Regulations (ITAR) and establishes, with the concurrence of the Department of Defense, the U.S. Munitions List. State and Defense can include a dual-use item on this list, as provided by the ITAR, if it "is specifically designed, developed, configured, adapted, or

[1]Hot section technology is the technical information required for the design, production, manufacture, maintenance, or modification of the engine hot section.

modified for a military application, and has significant military or intelligence applicability such that control under [the ITAR] is necessary."

The Department of Commerce controls dual-use items under a system established under the Export Administration Act.[2] Commerce imposes export controls on the items within its jurisdiction through the Export Administration Regulations and establishes the Commerce Control List in consultation with other agencies and in parallel with U.S. commitments in international control regimes. In arriving at a licensing decision, Commerce provides license applications for the review of other agencies, including Defense, State, the Department of Energy, and the Arms Control and Disarmament Agency. A December 1995 executive order states that Commerce may refer all applications for a validated license to these agencies for review.[3] If an agency disagrees with Commerce's initial licensing decision, it can appeal the decision to interagency review committees.

In March 1993, we reported that jurisdiction over commercial jet engine hot section technology and space-related items, such as communications satellites, was a long-standing issue between State and Commerce.[4] In November 1990, the President ordered the removal of dual-use items from the U.S. Munitions List and State's licensing controls, unless significant national security interests would be jeopardized. Pursuant to this order, State led an interagency review, including officials from Defense, Commerce, and other agencies, to determine which dual-use items should be removed from the munitions list and transferred to Commerce's jurisdiction and which warranted retention on the munitions list. This review was conducted between December 1990 and April 1992. As part of this review, an interagency working group identified and established performance parameters for the militarily sensitive characteristics of communications satellites. If a satellite met or exceeded these parameters, the satellite would be controlled by State, otherwise it would be licensed by Commerce. As a result of the interagency review, over two dozen

[1]Although the Export Administration Act lapsed on August 20, 1994, Commerce is currently acting under the authority conferred by Executive Order 12924 of August 19, 1994. In the executive order, the President invoked his authority, including authority under the International Emergency Economic Powers Act, to continue the system of controls that the United States had maintained under the Export Administration Act. This has been extended by two presidential notices issued in 1995 and 1996.

[2]Many items on the Commerce Control List can be exported under a general license to particular destinations. Commerce is not notified of and does not review these exports. Selected items require that exporters obtain Commerce approval through an individual validated license for each export.

[4]Export Controls: Issues in Removing Militarily Sensitive Items from the Munitions List (GAO/NSIAD-93-67, Mar. 31, 1993).

dual-use items were removed from the munitions list and placed under Commerce's jurisdiction, including approximately half of the commercial communications satellites. Jurisdiction for hot section technology, however, was not resolved as a result of the interagency review.

The executive branch's recent decision to change the export licensing jurisdiction for commercial jet engine hot section technology addresses a long-standing disagreement as to whether State or Commerce should control its export. Until this decision, Commerce had claimed jurisdiction over hot section technology of commercial engines not derived from military technology, while State and Defense had maintained that hot section technology for commercial engines that is derived from military engines is the same technology used in military fighter engines and is of such sensitivity that ITAR control was appropriate. Now, all hot section technology for commercial engines, including certain civil and military engines that share the same hot section technology and are evolving together, will be controlled by Commerce. All commercial communications satellites, including those with militarily sensitive characteristics, will be licensed by Commerce.

Results in Brief

The items transferred to Commerce's control, commercial jet engine hot section technology and commercial communications satellites, are militarily sensitive items. Hot section technology gives U.S. fighter aircraft the ability to outlast and outperform other aircraft, a key element in achieving air superiority. Because of the military significance of this technology, State does not allow the export of the most advanced hot section technology for either military or commercial use. Commercial communications satellites being transferred to Commerce's jurisdiction contain militarily sensitive characteristics, such as crosslink capabilities that transmit data from one satellite to another without going through a ground station and thus permit very secure communications. Defense and State officials expressed concern about the potential for improvements in missile capabilities through disclosure of technical data related to integrating the satellite with the launch vehicle and the operational capability that specific satellite characteristics could give a potential adversary. State has approved the export of commercial communications satellites for foreign launch with conditions for safeguarding sensitive technologies for certain destinations such as China.

The executive branch's decision to transfer licensing jurisdiction reflects Commerce's position that all hot section technology and communications

satellites for commercial use should be under Commerce's jurisdiction. Transferring jurisdiction also makes U.S. national controls for these items consistent with international trade commitments to control them as dual-use items. Jet engine and satellite manufacturers support the change in jurisdiction, viewing the Commerce system as more responsive to the needs of business.

The State and Commerce export control systems differ. State has broad authority to deny a license, and it can deny simply with the explanation that it is against U.S. national security or foreign policy interests. Commerce controls items to achieve specific national security and foreign policy objectives. National security controls are aimed at preventing items from reaching certain destinations such as China and Russia. Foreign policy controls are aimed at achieving specific objectives, including antiterrorism, regional stability, and nonproliferation.

In recognition of the military sensitivity of these items, Commerce is implementing new and expanded control procedures. These changes include establishing a new foreign policy control known as a "significant item" control. These new control procedures are intended to allow Commerce to control and deny, where appropriate, exports of the two items to all destinations. This is particularly important for control of hot section technology—exports of the most sensitive hot section technology have not been permitted, even to close allies.

According to Commerce and other executive branch officials, the change in jurisdiction is not intended to change U.S. licensing policy—that is, what destinations and end users the United States will approve export licenses for. Rather, it is intended only to change the procedures under which licensing decisions will be made. Whether the current licensing policy will be maintained with the change in jurisdiction is uncertain. The underlying objectives of the two systems differ. The Arms Export Control Act gives State the authority to use export controls primarily to protect U.S. national security without regard to economic or commercial interests. Under the Export Administration Act, on the other hand, Commerce weighs economic and trade interests along with national security and foreign policy concerns. These differences in the underlying basis for decisions create uncertainty as to whether the changed procedures for making licensing decisions will result in changes in licensing policy. Uncertainty is also created by the newness of the "significant item" control because it is not clear how it will be applied.

The Two Items Are Militarily Sensitive

Commercial Jet Engine Hot Section Technology

A jet engine is composed of three sections: the cold section, or the fan and compressor, which is where the air enters the engine; the hot section, comprised of the combustor and portions of the turbine, which are the components exposed to combustion gases; and the warm section, or exhaust nozzle, which is where the exhaust gases leave the engine. The turbine is one of the more critical components of jet engines because it extracts energy from combustion gases and converts it into the engine's mechanical force. Hot section gas turbine technology that is used to manufacture military engines incorporate advanced design concepts, materials, and manufacturing processes that help keep the turbine cool while the engine operates at extremely hot temperatures.

The key to achieving greater engine performance is to increase the temperature of operation within the engine's hot section. Increased engine effectiveness enhances the performance of the aircraft and leads to improved survivability, lethality, reliability, and sustainability. According to Defense officials, the U.S. military has air superiority over other countries in large part because of the advanced technology used to build hot sections for military engines. U.S. fighter aircraft have the ability to outlast and outperform other foreign-built aircraft, which translates into a significant combat advantage over possible adversaries.

Hot section technology required for military aircraft also has applications for engines used on commercial aircraft. Commercial engines require different performance parameters than military engines, but higher operating temperatures provide greater fuel efficiency. According to officials at Commerce, Defense, and State and industry representatives, the core elements of hot section technology are similar for both military and commercial jet engines. Although all agree that it is almost impossible to distinguish between military and commercial hot section technology, they differ in opinion on the applicability of commercial hot section technology to military uses. Defense and State officials informed us that exporting commercial hot section technology gives a foreign manufacturer information allowing it to build either a commercial or military engine if it is willing to make certain trade-offs in manufacturing, such as sacrificing durability to achieve higher performance and temperatures. Commerce officials maintain that if a foreign manufacturer decides to adapt

commercial hot section technology to military use, it can make a military engine, but it will not have sufficient experience to allow it to make an engine equal to or exceeding U.S. military capabilities. Engine manufacturers agree that selected hot section technology for commercial engines should be protected for both competitive interest and national security, but they believe that certain technical data transfers to foreign partners facilitate cooperative engine development, production sharing, operational maintenance, and repair.

Because of the military importance of hot section technology and the similarity between commercial and military technology, Defense officials are concerned about the diffusion of technology and availability of hot section components that could negatively affect the combat advantage of U.S. aircraft and pose a threat to U.S. national security concerns. To protect national security interests, Defense officials review applications referred by State to determine whether the export would undermine the U.S. lead in hot section technology and, consequently, U.S. air superiority.[5] Defense and State have not approved the export of the most advanced hot section technology for either military or commercial use, although certain exports have been allowed under government-to-government agreements with U.S. allies that restrict transfer beyond the government.

In addition to protecting the export of state-of-the-art hot section technology, Defense also makes recommendations on the advisability of exporting selected individual parts that make up the hot section (i.e., the blades, discs, and combustor lines). These parts are exposed to combustion gases and, in state-of-the-art engines, they must have the ability to sustain very high temperatures. According to Defense officials, allowing the export of the most advanced components would allow foreign manufacturers to assemble hot sections that match the capabilities of U.S. engines used in fighter aircraft. State defers to Defense's recommendations on license applications for these parts. Licensing of these components is not affected by the change in jurisdiction and remains with State.

Communications Satellites

Commercial communications satellites are intended to facilitate civil communication functions through various media, such as voice, data, and video. Commercial satellites often carry Defense data as well. In contrast, military communications satellites are used exclusively to transfer

[5]Pursuant to the December 1996 executive order stating that Commerce may refer license applications to Defense and other agencies, Defense also reviews applications received by Commerce.

information related to national security and have characteristics that allow the satellites to be used for such purposes as providing real-time battlefield data and relaying intelligence data for specific military needs.

Satellites used for either commercial or military communications may contain one or more of nine militarily sensitive characteristics. A description of the characteristics is provided in table 1. Satellites with characteristics exceeding certain parameters are considered militarily sensitive.

Table 1: Militarily Sensitive Characteristics Integrated in Commercial Communications Satellites

Characteristic or component	Definition	Military sensitivity of characteristics exceeding certain performance parameters
Antijam capability	Antennas and/or antenna systems with the ability to respond to incoming interference by adaptively reducing antenna gain in the direction of the interference.	Ensures that communications remain open during crises.
Antenna	Allows a satellite to receive incoming signals.	An antenna aimed at a spot roughly 200 nautical miles in diameter or less can become a sensitive radio listening device and is very effective against ground-based interception efforts.
Crosslinks	Provide the capability to transmit data from one satellite to another without going through a ground station.	Permit the expansion of regional satellite communication coverage to global coverage and provide source-to-destination connectivity that can span the globe. It is very difficult to intercept and permits very secure communications.
Baseband processing	Allows a satellite to switch from one frequency to another with an on-board processor.	On-board switching can provide resistance to jamming of signals.
Encryption devices	Scramble signals and data transmitted to and from a satellite.	Allow telemetry and control of a satellite, which provide positive control and deny unauthorized access. Certain encryption capabilities have significant intelligence features important to the National Security Agency.
Radiation-hardened devices	Provide protection from natural and man-made radiation environment in space, which can be harmful to electronic circuits.	Permit a satellite to operate in nuclear war environments and may enable its electronic components to survive a nuclear explosion.
Propulsion system	Allows rapid changes when the satellite is in orbit.	Military maneuvers require that a satellite have the capability to accelerate faster than a certain speed to cover new areas of interest.
Pointing accuracy	Provides a low probability that a signal will be intercepted.	High performance pointing capabilities provide superior intelligence-gathering capabilities.
Kick motors	Used to deliver satellites to their proper orbital slots.	If the motor can be restarted, the satellite can execute military maneuvers because it can move to cover new areas.

Source: Departments of Commerce and Defense.

Jurisdiction over commercial communications satellites that did not have any of these militarily sensitive characteristics changed to Commerce in October 1992 as a result of the interagency review begun in 1990. Those

with any of the nine components remained under State's jurisdiction, as did the individual components themselves and all sensitive technology to design, develop, or manufacture a satellite. The regulations move commercial satellites with one or more of the nine characteristics to Commerce, while the export of individual systems and components not incorporated in a satellite remain under State's jurisdiction, as does the technology to design, develop, and manufacture the satellite. Certain kick motors that are not embedded in satellites, however, will be subject to Commerce's jurisdiction when they are to be used for specific satellite launches, provided that a kick motor is neither specifically designed or modified for military use nor capable of being restarted after the satellite is in orbit.

In reviewing export license applications, Defense and State officials examine the potential for the export of satellite technologies. The process of planning a satellite launch takes place over several months, and there is concern that technical discussions between U.S. and foreign representatives may go beyond that needed for the launch and lead to the transfer of information on militarily sensitive components. Officials say they are particularly concerned about the technologies to integrate the satellite to the launch vehicle because this technology can also be applied to launch ballistic missiles to improve their performance and reliability. They also expressed concern about the operational capability that specific characteristics, in particular antijam capability, crosslinks, and baseband processing, could give a potential adversary.

State has approved the exports of commercial communications satellites and established detailed security guidelines and conditions to address concerns about the disclosure of technologies associated with the launch vehicle and militarily sensitive characteristics for launches from China and sites in the former Soviet Union. These conditions require that safeguards be applied to prevent the disclosure of technology beyond that needed for integration and launch of the satellite, as provided for in safeguard agreements between the United States and these countries. For launches in China and Russia, State also requires a technical assistance agreement, which is a signed contract between the U.S. firm and the foreign government that specifies what technical assistance and data can be provided. In addition, State requires that exporters fund the travel costs of Defense personnel traveling to oversee the satellite launches. In licensing communications satellites already under its jurisdiction, Commerce also places conditions on the export license on the type of technical

information that can be transferred but does not require exporters to fund the travel costs of Defense personnel overseeing the launch.

Rationale for Changing Licensing Jurisdiction

Export control of dual-use items has been a matter of contention over the years between Commerce and State. State claimed jurisdiction for both commercial and military hot section technology because State and Defense maintained that (1) the technology and manufacturing processes applied to the hot sections of military and commercial engines are basically the same and originated in military programs and (2) diffusion of critical hot section technology for commercial engines would accelerate other countries' abilities to design and manufacture engines, including military engines, of equal capability to those manufactured in the United States. Commerce claimed jurisdiction for commercial hot section technology not derived from military technology.

Commerce has argued that since the international Coordinating Committee for Multilateral Export Controls classified communications satellites and other space-related items as dual use, the entire category, except strictly military items, should be transferred to its jurisdiction.[6] State and Defense insisted that the decision should be made on an item-by-item basis as part of the interagency review begun in 1990. Therefore, an interagency working group comprised of all concerned agencies was assembled to conduct an item-by-item review. The working group decided in 1992 to move approximately half the commercial communications satellites (those that did not have one or more of the nine ITAR performance characteristics) to the Commerce Control List.

According to Commerce officials, the executive branch's decision reflects Commerce's long-held position that all commercial hot section technology and commercial communications satellites should be under its jurisdiction. Commerce argues that both items are, by definition, intended for commercial end use and are therefore not munitions. This argument reflects the view that all dual-use items should be subject to export control under Commerce's licensing system because most applications of these items are commercial. Commerce also maintains that transferring jurisdiction to the dual-use list also makes U.S. controls consistent with treatment of these items under multilateral export control regimes. In contrast, State and Defense point out that the ITAR is not based on end use

[6]The United States was a member of this committee, which called for member nations to assert control over munitions, dual-use items, and nuclear items as agreed to by all members. Although this committee ceased to exist in 1994, communications satellites are still controlled multilaterally as dual-use items.

considerations, but on whether an item has been specifically designed for military applications. The executive branch's decision is the result of an interagency review involving State, Commerce, Defense, and the intelligence community in which the agencies developed a common recommendation to the President to clarify the licensing jurisdiction of these items.

Industry Supports the Change in Jurisdiction

Manufacturers of jet engines and communications satellites we talked with support the transfer of the items to the Commerce Control List. They cite the following reasons for favoring Commerce's control:

- Export licensing jurisdiction should be determined solely by an export's commercial application, and since both items are predominantly for commercial end use, they are not munitions and should therefore not be subject to State's licensing process.
- The Commerce process is more responsive to business because time frames are clearly established, the review process is more predictable, and more information is shared with the exporter on the reasons for denials or conditions on the license.
- Under State's jurisdiction, commercial products become subject to certain mandatory sanctions and embargoes that require denial of exports. Some sanctions and embargoes apply only to items on the munitions list and not to items on the Commerce Control List.
- Exports under State's jurisdiction that exceed certain dollar thresholds are subject to congressional notifications, and exporters say this can delay the process. Satellite exports exceed these thresholds.
- The competitive market for commercial aircraft creates the need to establish foreign overhaul and repair facilities and to use foreign expertise to develop and manufacture current and new commercial aircraft engines. Although the jet engine industry agrees in principle that selected high technology know-how should be protected for both competitive and national security reasons, manufacturers believe certain technical data transfers to foreign partners facilitate cooperative engine development, sharing of production, and operational maintenance.
- China is seen as a large and growing market for commercial aircraft engines. Competing in the China market for the 100-passenger airliner requires transfer of technology for the maintenance and production of hot section components of an engine for such an aircraft .
- Some of the militarily sensitive systems or characteristics of communications satellites are no longer unique to military satellites.

Commerce's and State's Licensing Systems Differ

State and Commerce implement different laws to control exports of military and dual-use items. The underlying objectives of these laws differ. State controls munitions items to further the security and foreign policy of the United States. Commerce, on the other hand, weighs U.S. economic and trade interests with national security and foreign policy interests.

Commerce controls the export of dual-use items under the Export Administration Act, as implemented under the Export Administration Regulations. The key provisions of its export control system are discussed in table 2.

Table 2: Key Provisions of Commerce's Export Control System

Provision	Definition
License categories	An individual validated license authorizes the export of a specific item during a specified period to a designated consignee. A general license requires no application and permits export within the provisions of the Export Administration Regulations. A special comprehensive license consolidates five types of special licenses for such purposes as large-scale exports of a wide variety of items for specified activities, certain multiple exports and re-exports, and other purposes.
Reasons for control	National security controls restrict the export and re-export of strategic items worldwide to prevent their diversion to certain destinations, such as China and Russia. Foreign policy controls restrict the export of items to prevent them from reaching countries for reasons that include antiterrorism, regional stability, and nonproliferation.
Permanency of controls	Foreign policy controls are not permanent and must be renewed annually by the Secretary of Commerce, as delegated by the President, and reported to Congress.
Foreign availability	A determination that an item is comparable in quality to an item subject to U.S. national security export controls and is available from a non-U.S. source in sufficient quantities to render the U.S. export control of that item or the denial of a license ineffective. This determination results in mandatory decontrol of items controlled solely for national security reasons. This provision does not apply to items controlled for foreign policy reasons.
De minimis thresholds	Under the Export Administration Regulations, prior written approval from Commerce is not required for the re-export of a foreign-made product incorporating materials of U.S. origin if the U.S. content value is less than 10 percent or 25 percent, depending on the destination, of the product.
Judicial review	The Export Administration Act provides for limited administrative review of license denials, but it precludes judicial review.
Contract sanctity	If Commerce imposes a new foreign policy control and a contract to manufacture a product for which an exporter has obtained an export license is underway, the contract generally does not have to comply with the new control and the exporter can export the product.
Congressional notification	Items are not subject to mandatory congressional notification with the exception of items subject to controls for antiterrorism.
Enforcement of sanctions	Although Commerce does not allow the export of certain dual-use items to certain countries when the United States imposes sanctions on those countries, if these items are embedded within larger items that are not subject to sanctions, the larger items can be exported to sanctioned countries.

While the Export Administration Act provides broad authority to control exports, the national security and foreign policy controls that Commerce has put in place through the Export Administration Regulations provide for control of exports to specific destinations to achieve specific objectives. National security controls are to ensure that exports do not make a contribution to the military potential of specified countries such as China and Russia. Foreign policy controls can be imposed on all destinations and include the regional instability control and missile technology control. Exports controlled for regional instability reasons are

reviewed to determine whether the exports could contribute directly or indirectly to any country's military capabilities in a manner that would alter or destabilize a region's military balance contrary to the foreign policy interests of the United States.

State controls munitions items under the Arms Export Control Act. State requires individual licenses for all exports under its jurisdiction, with the exception of certain Defense exports. State has broad authority to deny a license, and it can deny simply with the explanation that it is against U.S. national security or foreign policy interests. State's controls are permanent and do not need to be renewed periodically, and there are no provisions for foreign availability findings or re-exporting under de minimis thresholds. The Arms Export Control Act does not preclude judicial review of a licensing decision but no court has reversed a licensing decision by State. State has the authority to revoke a license for an export if it believes it to be against U.S. national security interests, even after a contract to manufacture the product to be exported is underway. All applications to export items that exceed certain values, including all commercial communications satellites, are subject to congressional notification prior to approval.

Commerce and State enforce several types of unilateral U.S. sanctions on exports, including two domestic laws with particular significance for exports of commercial communications satellites and jet engine hot section technology. These are (1) the amendments to the Export Administration Act and Arms Export Control Act made by the National Defense Authorization Act for fiscal year 1991 (P.L. 101-510, Title XVII) regarding sanctions for activities related to specified trade in items on the Missile Technology Control Regime annex and (2) the sanctions in effect since 1990 on exports of munitions to and satellites for launch in China as a result of the Tiananmen Square incident that are published in the Foreign Relations Authorization Act for fiscal years 1990 and 1991 (P.L. 101-246, Title IX, as amended.

The United States is a member of the Missile Technology Control Regime, a group formed in 1987 whose members coordinate their national export controls to limit the proliferation of missiles "capable of delivering nuclear weapons." This group is composed of the United States and 27 other countries. The United States implements its export control policies partly based on the regime's annex, which lists 20 items of missile-related goods and technologies, divided into two categories. Category I covers missile systems and their major subsystems and production equipment, and

category II covers materials, components, production, and test equipment. Under the missile sanctions amendments to the Export Administration Act and Arms Exports Control Act, State determines whether sanctionable trade in items within category I or II of the Missile Technology Control Regime annex has occurred.

If the sanctionable trade was in category I items, the laws require Commerce to deny the export of all items controlled under the Export Administration Act and State to deny the export of all items controlled under the Arms Export Control Act, in addition to certain other sanctions. If the sanctionable trade was in category II items, the laws require Commerce to deny the export of items listed in the annex that are controlled under the Export Administration Act and State to deny the export of items listed in the annex that are controlled under the Arms Export Control Act. In addition, the sanctions for trade in category II items permit the denial of exports of items not listed in the annex. An example of such an item is comercial communications satellites, which contain items listed in the annex. The National Security Council left the decision of how to treat such exports to Commerce and State. Thus, when the United States imposed category II sanctions on China in 1993, exports of commercial communications satellites controlled by State were not approved while exports of those satellites controlled by Commerce were not affected.

The Tiananmen Square sanctions include prohibitions on the export of items on the munitions list and the export of satellites for launch from launch vehicles owned by China. The President can waive these prohibitions if such a waiver is in the national interest.[7] Waivers have been granted allowing Commerce and State to approve the export of commercial communications satellites for launch from Chinese launch vehicles. Exports of hot section technology controlled by State are prohibited by the Tiananmen Square sanctions, while exports of hot section technology controlled by Commerce are not prohibited.

Items Transfer to Commerce Licensing Jurisdiction

In October and November 1996, Commerce and State published changes to their respective regulations transferring licensing jurisdiction for commercial jet engine hot section technology and commercial communications satellites to Commerce. Commerce's interim regulations provide enhanced controls for the items. Additional controls are being

[7]Missile sanctions are also subject to certain exceptions and waivers.

implemented through an executive order and a presidential decision directive issued in October 1996.

As a result of the change in licensing jurisdiction, State returned four applications for exports of commercial communications satellites without action. Two of these applications involved launches in China, one involved a launch in French Guiana, and the fourth involved a launch from a Russian-controlled facility in Kazakhstan. The exporters were advised by State to resubmit their license applications to Commerce and, in two cases, to request a separate license from State for items remaining subject to State licensing (e.g., rocket fuel).[8] As a result of the change in jurisdiction, these exports will not be subject to certain sanctions or to congressional notification requirements. They will be subject to the controls put in place through Commerce's interim regulations.

Commerce's new controls make the following changes for commercial jet engine hot section technology and commercial communications satellites:

- The items must be exported under individual validated licenses and will not be eligible for special comprehensive licenses or general licenses.
- Pursuant to the December 1995 executive order, Commerce may refer license applications to Defense, State, and other agencies for review. According to Commerce officials, all applications for the two items will be subject to full interagency review.
- The items will be controlled for national security reasons to all destinations. National security controls have been focused on preventing exports to certain destinations.
- A new "significant item" control will be created for these two items. This new foreign policy control will require a license for all destinations, except Canada. Although most foreign policy controls define specific and limited policy objectives, the policy objective for this control—consistency with U.S. national security and foreign policy interests—is broadly stated. Commerce officials stated that this control gives them broad discretion to deny an export.
- Technical information that can be transferred under a satellite license is more clearly defined.
- The two items transferring to Commerce's jurisdiction will not be subject to mandatory decontrol or licensing as a result of a foreign availability finding, as is normally the case for items controlled solely for national security reasons. Commerce officials stated that mandatory licensing and decontrol do not apply to items controlled for foreign policy and that the

[8]According to Commerce officials, a separate license from State will not be required.

provisions of the Export Administration Regulations requiring mandatory decontrol or licensing of items controlled for national security can be waived if the President determines that such a waiver is in the national interest. Rather than seek a presidential waiver on a case-by-case basis, a presidential decision directive has been issued saying that, in advance, mandatory decontrol or licensing is not in the national interest. Regulations providing the exporter with the ability to request a foreign availability finding and consideration of foreign availability in arriving at licensing decisions will still apply to these items.

- De minimis provisions will not apply to the two items. In the case of hot section technology, the de minimis provision provides that any technology prepared or engineered abroad for the design, construction, operation, or maintenance of any plant or equipment that uses U.S.-origin hot section technology will be subject to U.S. export control regulations.
- Contract sanctity provisions will not apply.

In addition, procedures for interagency review of Commerce's initial decisions on individual licenses have been modified for these items. These procedures provide for participation by reviewing agencies, including State and Defense. Commerce makes initial licensing decisions unless reviewing agencies are not in agreement. In those cases, decisions are made by an interagency group known as the Operating Committee, which is chaired by Commerce and includes representatives from Defense, State, Energy, and the Arms Control and Disarmament Agency. Under normal procedures, the chair of the Operating Committee, a Commerce official appointed by the Secretary of Commerce, decided to approve or deny a license and to include conditions on the license, after considering input from other committee members.[9]

Under revised procedures for these two items, the decision to deny or approve a license, and conditions for approval, will be made by a majority vote of the members of the Operating Committee. The executive order that establishes procedures for interagency review of Commerce license applications was revised in October 1996 to implement this procedural change.

[9]An agency disagreeing with a decision made by the Operating Committee can appeal it to the Advisory Committee on Export Policy, which is composed of members at the assistant-secretary level from the same agencies represented in the Operating Committee and makes its decision based on majority vote. If the dissenting agency disagrees with this decision, it can be appealed to the Export Administration Review Board, which is composed of the secretaries of the same agencies represented in the Operating Committee and also makes its decision based on majority vote. If the dissenting agency still disagrees with the decision, it can then be appealed to the President. In practice, decisions are rarely escalated beyond the Advisory Committee on Export Policy.

Implications of Change Are Uncertain

These regulatory and procedural changes are intended to allow Commerce to control and deny, when appropriate, exports of the two items to all destinations. This is particularly important for control of hot section technology. Exports of the most sensitive hot section technology have not been permitted, even to close allies. State approved exports of commercial communications satellites with conditions on the safeguard of the satellite and associated technology. According to Commerce and other executive branch officials, the change in jurisdiction is not intended to change U.S. licensing policy—what destinations and end users the United States will approve licenses for—but only the procedures under which licensing decisions will be made.

Whether the current licensing policy will be maintained with the change in jurisdiction is uncertain. The underlying objectives of the two systems differ. The Arms Export Control Act gives State the authority to use export controls primarily to protect U.S. national security without regard to economic or commercial interests. Under the Export Administration Act, on the other hand, Commerce weighs economic and trade interests along with national security and foreign policy concerns. The importance attached to economic and commercial interests is reflected in Commerce's role in the process as the representative of commercial interests. Defense, as the voice for national security concerns, is one of several agencies in Commerce's licensing system. Under State's licensing system, Defense is one of two agencies involved in licensing decisions. According to State, State denies an export if Defense raises significant national security concerns.

These differences in the underlying basis for decisions create uncertainty as to whether the changed procedures for making licensing decisions will result in changes in licensing policy. Uncertainty is also created by the newness of the "significant item" control because it is not clear how it will be applied.

Agency Comments and Our Evaluation

The Departments of Defense and Commerce provided written comments on a draft of this report (see apps. I and II, respectively), and the Department of State provided oral comments. Both Defense and State said they had no objections to the report. State also commented that the report fairly and accurately laid out the issues associated with State's position in these matters. Commerce stated that the President's decision to transfer jurisdiction of the two items discussed in this report was based on the unanimous recommendation of Defense, Commerce, and State. Commerce

cited major factors involved in the recommendation and decision: (1) changed military and industrial environment after the Cold War, (2) all U.S. allies treat these items as dual-use goods rather than munitions, (3) since December 1995 all agencies have had the right to participate fully in licensing deliberations, and (4) it made good business sense. Commerce suggested that our characterization of Defense's and State's positions was based on the views of junior staff members at these agencies and ignored the consensus that was ultimately achieved.

Our presentation of the Defense and State positions is based on discussions with senior level officials in these agencies, including Defense's Director of the Defense Technology Security Administration and State's Director of Defense Trade Controls. Neither State nor Defense raised any objections to our presentation of their positions in the draft report and State commented that the report fairly and accurately reflected its position. Further, with respect to Commerce's comment that the transfer of jurisdiction was based on the unanimous recommendation of Defense, Commerce, and State, it should be noted that an interagency group reviewing licensing jurisdiction for commercial communications satellites had recommended that commercial communications satellites with militarily sensitive characteristics continue to be licensed by the State Department. It also recommended further adjustments in the characteristics defining militarily sensitive commercial communications satellites. The Secretary of State upheld these recommendations. It was only after Commerce appealed the Secretary of State's decision to the President, and the President decided to transfer jurisdiction for both commercial communications satellites and commercial jet engine hot section technology to the Department of Commerce that unanimous support for the transfer of jurisdiction came about.

Scope and Methodology

To assess the military sensitivity of the two items, we interviewed and obtained analyses from officials in the Air Force, the Navy, the Office of the Deputy Under Secretary of Defense for Space, the Defense Technology Security Administration, the National Security Agency, the Defense Intelligence Agency, and the Department of State. We also analyzed license applications for the two items submitted to State and referred to Defense to gain an understanding of the concerns at Defense and State related to the export of the items.

To determine the executive branch's rationale for the change in licensing jurisdiction, we interviewed officials at Commerce and State. We also

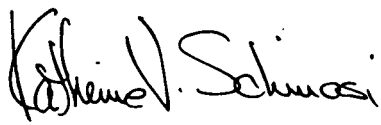
interviewed and obtained documents from representatives of the Aerospace Industries Association, The Boeing Company, General Electric, The Hughes Corporation, Lockheed Martin, and United Technologies Corporation. The Aerospace Industries Association represents manufacturers of engines and spacecraft. Boeing purchases jet engines for its commercial and military aircraft. General Electric and United Technologies are two major engine manufacturers, and Hughes and Lockheed Martin are two major commercial satellite manufacturers. In addition, we reviewed documents at Commerce, Defense, and State related to the development of the interim regulations and analyses done by industry advisory groups.

To evaluate the differences between Commerce's and State's export licensing jurisdictions for the two items, we interviewed and obtained documents from officials at Commerce, Defense, and State. We compared the provisions in the Export Administration Act and the Export Administration Regulations to those in the Arms Export Control Act and the International Traffic in Arms Regulations. In addition, we reviewed the interim final rule changing the jurisdiction to Commerce to evaluate the new controls that Commerce plans to implement to control the two items.

We performed our review from June to November 1996 in accordance with generally accepted government auditing standards.

As arranged with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 10 days after its issue date. At that time, we will send copies to the Secretaries of Defense, the Army, the Navy, and the Air Force and other interested congressional committees. Copies will also be made available to others upon request.

Please contact me at (202) 512-4841 if you or your staff have any questions concerning this report. Major contributors to this report are listed in appendix III.



Katherine V. Schinasi
Associate Director, Defense Acquisitions Issues

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Abbreviations

ITAR International Traffic in Arms Regulations

Appendix I

Comments From the Department of Defense

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
2800 DEFENSE PENTAGON
WASHINGTON, DC 20301-2800

INTERNATIONAL SECURITY POLICY

01 NOV 1996

Ms. Katherine Schinasi
Associate Director, Defense Acquisitions Issues,
National Security and International
Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Ms. Schinasi:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "EXPORT CONTROLS: Change in Export Licensing Jurisdiction for Two Sensitive Dual-Use Items," Dated October 17, 1996 (GAO Code 707174), OSD Case 1242.

The Department of Defense has reviewed the report and has no objection. Technical corrections were separately provided. The Department appreciates the opportunity to comment on the draft report.

Sincerely,

Mitchel B. Wallerstein
Deputy Assistant Secretary of Defense
Counterproliferation Policy

Appendix II

Comments From the Department of Commerce

THE SECRETARY OF COMMERCE
Washington, D.C. 20230

NOV 13 1996

Ms. Katherine V. Schinasi
Associate Director
Defense Acquisitions Issues
National Security and
International Affairs Division
General Accounting Office
Washington, D.C. 20548

Dear Ms. Schinasi:

Thank you for sending me your draft report, "Change in Export Licensing Jurisdiction for Two Sensitive Dual-Use Items," which concerns the jet engine hot section technology and commercial communications satellites. I understand that you were under considerable time pressure to provide a draft of the report to the House Committee on National Security. I trust that this pressure explains why many of the comments provided to your staff by Bureau of Export Administration officials were not reflected in the draft. I understand that your staff is continuing its review of this matter and is still examining relevant Commerce Department files. Accordingly, I hope that we will have the opportunity to review a subsequent draft before you finalize your report and formally submit it to the Committee.

As was mentioned in the meeting with BXA officials, we do not believe that the draft report adequately reflects the fact that the decision by the President to transfer jurisdiction of these items to Commerce was based on the unanimous recommendation of the Departments of Commerce, Defense, and State. Rather, the report seems to reflect the views of junior staff members of those agencies at an early stage of the debate and to ignore the consensus that was ultimately achieved.

The President's decision and the unanimous recommendation of the involved agencies was based on four major factors. First, the changed military and industrial environment after the end of the Cold War argued for an examination of the export controls on these items. The threats posed by the Cold War had evaporated, and our international challenges will increasingly be economic ones. It is imperative that these two important sectors of the economy remain vibrant and competitive. Advances in the areas of hot section technology and communication satellites are increasingly being led by the civilian side of the economy rather than the military.

Second, without exception, all our allies treat these items as dual-use goods rather than munitions. It is ironic that in negotiations with our partners in international fora, the United States has consistently agreed to these items being placed on the international dual-use lists but has resisted doing so at home.

Third, the reform of the dual-use licensing system, accomplished through Executive Order 12981 of December 1995, established a system in which all agencies have a right to participate fully in licensing deliberations and may escalate disagreement, if any, to the President. Because of this reform, the Departments of Defense and State both felt that their equities were fully protected and could endorse the transfer of jurisdiction to Commerce.

Fourth, the decision had the support of the business community and many in the Congress, not only for the reasons enumerated above, but also because it makes good business sense to consider these commercial items rather than munitions. As the military has a vested interest in keeping these sectors viable, it made sense to move the jurisdiction to Commerce where the economic aspects of a transaction could be considered along with the security implications.

In addition to these major points, I have enclosed a number of line-by-line suggestions that I trust you will find helpful. As noted above, I also hope that we will have another opportunity to review a subsequent draft based on these comments, the meeting with BXA officials, and the on-going review of our files.

Sincerely,

Mickael Kantor

Enclosure

Appendix III

Major Contributors to This Report

National Security and International Affairs Division, Washington, D.C.	Karen S. Zuckerstein Maria J. Santos Maria B. Boyreau
Office of General Counsel	Raymond J. Wyrsch

INVESTIGATION OF IMPACTS TO U.S. NATIONAL SECURITY FROM ADVANCED SATELLITE TECHNOLOGY EXPORTS TO CHINA AND CHINESE EFFORTS TO INFLUENCE U.S. POLICY

WEDNESDAY, JULY 15, 1998

U.S. SENATE,
SELECT COMMITTEE ON INTELLIGENCE,
Washington, DC.

The Select Committee met, pursuant to notice, at 3:06 p.m., in room SH–216, Hart Senate Office Building, Hon. Richard Shelby (chairman of the committee) presiding.

Present: Senators Shelby, Chafee, DeWine, Hatch, Roberts, Allard, Kerrey of Nebraska, Bryan, Graham of Florida, Kerry of Massachusetts, Robb, and Levin.

Also present: Taylor Lawrence, staff director; Chris Straub, minority staff director; Dan Gallington, general counsel; and Kathleen McGhee, chief clerk.

Chairman SHELBY. The committee will come to order.

The committee meets today in the sixth of a series of hearings devoted to our investigation into the national security implications of advanced satellite technology exports to China and covert Chinese efforts to influence U.S. policy.

While most of our hearings have been held in closed session to protect sensitive intelligence sources and methods, and protect information pertaining to two ongoing criminal investigations, I'm pleased that we're able to hold a public hearing today to consider a subject of great significance to our inquiry. We will examine how effectively the U.S. government monitors the interaction between U.S. and Chinese aerospace companies before, during, and after a U.S. satellite is launched aboard a Chinese rocket, and how the U.S. tracks and safeguards sensitive U.S. technology in the process.

The president has said that the waiver process is a routine matter, but I disagree. Others have said that launching U.S. satellites on Chinese rockets is no more serious than sending a package through Federal Express. Again, I disagree.

The president's national security adviser, Samuel R. Berger, said in early June, and I'll quote, that "the satellites exported to China for launch are not used for military purposes, nor do they result in the transfer of missile technology." I believe clearly this has not been the case. I cannot myself be comfortable with the process of launching U.S. satellites in China until we have adequate controls in place to prevent the Chinese military from benefitting, which brings us to the subject of today's hearing.

We have with us today Mr. David Tarbell, the director of the Defense Technology Security Administration, or what we call DTSA, who will take us through the history and the implementation of the monitoring and safeguards process. Mr. Tarbell, I would like to thank you again, publicly, for joining us today and also for spending a great deal of time with the staff of this committee in preparation for this hearing. Given what I've been told by staff, I have a number of concerns that I hope you will address today, Mr. Tarbell, and I will list them.

I'm concerned that the process you will describe is ad hoc and has not been adequate to prevent technology transfers to China, as we have discovered in the case of Loral and Hughes.

I'm concerned that you do not have the resources to carry out your monitoring mission, that you're forced to take funds, quote, "out of hide," and are dependent on volunteer monitors.

I'm also concerned that with the transfer of authority over the process to the Commerce Department, priority is given to the commercial concerns and the fiscal bottom line, rather than national security interests.

And I'm concerned that with the transfer of authority came confusion, which led to at least three Chinese launches of Hughes-built satellites that were not monitored at all.

Some may question the significance of all of these issues and the importance even of our investigation. I'd say to these critics that nothing is more important than the long-term security of our nation. China, one of the last bastions of dictatorial communism, certainly poses long-term challenges to our national security.

I can think of just four examples.

First, American cities are within range of the Chinese military's nuclear arsenal, and within minutes of being targeted, even though President Clinton recently secured a purely symbolic gesture from China's president in the agreement to detarget Chinese nuclear missiles. Improving the reliability and the accuracy of these missiles is not in our national security interest.

Second, the U.S. military may one day face a very serious confrontation with China in East Asia, much more serious than what occurred in the Taiwan Strait just a few years ago. Giving the Chinese technical information that improves their manufacturing process of guidance systems used on a wide range of missiles, including ballistic and cruise missiles that can be targeted on Taiwan, Japan or U.S. forces in the region, is not, I believe, in our national interest.

Third, while the U.S. military may not be forced to directly confront the Chinese military in the future, it may well face adversaries such as Iran or North Korea which have benefitted from China's proliferation of weapons of mass destruction and missile technology.

Helping to grow a Chinese industry of reliable, low-cost launch services that can be used to train other countries in the business of cheap missile systems is not, I believe, in our national security interest.

And finally, let us not forget that Chinese military leaders themselves have recently said that the real way to destroy the U.S. is not with nuclear war, but with information war. One of the arma-

ments on the information battlefield is a communication satellite. Allowing the Chinese to have access to our advanced communication systems without the necessary safeguards to prevent them from being used by the Chinese military to launch an information attack is certainly not in our national security interest.

The recent summit in Beijing produced great ceremony, with much talk of partnership but little talk of substance. Until the Chinese take concrete actions to institute democratic freedoms, adhere to the principles of basic human rights, and end their practice of proliferating weapons of mass destruction and missile technology, I think we should do nothing that helps improve the Chinese military or the rogue regimes that benefit from Chinese proliferation. If we do—and I believe we have—it represents harm to our national security. This is why I believe our continuing investigation is so important.

One final thought; the process of technology export is all, I believe, about balancing threats to our national security against benefits to our commercial industry. We have seen a number of documents that record the benefits to our commercial industry and the great pressures that industry has brought to bear to ease export controls. We have not seen, thus far, many documents that record the debate associated with threats to our national security. The committee has asked for such documents, but the deadline that we set for receipt of these documents has come and gone. It's true that we have received a lot of documents, but there's a lot of documents that we have not received. I hope that the administration will be—as I said—be forthcoming on the information. If not, I think we are going to be in for a long, long summer and fall.

Mr. Tarbell, welcome to the committee, and I look forward to your testimony.

Senator Kerrey.

Vice Chairman KERREY. Thank you very much, Mr. Chairman.

Although I didn't sign the letter inviting him to testify, I do want to welcome Mr. Tarbell to the committee this afternoon. The novelty of coming to Capitol Hill must be wearing off for you as you are about to testify, as I understand it, for the fifth time before a congressional committee, and including one in closed session and four in the open. And I suspect you may be wondering why one committee can't share its transcript with other committees so you could get back to work on your regular job, which is keeping America safe by controlling the export of defense technology. And I must say to you, Mr. Tarbell, that the same thought occurred to me. But don't worry, I am not going to ask you to answer that question.

I would like, instead, to make two points at the start of this hearing. The first deals with Senator Lott's statement yesterday on the floor of the Senate. And the second deals with the work that's before us today.

First, Mr. Tarbell, I know you understand the unique responsibilities of the different committees. But I do think the public has concluded these committees are all pretty much alike. Based on news reporting, they probably think all we do is politics, jousting daily in a sterile struggle for momentary advantage, which produces nothing of consequence for the country. Senator Lott's floor statement yesterday, asserting partial and interim conclusions for an in-

vestigation which was supposed to have been bipartisan certainly added to that impression. But with regard to this committee, it is a completely false impression.

The Senate Select Committee on Intelligence is a different committee. It's organized to be bipartisan, with a vice chairman instead of a ranking member and a majority of only one member regardless of the make-up of the floor. It was set up by the Senate to rise above partisanship to oversee the most sensitive functions of the United States government, functions which occur in secret and at the edge of the law. The national security requires U.S. intelligence activities to be effective, to be efficient, and to be consonant with American law. Only a bipartisan committee rising above momentary political advantage can accomplish this task.

The Intelligence Committee has a heritage of statesmen leaving politics at the door of the committee room and keeping politics away from their deliberations. Our standards were set by Senators Dan Inouye, Barry Goldwater, Pat Moynihan, Birch Bayh, Dave Durenburger, and many others, who put the national security oversight mission of the committee ahead of politics.

In my own time, I have seen leaders like David Boren, Bill Cohen, Frank Murkowski and John Warner carry on that tradition. More recently, in the last Congress I saw then-chairman Arlen Specter handle a committee report on Iranian arms shipment to Bosnia in an objective, non-partisan fashion. Not only did he handle the report itself in that fashion, he explicitly delayed its release until after the election despite what to a committee with a different heritage would have been the extraordinary temptation of impacting a presidential campaign when the chairman and president belong to different parties.

The committee tradition for non-partisanship also includes a responsibility for every member to call it like he or she sees it, even if fault is found with the administration and the member is of the same party as the president. I take pride in exercising this responsibility. I voted for, and with Senator Specter, signed the report I just mentioned. It was sharply critical of the administration in some respects, and I did not hesitate.

If our China investigation reports truly finds fault with and recommends improvements in what the administration has done, I will not hesitate to vote for and sign the report, as is my duty.

Mr. Chairman, the committee's ability to function rests on the bipartisanship of its heritage and its rules. Senator Lott, who is an ex-officio member of the committee, put our ability to function at grave risk yesterday. Grave risk, Mr. Chairman. He could not pass up the opportunity to turn our partially-completed efforts into momentary political advantage. He may not understand, and I hope he did not understand, how closely connected this committee's effectiveness is to our national security, and how fragile and endangered our effectiveness is as a result.

Mr. Chairman, since this committee's inception, politics has stopped at that door in the back of the room. Yesterday, it barged in, and I know that you and I can work together to get it out and to keep it out. American safety, Mr. Chairman, not a political cause, are at stake.

Mr. Chairman, you will recall my support for this investigation since you and Senator Lott first announced it in a press conference and I am eager to get our work done, not only because it's a serious matter, but because our other, more important oversight responsibilities are at risk.

As you know, I do not think this hearing is the best use of the committee's limited time. I have great respect for Mr. Tarbell's mission; it is of the utmost seriousness for our national security. Knowledge of how this mission has been performed in the past, during the launches of American satellites on Chinese rockets since 1989, is also essential to answering two of the questions in the committee's terms of reference for the investigation. But Mr. Tarbell has already appeared before us in closed session on June 24. Any additional information we need from Mr. Tarbell could be obtained from staff interviews with him and his staff and from his testimony at other committees. We don't have to convene a hearing to get every additional fact, and we would never get our work finished if we did.

Further, the process he will testify on is solely in the purview of the Armed Services Committee. How this monitoring process should be improved is their business; they authorize it, not us. Also, Mr. Tarbell cannot discuss in open session the intelligence-related matters which are this committee's jurisdiction.

Mr. Chairman, my gravest concern is the over concentration of our efforts on this China investigation. We have undertaken an investigation of an important topic, and we must complete it promptly and produce a bipartisan report of the quality, probity and intellectual weight for which this Intelligence Committee is known. But in relative terms, the topic of our investigation is not as urgent as the threats which put Americans at risk today. The campaign fundraising aspect of our investigation is politically hot, and if crimes have been committed, I believe every senator present wants to see malefactors locked up. But it is quite a stretch to see a significant national security impact in the so-called China plan.

The satellite export element of our investigation has greater national security significant. But, Mr. Chairman, relative to other threats, the significance is less. There is a small number of Chinese ICBMs. It is important to deter the use of those missiles, to watch those missiles closely and not help China improve those missiles. But the number held by the Chinese is still relatively small.

By comparison, there are nearly 10,000 Russian nuclear warheads and several thousand launchers. And the Russian economy and the Russian military are both in a tailspin. The temptation and pressure on Russians to proliferate nuclear materials, even warheads, must be acute. Yet we push off to the last hearing of the year a look at the Russian problem.

This committee's oversight of the Intelligence Community's insights and gaps on Russia is virtually nil. It's the same with the other first-order threats and the other major, even burning intelligence oversight issues.

India and Pakistan are both nuclear powers. They are in a very unstable relationship. The Intelligence Community was accused of not covering the Indian nuclear program well enough. And Admiral David Jeremiah wrote a report that ought to be of great issue to

us. Yet beyond receiving the report and Admiral Jeremiah's testimony, we have done nothing.

You and I empowered, as well, a Technical Advisory Group of outside experts to advise us on the technical challenge facing U.S. intelligence today, and they made some very significant findings and recommendations. There is an urgent need to follow these recommendations up.

In Europe, Kosovo is lurching towards a war worse than the Bosnian morass. NATO, Russia and all of Europe could be dragged in. What does the Intelligence Community know about Kosovo? What are the gaps? What is the collection plan? We have work to do. I could make the same point about Iranian weapons proliferation and cooperation with Russia, about the growing tension in the Koreas, about the continued rise of international organized crime and narcotics trafficking, about the threat of electronic warfare and computer attacks on our infrastructure.

There is more to the world and to our responsibilities as intelligence overseers than Chinese missiles and campaign donations. We can walk and chew gum at the same time. Our job is to oversee the Intelligence Community whose responsibility is to keep Americans safe. I take this investigation very seriously, Mr. Chairman, and I want it to continue. But I also take seriously these other threats. If the policies that started under President Reagan in 1988 have made it easier for China to attack the United States of America with ballistic missiles, I want to know about it.

But this I also know, Mr. Chairman: China is reported to have a small number of ICBMs capable of reaching one of our cities, while Russia has thousands. I do not discount, though it takes a trip to the wilder shores of imagination to foresee, the possibility of a Chinese nuclear launch that would draw the United States into war. I can clearly see a scenario in which the spark of Kosovo ignites war in the continent of Europe and triggers our treaty obligations to defend our NATO allies.

I take this seriously, Mr. Chairman. I take our investigation seriously. And I appreciate very much your efforts constantly to keep our investigation on track, and I hope that you and I can continue on, as we have tried to do, in the special spirit of this committee. We need to do our job and let Mr. Tarbell do his.

Chairman SHELBY. Senator Roberts.

Senator ROBERTS. Thank you, Mr. Chairman.

This is one of those days where we all have to be at two or three places at the same time. And I appreciate you recognizing me first and that we—we are considering sanctions and reform legislation on the Senate floor, and I do want to speak to that. And I have another meeting to go to. And I know everybody has that, but I truly appreciate the opportunity to go next.

Let me just say, in the outset, following the comments by the distinguished vice chairman and my friend and colleague from Nebraska, that the chairman and I were recently in the new NATO countries and then stopped back in Molesworth, England, in regards to the center for much of our intelligence-gathering for Kosovo. And I just wanted, for the record, to indicate that the chairman's vitally interested in that and that was the purpose of the trip. And we certainly concentrated on that. And I know there

must be a Hall of Fame—Hall of Bipartisan Intelligence Committee Fame that has been mentioned by the senator from Nebraska, and we all are most appreciative of that bipartisan approach. I just want to make it very clear that the statue of the current chairman stands very tall and is very unblemished in that regard.

I want to thank you for holding an open hearing on this very important matter, Mr. Chairman, and I look forward to hearing from the head of the Department of Defense organization that is responsible for the policy dealing with the transfer of defense-related technology.

Now, I want to make it very clear that I am not interested in participating in what some have called an attack against this administration, and in particular this president, for actions taken in dealing with China. And I am certainly not interested in what some call China-bashing. That's not why I am sitting here. But I am interested in really getting to the bottom of this defense issue and to see, as noted by you, Mr. Chairman—and, yes, by the majority leader as of yesterday—if U.S. policy was violated or if laws were circumvented, and if our national security was harmed or weakened because of the transfer—let me emphasize this—transfer of sensitive technology, such as launch guidance systems.

If this turns out to be the case, then the U.S. Congress must act. I trust it will. I am interested to learn if there are adequate procedures and processes in place now to prevent such technology transfer and to assure there is adequate oversight and accountability between those departments responsible in matters of trade, where our national security is called into question. Some have charged, and they're entitled to this view, that this committee is wasting its time—we have just heard this—looking into this and that nothing tangible has been discovered or that it is not within this committee's jurisdiction, or there are much more important or vital subjects to pursue. There are important and vital subjects to pursue. But like you, Mr. Chairman, I strongly disagree with that proposition. I think this is vitally important and squarely in the purview of this committee. Certainly, it has very significant defense overtones, and our evidence should be shared with others such as the Armed Services Committee. I am a member of that committee. I share that concern and interest. But I think it is an argument that is somewhat specious—I emphasize somewhat—that's in the view of whatever blackboard somebody tends to write on—to say this committee does not have jurisdiction and should not get to the bottom of the matter.

I was fortunate enough to serve on a commission, Mr. Chairman, and I think pretty much every member here is a little tired of hearing me comment about this, but it's a commission called America's National Interest; about a year and a half old, but it's still very pertinent. And the following is a quote from the commission's report titled, "America's Vital National Interest." And let me point out that Senator Graham was a member of that commission, an outstanding member; former Senator Sam Nunn, Brent Scowcroft, Senator McCain, other distinguished notables, and some fellow named Roberts. And then we have the executive director. We have the Center for Science and International Affairs, Harvard; the Nixon Center for Peace and Freedom; the Rand Corporation, and

such people as Bob Ellsworth, Andrew Goodpasture, and Rita Hauser.

This is a heck of a book. Let me quote in regard to this commission's report on China. Our response to the order being shaped by China, let me say that they've said that the entre of China on the world stage is probably the single most important thing affecting our national interest. Quote: "Our response to the order being shaped by China is the key issue, the crucial test for an American national interest-based policy now and for the foreseeable future. The American national interest in China not becoming a world or even regional military threat"—let me say regional again—"and in China entering the global international system on prudential terms not only serves our geopolitical safety and security, but also our moral interest in human decency and ultimately human freedom." This does not mean a neo-containment policy. The Chinese already claim to believe they are being contained, but this claim is further evidence of their naivete. U.S. policy should be built around the fuller development of what Gerald Segal calls an intricate strategy for tying China into the international system. As William Safire, the columnist for the New York Times, has said, America's dealings with China should be based on public perceptions of clear consequences to specific acts and policies. And I suggest that our policy in this regard, in regards to the subject of this committee and this investigation is not clear.

Mr. Chairman, it is in this context that I believe these hearings and their outcome are vitally important, not only to our national defense, but also in the continued development of our commercial relations with China. But this continuation of commerce must be within the strict guidelines set further in laws, regulations or agreements such as the memorandum of agreement on special technology safeguards established between China and the U.S. It seems from a national security perspective it is vitally important that safeguards be in place, a matter of trade, to define the limits which trade can occur. I like to think of those limits, Mr. Chairman, as a box, within the boundaries, well defined. We don't have a well defined box. It seems to me, if anything we have a sieve. If sensitive technology exports remain within the boundaries of that box, then there's no problem. But if the boundary is violated either intentionally or innocently, there needs to be consequences of such action. Our national security is too important to allow the breaches to go unchallenged or unpunished.

If an improper technology transfer occurred and our procedures were inadequate, then they need to be tightened. If the procedures were circumvented, then oversight needs to be enhanced. I intend to focus my questions on the definition of the box, who is responsible for defining it and refining it over time, is there adequate intelligence input, or is there intelligence input at all? What evidence does the U.S. intelligence have that our national security defense has been damaged, and to what extent, and what are the costs for violating the rules, and who is to be held accountable?

It's extremely important that China also understand the consequences for them if they continue to assist other nations in the development of weapon systems that could simply threaten the U.S. or our allies.

Mr. Chairman, I have another several paragraphs in regards to why the U.S. intelligence role is extremely important. I am simply going to ask that my full statement be made part of the record.

Chairman SHELBY. Without objection, it will be.

Senator ROBERTS. This is why I feel very strongly that these hearings are not only germane, and I think they're timely and I think they're in the Intelligence Committee's jurisdiction, but that they are vital to continue our growing and strong relationship with China. Any disruption or misunderstandings with China could have serious and long-term implications for the vital—I emphasize vital—national security interests.

I thank the chair.

Chairman SHELBY. Senator Hatch.

Senator HATCH. Thank you, Mr. Chairman.

Let me just commend you and the ranking member—or the vice chairman for today's hearings. And I'd like to just appreciate—express my appreciation for what you two have been doing in this area. You know, the nature and the materials and the issues for which we have oversight quite naturally requires that the majority of our work be done in closed hearings, but it is worthwhile that from time to time we open our hearings so that we can demonstrate the importance of Intelligence Committee activities to the American public. And today's hearing in particular is important for the public to see because the questions having to do with technology transfer and U.S. satellite launches by foreign rockets are complex.

I go into those to some degree in my statement, but I think I'll put the rest of the statement in the record.

Chairman SHELBY. Without objection, it will be ordered.

Senator HATCH. And thank you again for this hearing.

[The statement of Senator Hatch follows:]

PREPARED STATEMENT OF SENATOR ORRIN HATCH; HEARING TO INVESTIGATE U.S. TECHNOLOGY TRANSFER TO THE PEOPLE'S REPUBLIC OF CHINA

Mr. Chairman, I would like to commend you for holding today's hearing, and I would like to commend you for having an open hearing. The nature of the materials and issues for which we have oversight quite naturally requires that the majority of our work be done in closed hearings. But it is worthwhile that from time to time we open our hearings so that we can demonstrate the importance of intelligence community activities to the American public. Today's hearing, in particular, is important for the public to see. The questions having to do with technology transfer and U.S. satellite launches by foreign rockets are complex: To understand them you need to appreciate the intersection of numerous issues: technological needs and economic markets; commercial applications and military developments; international trade and intelligence responsibilities. Today's testimony, by David Tarbell, will focus on a basic question that I know many Americans—and many of my constituents—have raised: How do we monitor U.S. satellite launches on foreign rockets so that we do not transfer technology that benefits a foreign military? Mr. Chairman, in the midst of a complicated set of issues, this topic is essential to explore, and I thank you for holding this hearing. If I may add just a few remarks regarding charges of partisanship that have been raised in the last few days. First, this is a nonpartisan committee, and must remain so. The promotion and protection of our national security is a nonpartisan duty that all members of Congress—Republicans and Democrats—share. Because of that, I must make a second point: This investigation must continue until all of the issues involved are thoroughly vetted. As I said, the satellite transfer issue is complicated. Because we are dealing with China, it has become commingled with the issue of penetration of Chinese influence into our political process. We do not know the relation, if any, between these issues. We don't know if there is an association between attempts at Chinese influence on our polit-

ical process and transfer of technology. We don't know if there is an association between corporate contributions to the political process and national security determinations. We have not proven that there is a direct causation. However, until we have thoroughly vetted these issues, I am sure that my colleagues on both sides of the aisle will agree with me that it is our duty to the national security that we thoroughly investigate the details of these issues, as well as the relationship, if any, between these issues.

Chairman SHELBY. Senator Kerry of Massachusetts.

Senator KERRY of Massachusetts. Mr. Chairman, thank you.

Listening to Senator Roberts' statement, I was struck because I think that—I don't think the vice chairman said that this was a waste of time. I think the vice chairman said that we can walk and chew gum at the same time.

Senator ROBERTS. If the gentleman—if the Senator would yield, I didn't say the vice chairman said that.

Senator KERRY of Massachusetts. Well, I heard a sort of questioning of whether or not this was a waste of time based on what the vice chairman said. I think it was precisely that.

But leaving that aside, the question is whether we are going to simultaneously do other business. And I would share with my friend and colleague, the vice chairman, the sense that there is much that we should be doing. I'm the designee from the Foreign Relations Committee to the Intelligence Committee, and I joined up happily with the notion that we would be looking at many of those other trouble spots and learning a great deal more about them and examining our policy on them. I think there is much to be done there.

Secondly, it's not of small moment that the vice chairman didn't sign the letter inviting Mr. Tarbell to come here and testify today. Normally, we do things in a bipartisan fashion in this committee. It's a nonpartisan committee. And what is clear to me is that there's a partisanship in the air around this issue that this committee ought to work doubly hard to stay away from. This witness has testified four or five times before the committee already, and I think this sort of selective airing of a particular component here and there does an injustice to the overall quality and breadth of the work that we should be doing as a committee.

Secondly, I think the remarks made by the Majority Leader yesterday on the Senate floor only underscore sort of the nature of the hearing at this point in time, because I think the comments place the committee in at least a difficult position, perhaps even a sort of untenable one, because any specter of a sort of partisanship or reach into the political realm by the committee at a—certainly at a premature stage when we haven't made conclusions, that tends to undermine the good faith efforts of the committee itself.

Now, the Majority Leader is obviously entitled to his opinions, but it seems to me there's a confusion that automatically comes out of those opinions stated by someone in his position.

This committee, to my knowledge, Mr. Chairman, has not reached any conclusions. And this committee hasn't reached any interim or otherwise statement with respect to what we're analyzing here, and properly so. I think members and staff have huge volumes and a number of documents to go through before any sort of credibility can be established. And we keep hearing, as particularly on the floor yesterday, with respect to this administration's sat-

ellite controls being inadequate, or, quote, "wholly inadequate" was the quote. I'm not here to defend them, I'm here to find out what the answers are.

But I know that as a baseline beginning point, we begin with the knowledge that this is the policy President Reagan put into place, and if we're going to throw criticisms around, let's through them around fairly and broadly. It was President Reagan who approved it in 1988, and it was he who made the judgment, with Republican concurrence, that we needed to up our capacity to put satellites in space.

Now, Congress is not always judicious about assigning blame. We all know that. But Congress has repeatedly called for successive administrations to allow the launching of commercial satellites aboard Chinese rockets.

Moreover, when President Clinton, in 1996, decided to change the licensing jurisdiction on commercial communication satellites from Department of State to the Commerce Department, he sent that decision to us for review, and no congressional objections were raised at that point in time.

So as to whether sensitive technology was transferred to China, it's my judgment at this point that the Intelligence Community has not yet produced the hard evidence that we know to a certainty that that's happened. There's some evidence, there's some evidence here, there are balancings. But in fact, community analysis that has already come before the committee hasn't reached a consensus on this point. So it's clearly inappropriate for an individual senator, I think, to try to suggest to people that there is a capacity to do that.

I have deep concerns about it. I may well arrive at a judgment that inadvertently or perhaps advert—on purpose by virtue of a breach of law or in any number of ways that that may have happened. And I'm not one to suggest that we should be making judgments that somehow exonerate anybody at this point either. No judgments have been made. And yesterday's floor statement I think clearly somehow suggested, in an interim fashion, otherwise.

We do know that we can draw a conclusion that Chinese military uses of U.S.-manufactured satellites to put its communications into air is taking place, but we don't know what the full impact of that is at this point in time. Nor have we sufficiently analyzed the capability China has developed on its own, beginning in the 1960s, which is a very important, critical part of this analysis.

So, Mr. Chairman, you know, I think that we should point out that the committee is not going to hear from its policy witnesses until September, and until we hear from them in full, we clearly can't establish a record in full in this regard.

So I hope that today's hearing may, through these statements, at least serve to dispel any misinterpretations that occurred yesterday.

And finally, I would say there has been discussion of new information coming to light about China's efforts to influence the American political process. Now that's true, but it's information that is either protected grand jury information or classified information, and it's contradictory information, to the best of my knowledge. So to cite it as a rationale for a special prosecutor seems like a rather

remarkable, injudicious, perhaps even unfair leap at this point in time because the public cannot have any way of having information on which to base that judgment, and it creates more hurly-burly in the politics of this town, which are already confused and, I think, vituperative enough.

So I would hope this committee will work diligently to do what the vice chairman has suggested is the broader business of the committee, and I look forward to doing that.

Chairman SHELBY. Senator Bryan.

Senator BRYAN. Mr. Chairman, the Senate Select Committee on Intelligence meets this afternoon regarding the alleged technology transfers to China. I look forward to the testimony of Mr. Dave Tarbell, the director of the Defense Technology Security Administration. DTSA is the Department of Defense agency most responsible for ensuring that space launch technology does not fall into the wrong hands when U.S. satellites are launched overseas. This is a complex, it's a very serious and important topic of concern to each member of this committee, and this senator is much concerned as well.

The Senate Intelligence Committee has a tradition of examining critical national security issues in a thorough and bipartisan manner. Like several of my colleagues who have previously expressed themselves, I was greatly troubled by the majority leader's announcement yesterday that, quote, "five major interim judgments have been reached in this investigation." That statement, in my view, is inaccurate, and trespasses upon the tradition of bipartisanship which has been the hallmark of this committee. These judgments by the majority leader were broad, sweeping statements purporting to represent interim findings related to the committee's investigation. The majority leader made this statement despite the fact, as each member of this committee knows, this committee has had no discussion or votes on conclusions with respect to the matters before us, nor should we until such time as all of the evidence is in. In fact, some of the information collected by the Intelligence Committee investigation thus far does not support the interim conclusions announced yesterday by the majority leader.

I am hopeful that this statement by the majority leader will not hinder our ability to proceed in a bipartisan manner. The American public expects us to examine these issues not from a partisan perspective, but to determine what has occurred, what may have occurred that encroaches or in any way jeopardizes our national security, and to take the appropriate action—let the chips fall where they may.

I'm also concerned that in terms of our proceeding to investigate this alleged transfer of technology, that the committee not neglects its other important oversight functions. In that sense, well over half of the committee's professional staff is dedicated full-time to the technology transfer investigation. Now I reiterate, I think this is a serious undertaking. We ought to fully explore it. But we have other issues that are important. Several significant committee hearings have been postponed to accommodate hearings on the China investigation. It seems to me that the Intelligence Committee should be able to conduct our investigation with respect to

the China matters and also to continue its normal oversight function of other intelligence agency functions.

For instance, the Intelligence Community has been broadly criticized recently for its failure to provide advance notice of the nuclear testing in India. The Intelligence Committee needs to closely examine the reasons for this intelligence failure and to work with the Central Intelligence Agency and other intelligence agencies to find the appropriate solution.

Yet is my concern, Mr. Chairman, that the widening scope and extensive staff resources dedicated to the China investigation make this and other oversight efforts increasingly difficult.

As I say, make no mistake; the allegations of failures in our export control process are serious and deserve full and complete investigation. The Department of Justice must be allowed to fully investigate any wrongdoing by United States corporations that may have led to any improvements in Chinese ballistic missile programs. It is also critical that the Intelligence Committee and other appropriate congressional committees carefully examine the current export control regime. The proliferation of missile technology is a serious national concern, and we must ensure that our export controls reflect this and acknowledge a potential threat.

Today we will hear from the Defense Technology Security Administration regarding its procedures to safeguard American technology when U.S. satellites are launched overseas. Given the current demand for overseas commercial launches, it is important to understand what safeguards are currently in place to ensure that these launches do not in any harm or compromise our national security. In particular, serious allegations have been raised regarding the improper transfer of launch technology by the Loral Corporation in May of 1996. Those specific allegations need to be fully examined, explored, and the facts ascertained.

But I believe it's worth noting that despite these allegations, with full knowledge, both the State Department and the Department of Defense have fully supported subsequent licenses by Loral to launch a satellite on a Chinese rocket. I hope to explore with you, Mr. Chairman, and other members of this committee these issues today. And I look forward to working with you and my colleagues. I hope that we can move forward with this investigation in an open and thoughtful manner and together with other congressional committees and the administration, work towards real solutions to face the difficult challenges of export control.

And I thank you.

Chairman SHELBY. Senator Graham.

Senator GRAHAM of Florida. Thank you, Mr. Chairman.

Much of what I had intended to say has already been said, so I will attempt to avoid repeating it.

Obviously these are serious issues that we are dealing with in this hearing today and in these series of hearings. But as serious as the issues before us is the integrity of this committee. Unlike every other committee in the Congress, the two intelligence committees represent for most items and for most Americans the only insight into the activities of the Intelligence Community. If we were today considering a matter that, for instance, involved the Department of Transportation or the Department of the Interior, we

would have before us news accounts that would be generated by journalists exercising their First Amendment rights. We would have a variety of other sources of information which would give to the American public an understanding of what we were doing as their representatives here in the Congress.

None of that is available as it relates to most of the activities of this committee. The nature of the subject precludes that. And therefore, this committee has a unique responsibility to be able to present to the American people, with their confidence, that the activities that are closed to them are not going unscrutinized. This committee has had a two-decade history of fulfilling that responsibility to the American people. That confidence of the American people is in large part based on not only the previous record of this committee in sensitive areas, but also upon the way in which this committee has conducted itself, particularly that it has conducted itself in a manner which is above partisan politics.

I think it is extremely important that we not sacrifice that long tradition to some immediate and transitory gain.

I am concerned about the statements that were made on the floor yesterday. I would join the observations of the senator from Massachusetts that I am unaware that there was a factual basis to many of his conclusions based on what I have heard in this committee's deliberations.

So, Mr. Chairman, I would hope that we would use this experience, not as an example of a departure from the tradition of this committee but as a reminder to the importance of the role of this committee and a call to return to our traditions. We have serious work to do, serious work to do this afternoon and in the future. And our successors, who will be the members of this committee in the future, will have equally or more serious responsibilities as new issues relating to an appropriate oversight of the Intelligence Community comes before this committee. We would be poor stewards of our responsibilities if we were to compromise that distinguished past record and that distinguished, but yet unknown, future responsibilities of this committee.

Chairman SHELBY. Senator Allard.

Senator ALLARD. Thank you, Mr. Chairman.

I don't have any prepared statement, but I am going to make just a few brief comments before the committee. I, like the other members of the committee, understand the serious responsibility that we all bear, because so many times we hold our meetings in private and the information that we have can't be shared for various reasons. We have certainly a very high responsibility as far as our national security is concerned. And I know that the chairman has made every effort that he possibly can to hold public meetings to make sure that, whenever possible, there is the ability for the public to review what this committee is doing. And I commend you for that.

There have been some members, and maybe some other individuals, who have suggested that by holding a public meeting, somehow we ruin the credibility of this committee. I feel just the opposite. By holding public meetings, whenever possible, we actually add to the credibility of the committee. This is only the second public hearing that we have had on this issue. The first public hearing

we had, had to do with the application process, the role of the State Department and the Commerce Department. And I think it was appropriate we had a public hearing on this, and I think it's appropriate that we again can review and hear the testimony in regard to China and what has happened as far as potential transfer of technology.

I don't think anybody—I, like other members of the committee, I don't think any of us have formed an opinion yet; and I obviously look forward to taking every opportunity we can to review the facts and find out what is happening now. I'm not particularly interested in what's happened in the past, but I'm interested in what's happening now. I think that's crucial to our national security, and I think that it's a responsibility of this committee.

So I want to compliment you, Mr. Chairman, for holding this open meeting.

Thank you.

Chairman SHELBY. Thank you.

Senator Chafee.

Senator CHAFEE. I have no statement.

Thank you, Mr. Chairman.

Chairman SHELBY. Senator DeWine.

Senator DEWINE. Mr. Chairman, I just want to congratulate you for holding this hearing. I think it is appropriate that this hearing is in public and that we're going forward today, and I look forward to the testimony.

Chairman SHELBY. Senator Robb.

Senator ROBB. Thank you, Mr. Chairman.

My views on public hearings are well known. I thank you for limiting the number of public hearings, and I agree with other members whose views I have heard expressed since I came from yet another closed hearing just a few minutes ago which many members of this panel attended, to the effect that any attempt to achieve and maintain a bipartisan approach to this particular committee enhances our ability to do our job and the integrity and public confidence in the work of this committee. And I hope that anything that we can do or say will enhance that particular objective.

And I thank you.

Chairman SHELBY. Senator Levin.

Senator LEVIN. Mr. Chairman, we meet in the aftermath of the statement released by the majority leader yesterday. It was a highly partisan approach to the multiple hearings which have been held by various committees in the Senate relative to the export of satellites to China. Now, I happen to sit on three of the four of those Senate committees that have held these hearings, so I speak from personal experience when I say that the majority leader's statement omitted some of the most important testimony received by those committees. And his statement also conveyed the false impression that it was a bipartisan product, when to the best of my knowledge not a single Democrat was consulted or even knew that the statement was being prepared.

The statement claims that he was not rushing to judgment, but then offered unequivocal conclusions such as the Clinton administration's export controls for satellites are wholly inadequate, such as the export controls have not protected sensitive U.S. technology,

such as national security concerns are regularly downplayed or even ignored, such as sensitive technology related to satellite exports has been transferred to China, and so forth.

To my knowledge, not one of the Senate committees investigating these issues have reached those conclusions. The evidence that the majority leader offered to support those conclusions ignores some of the most important testimony that these committees have received. And it's obvious that it was ignored because that testimony contradicted the conclusions that were offered.

And just a few examples.

The majority leader's statement ignored testimony by senior State and Department of Defense officials on June 18th, 25th, and July 8th that the 1996 Clinton executive order strengthened—their word, strengthened—the Department of Defense's role in Commerce Department export licenses rather than weakened it. And these officials believed it would be a bad thing to return to State licensing of commercial satellites.

Just one or two other examples.

The majority leader's statement ignores testimony on June 18th by senior State and Defense Department officials that they were unaware that any transfers of sensitive U.S. satellite technology to China had occurred. Mr. Holum, a Deputy Secretary of State, said, we do not believe any launch of a commercial satellite under this policy since 1988—and that's when President Reagan announced the change, the first change in the policy. But he said he doesn't believe any launch of a commercial satellite under this policy since 1988 has resulted in a transfer of significant technology or assistance to Chinese either space-launch vehicle capabilities or missile capabilities.

And the Secretary of Defense—or the representative of the Secretary of Defense testified: I agree. We're not aware of any situation in which such transfer has harmed U.S. security.

And that's just a few examples of critically relevant testimony that was ignored by the majority leader in his so-called interim report yesterday.

Now, that's the setting in which we meet. And I think every member of this committee, I believe, feels that we just simply cannot and should not use national security for partisan political purposes. And, Mr. Chairman, as you and our vice chairman surely would agree, this committee over the years in particular has tried to avoid partisanship as it carries out its mandate.

After the majority leader's statement yesterday, I believe that this committee has some repair work to do in that regard, and I do hope that we can struggle and strive to put any partisanship behind us, keep it behind us as we advance the pursuit of the facts before we reach any conclusions.

Thank you, Mr. Chairman.

Chairman SHELBY. The majority leader, of course, is not here, and I'm not here to defend him because he's quite capable of defending himself, as we all know, if he saw fit to. But having said that, we all know that the subject matter of our inquiry is very, very explosive politically. There is a lot of sensitivity to these issues. This is not business as usual. A lot is at stake, perhaps harm to our national security. There might be political fallout,

there might not be. We don't know yet. But this committee, I believe with the able staff we have, we're going to follow the facts regardless of politics, regardless of party, and regardless of personalities.

All of us, I'm sure, have some interim conclusions. But I'm not going to voice mine until we finish our hearing. But at that time, I'm certainly going to do it, and I think everybody on both sides of the aisle will—or should. If we can agree at that time on a bipartisan report, that's great. I doubt we will be. But let's wait till the end of the day there.

But having said all that, I'd like to get to the hearing of the day. Mr. Tarbell.

Vice Chairman KERREY. Mr. Chairman, I've just got to say, in response to what you just said, I mean, you say you hope we can produce a bipartisan report——

Chairman SHELBY. I did, and I've told you that privately.

Vice Chairman KERREY. We've got to start at the beginning saying that we're going to. I mean, we did that, Senator Specter and I did. The report that I cited earlier, it was equally sensitive politically, and we made a commitment at the beginning that we're going to produce a bipartisan report, and we did. The Democrats on this committee want to produce a report that's going to increase national security. That's our objective. If it occurs that there's criticism of what the administration has done, I'm sure that every single Democrat, if it's a legitimate criticism, will sign the report. We're not here to try to defend anybody or prevent anything from happening other than to make certain that partisan politics don't interfere with our capacity to keep our nation safe.

Chairman SHELBY. I hope that's right.

Mr. Tarbell, your written testimony will be made part of the record in its entirety. You proceed as you wish. You might want to bring that mike closer to you.

STATEMENT OF DAVE TARBELL, DIRECTOR, DEFENSE TECHNOLOGY SECURITY ADMINISTRATION, DEPARTMENT OF DEFENSE

Mr. TARBELL. Thank you, Mr. Chairman.

I appreciate the opportunity to come here and talk about the role of the Department of Defense in monitoring technology safeguards associated with the launch of U.S.-built satellites in China.

As you've noted, I'm the director of the Defense Technology Security Administration, and also trying not to be a personality, but finding that struggle difficult in recent months as this matter comes before the Congress and others.

I think it is an important issue, and our purpose for coming before you today is to talk about how we do the monitoring program. My organization, otherwise known as DTSA, is responsible for DOD's participation in the U.S. government export control process. And one of our principal functions, although not the only one, is to determine DOD's position on export license applications that are referred to DOD by State and Commerce. And in this regard, my organization of 117 people reviews over 21,000 export license applications per year.

In determining DOD's position on these cases, we work very closely with the relevant DOD components and organizations, such as the military departments, to assess whether the proposed export is consistent with U.S. national security interests. In the particular case of foreign launches of satellites, DTSA reviews all export licenses for these programs and is responsible for managing and coordinating DOD's Space Launch Technology Safeguards Monitoring Program. It is this Technology Safeguards Monitoring Program that I'm here to tell you about today. And I have with me two Air Force officers, Lieutenant Colonel Pat Smith, who is to my left, and Colonel Dave Garner, behind me, who are assigned to DTSA to manage the monitoring program for me.

As you noted, I have provided a written statement to the committee and would like to take a moment just to provide a brief summary and to walk through how this monitoring program works. I'll focus most of my comments on that. But first, I'd just like to add a little bit of background, because context is always important.

In 1988, President Reagan decided to allow China to launch U.S.-built satellites. And to help ensure that no technology—and I stress no technology—would be transferred that would improve China's missile or satellite capabilities, President Reagan also directed that launch-related activities be accompanied by strong technology safeguards. To this end, the U.S. concluded a Technology Safeguards Agreement with the People's Republic of China in 1988. It was renewed with minor modifications, in 1993, and it remains in force today.

The agreement has two very important features to protect U.S. national security interests. First, it restricts the transfer of U.S.-controlled satellite or launch vehicle technical data and assistance to China by U.S. companies. And secondly, it requires oversight and monitoring of launch-related activities by the U.S. government. We have implemented these safeguards primarily through requirements and conditions that we place on export licenses; for example, by requiring DOD monitors. Over the years, we have refined these conditions, and today, I believe, we have a strong system of safeguards that are included in all licenses, for the launch of communication satellites in China, issued by the Department of Commerce and the Department of State.

The Space Launch Technology Safeguards Program has evolved from its early days, when the first Chinese launch of a U.S. communications satellite was monitored in April of 1990.

I draw your attention to the chart before you, in the lower part here, that I have inserted also in my testimony, if you can't read it—it's as big a print as I could get done. And what that shows is each U.S.-built communications satellite launched in China since 1988, the satellite manufacturer, the date of the license and the launch, and whether the launch was monitored by DOD.

Now, to understand the evolution of this program, I will briefly discuss three relevant periods of time having to do with shifting jurisdiction over communications satellites export controls between the Department of State and the Department of Commerce. And relating these periods of time to the chart before you, it is important not to focus on the launch date but on the date that the license was issued, which is often a couple of years before the actual launch.

Now the three relevant periods are 1989 to 1992, '93 to '96, and post-'96. From '89 to '92, all communication satellites were licensed by the State Department under the International Traffic in Arms Regulations. Licenses issued by State for satellite transfers to China for launch contained conditions that required monitoring pursuant to the U.S.-China Technology Safeguards Agreement.

In late-1992, the Bush administration decided to transfer jurisdiction for commercial communication satellites that did not contain certain military-related technologies from the State Department to the Commerce Department. Along with this transfer, Commerce was given the authority to control limited form, fit and function technical data necessary to mate the satellite to the launch vehicle, which the U.S. satellite manufacturer could provide to the Chinese launch provider.

During the 1993 to 1996 period, monitoring was required in all State Department licenses for launches of satellites that remained under their jurisdiction. But during this period of time, from '93 to '96, there were three launches that were not monitored by DoD. These were launches of commercial satellites licensed by Commerce that did not include a requirement for DoD monitoring.

Chairman SHELBY. Tell them why they didn't include the requirement.

Mr. TARBELL. I'm going to get into that.

Chairman SHELBY. Okay.

Mr. TARBELL. Monitoring had always been associated with the license issued by the State Department, and DoD license review procedures anticipated that there would be at least one State license required for the launch of even these commercial satellites that were now launched—licensed by Commerce. It appears that the company in those cases may have taken the position that it did not need a State license because the information to be provided was limited to the form, fit and function data authorized under the Commerce license.

We at DoD are not aware of any transfer of technology from these unmonitored launches that contributed to China's missile or military satellite capabilities. If the exporter complied with the license conditions and limits, then there would not have been any transferred technology that improved China's capabilities. I would emphasize that I am referring to the launches only, not to any launch failure analyses that may have been conducted subsequent to some of those launches.

In 1996, President Clinton transferred jurisdiction for all communication satellites from the State Department to the Commerce Department. DoD supported this transfer, because the transfer only involved the satellites themselves and the limited form, fit and function data that I mentioned before. As well, we supported the transfer because of several changes in procedures that protected DoD's ability to ensure the transfers are consistent with U.S. national security. While the details of the system that operates today are in my prepared statement, I would only note that a principle feature of today's system is that all licenses, whether Commerce or State, now require strong safeguards, including DOD monitoring. This has been the case since late 1996.

In broad terms, the safeguards include:

First, a requirement that every U.S. satellite exporter produce a technology control plan that must be approved by the Department of Defense prior to any technical exchanges between the exporter and the Chinese launch provider.

Second, all technical data and information that the U.S. company wants to transfer to the Chinese must be approved in advance by the Department of Defense and DTSA.

Third, a DOD monitor must be present at every technical meeting between a U.S. company and Chinese launch officials to ensure that no unauthorized technical data or information is transferred. This includes all interactions where technical information is to be discussed, including phone conversations.

And finally, a DOD monitor must be present at the launch site in China to oversee physical site security and to prevent Chinese access to the satellite or any transfer to the Chinese of unauthorized technical data or information.

I would now like to discuss the monitoring program in more detail. And to assist in this explanation, I would draw your attention to the chart at the top here that outlines three phases of a typical launch program and how DOD is involved in each.

The first phase is called the contract and licensing phase. And in that phase, satellite manufacturers often brief DOD informally about the nature of the program being negotiated with the satellite customer. The customer for the satellite is different than the launch service provider. We make suggestions about where there might be areas of concern to DOD during a future license review for the launch program and work with the company so that they understand what some of the limits might be to the program.

The next step is that a license application is submitted by the company to the Commerce Department or the State Department, who then refer the application to DOD for review and recommendations.

After the license is issued with a requirement for a technology transfer control plan, DOD then reviews and approves this technology transfer control plan that is prepared by the company. The plan covers, among other things, the review and control of all documentation and technical data that would be provided to the Chinese, including procedures for the government to clear the release of that data. The plan also has several annexes, including a detailed transportation plan for shipping to ensure that only U.S. personnel have access to the satellite at all times, and detailed security and joint operations plans that include procedures for the supervised mating of the satellite to the launch vehicle.

It is important to note that these plans are not static documents. They often are amended during the course of the program as it evolves. This is particularly true for the annexes covering the transportation and operations aspects that take place later—in later phases of the program.

Now, once the license and the tech transfer control plan are in place and approved by DOD, the program moves to the satellite manufacturing and engineering phase. A program office is established by the company, the satellite is manufactured and tested by the company, and planning is conducted for interfacing the satellite with the launch vehicle. All of these activities involve some trans-

fer of technical data, and usually also involve technical interchanges between the satellite manufacturer and the launch service provider. During this phase DOD reviews and approves all transfers of technical data prior to its being provided to the launch service company. This is basically an engineering activity that lays the groundwork for physically connecting or mating the satellite to the launch vehicle. It involves exchanges of so-called form, fit and function data authorized for release under the license on such things as weight and dimension of the satellite, propellant and orbit requirements.

There are also usually technical interchange meetings and other interactions between the satellite manufacturer and the launch service provider. And DOD monitors them to ensure that inappropriate transfers of information do not occur. These meetings, which are held at the facilities of the satellite manufacturer, the launch provider, and the ultimate satellite user, take place over a period of one to three years prior to the shipment of the satellite and subsequent activities at the launch site in China. These meetings normally last from three to seven days, and there are typically six to 12 throughout a launch campaign.

The exporter must notify DOD in advance of scheduled meetings with the foreign launch service provider. DOD then provides a monitor, and then we at DTSA often send monitoring oversight personnel to the first meeting to present a rules of engagement briefing, if you will, that outlines compliance requirements from preparations through launch and post-launch. The monitor's task at these meetings is to ensure that all discussions stay within the bounds of the export license. Just the presence of the monitor also serves as a deterrent to unauthorized discussions. DOD often participates in training sessions with the exporter personnel. And if the exporter's personnel are adequately trained, the DOD monitor usually will not have to take any significant action.

Occasionally discussions do stray from permitted subjects. For example, toward the end of the satellite processing phase, when engineering problems are encountered that engineers seek to correct. In such cases the DOD monitor intervenes. Generally, a simple reminder of the license restrictions is all that is necessary to resolve potential problems.

If the exporter disagrees with the DOD monitor's interpretation, the meeting is recessed for a discussion between the monitor and the U.S. exporter to resolve the issue. This has rarely happened in connection with China launch activities, and when it has, issues have been usually resolved on site.

If problems are not resolved on site, the monitor contacts DTSA to report the situation and request guidance. In this connection, DTSA would assess whether the actions of the exporter rise to the level of a violation that should be reported to the appropriate licensing agency—in this case, usually the State Department.

The third phase is the launch operations phase. This comes after the satellite has been manufactured and it is ready to be transferred to the launch site for mating to the launch vehicle and for launching. Since most of the engineering activity has already taken place during the course of the technical interchange meetings, DOD monitoring during the launch operations phase is focused primarily

on the physical security of the satellite and related hardware and documentation. This phase includes transporting the satellite to the launch site, performing final tests, mating the satellite to the launch vehicle, and then launching it. This phase normally lasts about four to eight weeks.

And as I mentioned earlier, shipment of the satellite from the U.S. and the conduct of joint operations at this launch site must be preceded by DOD approval of annexes to the technology transfer control plan that cover these activities. Exporters typically hire a security contractor to ensure that there is no unescorted access to the satellite in transit or at the launch site. The DOD monitor provides oversight of these activities, but is not responsible for directing the security contractor. Monitors inform the satellite manufacturer's representative of any problems, and the satellite manufacturer is responsible for ensuring compliance with the safeguards in the license and the technology transfer control plan.

As in the case of technical interchange meetings, if the exporter has adequately trained its personnel, no serious problems are likely to arise. But when problems have arisen during monitor launches in the past, most have been resolved on site by the monitors without the need for consultation with DTSA.

Once a satellite arrives at the launch site, it is placed in a secure U.S. controlled processing area for final satellite checkout, testing, and fueling. Unescorted access by the Chinese launch provider is not permitted. The satellite is then moved to the launch pad, where it is mated to the launch vehicle and undergoes final launch preparations. All of these activities are monitored.

If the launch is successful, the exporter must return all excess equipment to the U.S. This includes spares of components, parts and miscellaneous test equipment.

In the case of a crash after lift-off, the satellite manufacturer is responsible under the license to ensure the recovery of any debris and its safe return to the United States. The DOD monitor is responsible for overseeing the recovery of debris and its safekeeping by the satellite manufacturer, pending its return to the U.S. In this connection, the exporter is not authorized to conduct a failure analysis or investigation with, or for, the Chinese without a separate license.

In summary, Mr. Chairman, DOD conducts the Space Launch Technology Safeguards Monitoring Program to protect national security interests, while at the same time enabling satellite manufacturers to obtain prompt guidance on whether the broad, complex and sensitive activities they are performing, sometimes in collaboration with launch service providers, are consistent with those national security interests and the license limits and conditions that we put on them.

I appreciate the opportunity to come by and tell you about our program, and I look forward to your questions, if you have any.

Chairman SHELBY. Mr. Tarbell, would you, just for the record, in a minute, tell us what your mandate is? In other words, how many people you have there; what does DTSA do exactly and so forth?

Mr. TARBELL. Mr. Chairman, with regard to the monitoring program, I think you're speaking to?

Chairman SHELBY. Yes.

Mr. TARBELL. My organization, overall, is 117 people. But for the monitoring program——

Chairman SHELBY. Tell us about what kind of people they are, as far as educational or training——

Mr. TARBELL. They are terrific people, Senator——

Chairman SHELBY [continuing]. And training. That's good.

Mr. TARBELL [continuing]. To start off with, and very professional.

I have licensing officers who are familiar in detail with all the regulations and the processes, and work the system. I also have a variety of engineers, who are grown up out of the DOD Weapons and Acquisition System, who are responsible for making determinations and helping us understand what the technology is that is being transferred. It is a broad and diverse set of skills that we have available to us here at DTSA. I also have a variety of foreign affairs specialists and some intelligence specialists, who assist us in evaluating these licenses and evaluating whether or not national security has been harmed in cases where we have to make such determinations. So it's a broad and diverse activity.

Within that group, we have those individuals who manage the monitoring program. And there I have two Air Force officers today; I am expanding it to three—that's something that we planned last year—to provide the management structure for the program. The program principally operates in conjunction with the Air Force, and the Air Force provides the monitors that conduct the activities during the course of the phases of these launch programs.

These volunteers are drawn from the Air Force missile squadrons and a variety of other places and have technical skills in engineering and in launch preparations and launch vehicles and ballistic missiles and a variety of other areas. And what we do is we benefit from their expertise, and they benefit from the experience of going to participate in these kinds of activities. And we've enjoyed a great deal of success in that regard.

Over the last year, we have seen a significant growth in the requirement for this monitoring program, and beginning late last year and early this year, we began to investigate how this was going to continue to operate in the future facing two very serious consequences. One is that the demand for monitors is going up. It's gone up three-fold in terms of man days.

And secondly, the pool of available volunteers in the Air Force is likely to be reduced substantially as the EELV program kicks into action in the 2000, 2001 period and the missile squadrons are cut back in DOD. So we have some challenges there, and we have some ideas, and we have under review a way to deal with this program more effectively.

Chairman SHELBY. Thank you.

Your testimony, Mr. Tarbell, suggests that from the time when selected commercial satellites were shifted to the Commerce Department jurisdiction in '93 until 1996, there was a period in which monitors were not required for all satellite launches.

Is that an accurate interpretation of your statement?

Mr. TARBELL. Yes, sir, it is an accurate interpretation.

Chairman SHELBY. Was this also the period when licenses were granted for three launches of Hughes satellites that were not monitored?

Mr. TARBELL. Yes, sir.

Chairman SHELBY. Would you describe just for the record the exact chronology of when monitors were and were not required? I believe your chart would indicate some of it, would it not?

Mr. TARBELL. Yes. There were——

Chairman SHELBY. When and based on what rationale was the policy decision made not to require monitoring of all launches?

Mr. TARBELL. Senator, this is a very complicated issue.

Chairman SHELBY. Very complicated.

Mr. TARBELL. And it is something where I'm not sure I have the complete story behind all of what happened during this period.

Chairman SHELBY. The policy.

Mr. TARBELL. But let me try and do my best to help you understand what I do know. There were three launches that were not monitored. They were the ABSTAR II, which was licensed in February 1994 by the Commerce Department. There was the ABSTAR 1A, which was licensed in June of 1995 by the Commerce Department. And there was China-7, which was licensed by the Commerce Department in February of 1996.

The best that I can get out of the system, and as you might expect, we have this monitor program and it's managed by Air Force officers who are provided to me on a rotational basis. Every two or three years they come to my organization, and then they leave. The best I've been able to track down in talking with the people who were there at the time—and we haven't been able to talk to everyone—is that there was an expectation during that period that the company would get a State Department license. And therefore they weren't concerned about the fact that there wasn't a requirement in the Commerce Department license for a DOD monitor.

Subsequently the company did not seek a State Department license. And as I've said, I can only—it appears to us that the company made a decision that they could conduct the launch campaign by just providing the form, fit and function data.

Senator KERRY of Massachusetts. They are just providing what?

Mr. TARBELL. The form, fit and function data that was authorized under the Commerce license.

So in those situations the monitors were not provided, and they were not required.

Chairman SHELBY. When was the requirement to monitor all launches reimposed and why?

Mr. TARBELL. In 1996 when we were viewing the broad set of rules and regulations and controls on these items—and I spent a great deal of personal time on this, as did many other people in the Department of Defense, including very senior officials—since we had had some of this, I hesitate to call it confusion, but uneven application of safeguards, we thought that it was important the monitoring program be solidified and that as a matter of policy and practice that all licenses should contain a monitoring requirement. And it was in that period of time when we came up with the final ruling to shift all commercial communications satellites from the State Department to the Commerce Department that we made a

determination that that should be an extra safeguard that should be on all licenses.

Chairman SHELBY. Sir, when did you first learn of the three unmonitored launches? Do you want to furnish that for the record, or do you know off-hand?

Mr. TARBELL. I couldn't give you an answer off-hand, and I'd have to go back and search through the records for that. But I personally was not aware, to my knowledge, of the fact that these things were not monitored. A lot of this was being done without my knowing about it. I have only been with the Defense Technology Security Administration since August of 1994.

Chairman SHELBY. So nearly four years?

Mr. TARBELL. Right.

Chairman SHELBY. Since there were no U.S. government monitors on these three launches we've been talking about, how would we know if such a transfer of technology took place? And have the satellite makers or the Chinese been interviewed to ascertain whether any transfer of technology took place? And if not, why not?

Mr. TARBELL. To my knowledge, Senator, I don't believe that we've conducted any particular investigation on this because, frankly, the Defense Department is not responsible for doing such investigations.

Chairman SHELBY. Who is responsible?

Mr. TARBELL. Regulatory agencies have that responsibility. In this particular case, it would be the State or Commerce Departments.

Chairman SHELBY. Okay.

It's been reported in the press that some satellite makers have been more aggressive than others in seeking to minimize U.S. government monitoring and oversight of the launch process. Is that true? And if so, do you know that? Do you know which companies do that, if they do it? I don't know who does what.

Mr. TARBELL. I'm sorry, Senator, could you repeat that?

Chairman SHELBY. It's been reported in the press that some satellite makers are more aggressive than others in seeking to minimize the U.S. government's monitoring and oversight of the launch process. Is that true, first?

Mr. TARBELL. Senator, I'm not sure I would want to characterize the activities of U.S. companies.

Chairman SHELBY. Okay.

Mr. TARBELL. All companies are interested in meeting what are rather aggressive schedules for their customers.

Chairman SHELBY. For commercial.

Mr. TARBELL. They have an obvious interest in ensuring that those schedules are met and that there is success. And the purpose of our monitoring program, these strong safeguards, is as a balance against those commercial interests to ensure that they don't creep into our national security interests.

Chairman SHELBY. I think, Mr. Tarbell, in your testimony you basically—to paraphrase—noted that when President Reagan first authorized—to put this in historical context—the launch of U.S. satellites on Chinese missiles, the policy guidance was to ensure, I believe the words were, that no technology would be transferred

that would improve China's missile and satellite capabilities. Does that remain the standard?

Mr. TARBELL. Yes, sir, that is the standard that the Department of Defense applies to all of its reviews of these export licenses and all of these transactions.

Chairman SHELBY. Is that basically a zero tolerance for technology transfer, if it says no——

Mr. TARBELL. I'm not sure I would say it's zero tolerance for technology transfer. I would say it's zero tolerance for any activity or transfer that would improve China's missile capabilities. Obviously, in all of these launches, there is some transfer of technology——

Chairman SHELBY. Okay.

Mr. TARBELL [continuing]. And that technology transfer is authorized through licenses.

Chairman SHELBY. Okay.

Senator Kerrey.

Vice Chairman KERREY. Thank you very much, Mr. Chairman.

First of all, Mr. Tarbell, I've got a list of questions that I'll have staff give to you that you can answer later. I won't drag them all out of you.

Mr. TARBELL. I'd be happy to do that, Senator.

Chairman SHELBY. For the record, that would be so ordered.

Vice Chairman KERREY. Mr. Tarbell, one of the things that I'm—and I appreciate that you didn't come on till August of '94, and some of this may be just soliciting an opinion, but when you—I wonder if you could comment on the apparent increase in demand that's there for commercial launch. As I understand it, there is an estimated 2,000 commercial satellites that will meet that—that are in the pipeline, estimated over the next 10 years—somewhere between 1,600 and 2,000 over the next 10 years—Teledesic, IRIDIUM, and many, many others that are new projects since this policy began. I wonder if you could comment on sort of the backdrop of increased demand that's going to be coming your way to make judgments about whether or not the United States of America is safe in regards to technology transfer.

Mr. TARBELL. Well, there's really two factors at work here, Senator Kerrey, and that is obviously the demand that you spoke of. You know, you have a worldwide telecommunications boom going on. Everybody is interested in being able to communicate with anybody else, wherever they are. So-called global mobile is the standard of the world, and everyone is running very fast to meet that demand. And in many very remote locations, the only way to meet that demand is to meet it through satellite-based communications. So there are a lot of projects that are coming on stream and that people have planned.

The growth in demand for our services in these—this monitoring activity is also influenced by the fact that we have new participants in the launch service market. In addition to the Chinese entering this market in 1988, we had the Russians join it in the early '90s, and recently the Ukrainians have been working in conjunction with the Russians and the Boeing Corporation on a project to launch from international waters on a so-called sea-launch platform.

So the combination of those—of the increased number of launch-service providers that require us to ensure that there is no national security impact, as well as the increase in demand for satellites, is growing for us and causing us to have to re-evaluate how we do this program.

Vice Chairman KERREY. Well, it seems to me that's a very important backdrop for us to evaluate, because there's hundreds of thousands of jobs hanging in the balance, and there is a U.S. competitive position internationally, that's at stake, as well, that, obviously has a very big impact upon national security. And that's really the rub, it seems to me. That's always the conflict, anytime you get into any kind of an export of some item that could put—or be applied and used against the United States in a military fashion. It seems to me that the backdrop here is a tremendous change and increase in the number of satellites. I understand there is a three-year delay today. If you are a company and you want to launch a satellite, it'll take you three years to get it up in the air and operating on your behalf. And that's not my idea of good news, if we are trying to keep the United States of America competitive for the purpose of making certain that we increase the number of good-paying jobs that we have got here at home.

Secondly, I must say, it seems—I just look at this thing, and sometimes I get sort of an Alice in Wonderland feeling of looking at—we are going to allow U.S. companies to launch on China launch-service providers. They have a launch-service provider. We are going to let them use the LONG MARCH to launch their satellites. But we have got to be careful that we don't transfer anything that is going to assist China, technical data and assistance to China by U.S. companies.

Well, isn't there a conflict there? I mean, if you are allowing somebody to launch, don't you—I mean, the company has got to have an interest in making certain that they reduce the number of failures. I mean, if I am a company and you allow me now to launch on LONG MARCH, isn't there an understandable interest in trying to reduce the number of times that the launch-service provider has one dump in the ocean or dump on the ground someplace? These are hundred, two hundred million dollar satellites. they want them to be successful. And doesn't that immediately produce a conflict? Doesn't that immediately—I mean, just sort of outside your window of operation, it seems to me that the policy, inescapably, is going to lead to the Chinese getting better at what they do. And if they get better at what they do, given that the technology that they use for this is essentially the same that they use on their ICBMs, it's likely to lead inescapably to improvement on their part. Is that something that's crossed your mind as you have gone through the process of evaluating and how to develop a monitoring process over the years?

Mr. TARBELL. Senator Kerrey, this is something that is always high on our minds. And the fact is that when President Reagan permitted the Chinese to launch U.S.-built satellites, the bargain was you do this at your own risk, and there will be no improvement to China's missile capabilities as a result. If you believe that the risk is——

Vice Chairman KERREY. How does that happen? How do you not improve their missile capability if the company is saying, gee, we would rather have them be successful in launching rather than being unsuccessful? And they start off in 1988 with not a very good record of success; they end up in 1998 with very few failures. They've gotten better over the years. They've gotten better at launching. Just the practice of putting them up in the air is bound to make them better, is it not?

Mr. TARBELL. Senator, the whole idea behind the program is to ensure that the Chinese get better because the Chinese figure out how to get better, not that the U.S. is going to help them to get better.

Vice Chairman KERREY. But the policy says that they're not supposed to get better. And if they get better, regardless of how they get it done, just the—you know, if they increase their proficiency at launching, it seems to me they've increased their military capacity by itself. In other words—and I appreciate what you're trying to do and I think it's very important work. In fact, the questions that I have for you to be answered deal with the technical training of your monitors and how do we make certain that you've got the expertise and the personnel that you're going to need given the amount of increased launching that's going to occur and given one of the most frustrating things in general that I hear from the private sector, is it takes government agencies too long to make a decision. We don't want to end up with, you know, several years being added in regulatory burden as people try to get a decision out of us, so we want to make certain that you have the resources necessary to do your job.

But the backdrop of this thing, it seems to me, is that if we're helping them launch—if we're providing them with, as I understand it, $500 million worth of additional revenue to launch, it seems to me on their own they're going to practice and get better, and as a consequence, we've improved their capacity to engage in military efforts.

Mr. TARBELL. I don't dispute your conclusion that the Chinese, in the course of their program and having launches would benefit from that by virtue of just learning. And so, that certainly is going to be the case.

Vice Chairman KERREY. One thing they also——

Mr. TARBELL. But the whole purpose of our program is to ensure that they're doing that on their own, they're not doing it with U.S. assistance.

Vice Chairman KERREY. And of course, I mean, we've, I presume, gained some advantage by being able to send monitors out and go to their sites and observe what they're doing as well. Is that not apt to be the case? I mean, we have been able to see what they're doing. And do not the monitors bring things back that are beneficial to us?

Mr. TARBELL. I'm not sure I would want to comment very much about that in an opening hearing, Senator.

Vice Chairman KERREY. I appreciate that. I'm not sure I'd want you to comment either.

Thank you.

Chairman SHELBY. Senator Kerry of Massachusetts.

Senator KERRY of Massachusetts. Thank you, Mr. Chairman.

It seems to me there are sort of two levels of questions here. One level is the one that Senator Kerrey was pursuing, which is sort of fundamental to the initial decision of whether or not the United States is going to invest *x* amount of dollars in Chinese rocketry for a military that's somewhat strapped on its own financially, which, therefore, gets to fire a lot of rockets. And if the old saying that practice makes perfect, or at least practice makes better, I would assume there's sort of a prima facie case made that that fundamental decision certainly accelerated the practice.

The secondary question, which is the technology itself within the satellites. And there there were a set of procedures put in place to try to safeguard the potential transfer of that technology, which is why there was this careful monitoring. It's my understanding that with the exception of those three examples that you've discussed, that all launches were monitored; is that correct?

Mr. TARBELL. Yes, Senator.

Senator KERRY of Massachusetts. And monitoring means that from the moment of transfer of the satellite from the United States, from CONUS, abroad, there is a chain of custody with respect to that satellite right up until the bolting-on to the missile and including thereafter until firing; is that accurate?

Mr. TARBELL. That's correct.

Senator KERRY of Massachusetts. So we are satisfied that with respect to those satellites that were transferred under a proper monitoring that there was no opportunity—is that correct—for a, quote, "accidental or coincidental" transfer of technology?

Mr. TARBELL. That's correct, Senator. That's the purpose of ensuring that it is boxed up, set aside, and that there is no unescorted access to the satellite.

Senator KERRY of Massachusetts. But as to—and we're completely—I want to understand this clearly; I'm not asking this because I know the answer—but are we satisfied, are you satisfied that the evidence that will come before the committee will indicate that except for those three instances that you've mentioned, all of those launches in all administrations were adequately safeguarded? Is there evidence to the contrary?

Mr. TARBELL. As I've stated, I'm not aware of any technology transfer that's occurred in authorized launches, things that have been licensed, that has contributed to China's missile capabilities.

Senator KERRY of Massachusetts. And the third set of questions, then, apply to the issue of whether or not in the investigations of failures there may have been a transfer. Is that a fair statement? Either authorized or unauthorized investigations of failure, there may have been some kind of transfer?

Mr. TARBELL. Well, with regard to unauthorized activities, I would not want to comment on that because that—the Justice Department has asked us not to speak about that.

Senator KERRY of Massachusetts. No, but I said there's a question as to that. I didn't say—I'm not asking you to say whether or not there was, I'm simply saying——

Chairman SHELBY. You wouldn't want to comment in this room any way, would you, either way?

Mr. TARBELL. Right, Senator, I think that's accurate. But——

Senator KERRY of Massachusetts. I'm just trying to isolate where the legitimacy of questioning is, sort of isolating the issues.

Mr. TARBELL. Right. There certainly is an issue with regard to launch failure analyses, the conduct of those.

Senator KERRY of Massachusetts. Okay. Now, with respect to the three unauthorized launches—excuse me—with respect to the three unmonitored launches that you've cited, can you give me the dates of those again?

Mr. TARBELL. The licenses were issued February '94, June '95, and February '96.

Senator KERRY of Massachusetts. '94, '95, '96.

Mr. TARBELL. Right.

Senator KERRY of Massachusetts. And the launches were?

Mr. TARBELL. In the case of ABSTAR 2, the launch was in January '95. In the case of ABSTAR 1–A it was July '96. In the case of CHINASAT 7, it was August of '96.

Senator KERRY OF Massachusetts. Now were each of those satellites satellites capable—deemed to be dual-use?

Mr. TARBELL. Yes, they were all licensed by the Commerce Department.

Senator KERRY of Massachusetts. And with respect to those monitorings, or lack thereof, for how long a period of time was there a potential of access unmonitored?

Mr. TARBELL. I'm not sure I could comment on that, because we did not monitor it then; we weren't there.

Senator KERRY of Massachusetts. Do we know when the monitoring—I mean, I thought there was chain of custody that was complete here at all times. Do we not have a record of at what point that chain was broken?

Mr. TARBELL. The companies maintain those records; we don't maintain those records.

Senator KERRY of Massachusetts. So the companies would have that. I assume—Mr. Chairman, have we asked for that, or——

Chairman SHELBY. We are seeking all that information. Some of it's come in—I'm not sure that has—to the committee and the committee staff working on it.

Senator KERRY of Massachusetts. I'm not sure you can answer this in open session; if you can't, just say so. But can you state what the potential of the transfer might have been of each of those satellites in unmonitored status, assuming someone had access to them, what assistance that might or might not have provided in the case of each of those types of satellites?

Mr. TARBELL. Well, let me try and answer it this way, and go back to the reasons why we have these safeguards on: One is to ensure that there's no technical data, in the course of interchanges between engineers, that is transferred, that would improve their knowledge about launch vehicles and missiles.

Secondly, the same thing goes for improving their knowledge about satellites and how they're constructed and how they're built, how they're designed, how they're developed. And thirdly, in the course of the satellite being in China, that there's no unescorted access to it, so that they could learn something about the design features of the satellite by observing it in a detailed way and doing certain tests on it.

So that's the purpose of it. Obviously, just looking at the satellite, you're not going to learn anything that is of great import. But being able to go in and perform certain tests over a period of time, you might learn something.

Senator KERRY of Massachusetts. Well, Mr. Chairman, I have some additional questions, but they're not questions I'd want to pose in this session.

Chairman SHELBY. You want to have them for the record. Mr. Tarbell, you would respond to them.

Mr. TARBELL. I'd be happy to do that.

Chairman SHELBY. I say if you had some additional questions.

Senator KERRY of Massachusetts. Yeah, but not as part of the open session.

Chairman SHELBY. Right.

Senator KERRY of Massachusetts. Thank you, Mr. Chairman.

Chairman SHELBY. Senator Chafee.

Senator CHAFEE. Thank you, Mr. Chairman.

Mr. Tarbell, I noted that in your statement, you said your agency receives 21,000 applications per year for these defense clearances?

Mr. TARBELL. That's true, Senator. This is a combination of licenses that are referred to us by the State Department and the Commerce Department for all variety of goods and services.

Senator CHAFEE. So that works out to something like 900 a day? And that's a pretty big workload.

Mr. TARBELL. That's a huge workload, Senator. We're very busy.

Senator CHAFEE. I just hope that——

Mr. TARBELL. And we're very busy also trying to help in this process and also trying to do that work as well.

Senator CHAFEE. I think it's important for all of us to realize that the reason we are sending satellites to China for launching is in our self-interest, is it not? That we're doing it because either its cheaper or else faster as far as getting a launch off? Or in some instances, I understand that our satellites are too heavy for our launches and, thus, more suitable for Russian or perhaps Chinese launches. Is that true?

Mr. TARBELL. Senator, I am not an expert on the marketplace in this. But I am a security expert; I am a technology expert. But my understanding is that there are a lot of challenges to the telecommunications industry, in terms of finding launch capacity, to get the kinds of satellites that I spoke to about in response to Senator Kerrey, that is meeting this demand for global communications. And I think that there are certainly a lot of benefits that the world derives—economic and political and democratic benefits that the world derives from having a solid communications infrastructure that people can rely on and that they can share information. Our whole program is designed to make sure that we can do that without having national security be harmed by the transfer of technology that could assist with missiles.

Senator CHAFEE. It seems to me important for us to realize or to recognize that there is a balancing act here. On the one hand, we want to sell satellites abroad or to U.S. companies for the purposes that they want, and that makes us leaders in the satellite manufacturing industry. At the same time, to get them launched, it's required that we—on time and at a reasonable cost, it's re-

quired that we apparently have to go abroad. I don't know what's happened to our domestic launching industry, but—so it appears that we're going to China for our self-interest, for profit reasons. And nothing is the matter with that. I applaud it. But in return for this, there's going to be some possibility of losing some security information, obviously. It seems to me when you go into the hook-ups between the satellites and the launcher, just that mating procedure and how they're attached, it must be something that—I don't know how you—you don't get into security information right there. Isn't that a tremendous potential for loss of security information just doing that?

Mr. TARBELL. Well, Senator, let me try and characterize it this way. Part of our effort here is to manage risk. And we believe that we have a good program in place to manage the risk to our national security. Certainly, in order to do this there are certain activities that you're going to have to perform. It sounds very complicated, some of this mating and all of—the form, fit and function data that I referred to. But frankly, a lot of that is not rocket science. And most of it has to do with strictly just bolting the thing onto the satellite and getting it done, putting it inside the fairing and getting it shot into space. And it is something that is very commonly understood, and everyone knows how to do.

So we don't believe that that is a significant risk to our national security because it doesn't impart on the Chinese or other foreign launch providers that we monitor, doesn't impart any capability that's transferable to missiles that they don't already have.

Senator CHAFEE. Well, I notice my time is up. But I just want to say that I applaud you and your agency for undertaking being responsible for some very, very difficult work. I mean, when you have got 900 applications coming in a workday—and you can scratch today as one of your workdays I think—that's a big job. And secondly, I think it is important for us to recognize that we have, with our eyes wide open, have entered into a situation where we might lose some national security information, despite the good job that you might do. But we have decided that, in order to foster this industry, this satellite industry, these are risks worth taking. And I think they are.

And I am all for Hughes and Lockheed Martin and other builders of these very, very complicated satellites and indeed very expensive ones. And, as I say, it's an industry. It employs, I presume, scores of thousands of Americans at good salaries. And it's highly technical and, I presume, is always improving because of the experience we are having with it. But there's a down side to it, and we might as well recognize that. We have made this judgment, and I think the judgment is right to go ahead and continue the program, working with the Chinese.

And you never mentioned the Russians. Have we done much—just yes or no, I guess—using the Russian launchers?

Mr. TARBELL. Yes. And that's a very big part of our challenge is that the Russians entered in the market in the early '90s, and we have been monitoring those launches, as well, and doing that program. And so that's really one of the challenges that we have is keeping track of all these various things that are going on in dealing with them.

Senator CHAFEE. Well, thank you, Mr. Chairman. I must say, I do sympathize or recognize the challenges you have in getting good people, particularly as the number of people associated with the rocket portion of our Air Force declines. And these must be very difficult jobs, to be sent over to some remote spot in China to supervise one of these. I don't know how long your people are gone, but I can see how you'd have trouble—I can see you can attract people, but trying to keep them must be hard.

Thank you.

Chairman SHELBY. Senator DeWine?

Senator DEWINE. Thank you, Mr. Chairman.

Mr. Tarbell, I want to follow up on a question Senator Kerry had; I want to make sure I understood. And he used, I think, a very good term, and that was the term "chain of custody." And I'm familiar with the term, as a former prosecutor. And let me describe for you what we meant when we introduced something in court, and I want you to tell me if it's the same thing. Basically, we had that whatever the document was or whatever the piece of evidence was, and anybody who touched it or had custody of it basically had to initial that or had to be able to go back and identify the particular item of evidence. In other words, it meant that literally from the time you picked that piece of evidence up until the time you walked into court, you produced every person who had—who actually had custody of that.

Now in some cases, that may not have always been physical. You might have locked it up in a safe, but you had the only key to the safe, or you had the only combination. In other words, you literally had to keep that chain. It might be seven, it might be 10 people. Now is that what we're talking about when we use the term in this hearing? He used that as what I call a term of art.

Mr. TARBELL. The analogy is——

Senator DEWINE. Is that valid?

Mr. TARBELL [continuing]. Is valid, in the sense that from the time that the satellite leaves the U.S., it is under U.S. control until the time that it is launched. And there is no unescorted access by the Chinese to the satellite. Obviously, in the course of the launch preparations, the Chinese have to get at the satellite as they're mating it to the launch vehicle and they're putting it in the fairing.

Senator DEWINE. But that is monitored.

Mr. TARBELL. But that is monitored to ensure that they are not doing anything inappropriate.

Senator DEWINE. So there is no time when there is—it is unmonitored.

Mr. TARBELL. Right.

Senator DEWINE. There's no time when the Chinese have custody of it.

Mr. TARBELL. That's correct.

Senator DEWINE [continuing]. Beyond—other than a joint custody where we know what they're seeing, what they're doing.

Mr. TARBELL. That's correct.

Senator DEWINE. Yeah. Your monitors clearly have a very difficult time or a difficult job, and I think we all understand that. It would seem to me one of the difficulties would be in establishing a working relationship with the American companies involved, but

at the same time have to have a good relationship, they have to be friendly with them, have to deal with them, but at the same time they also have to be able to—the monitors have to do their job. Is that a particular problem?

Mr. TARBELL. If I——

Senator DEWINE. I don't know how it wouldn't be, but you answer however you want to.

Mr. TARBELL. I wouldn't want to generalize it, but let me just respond to that by saying that in certain circumstances part of our problem is that we have overly aggressive monitors who tend to assert themselves to an extent that's beyond their mandate. And so every once in a while we have to rein some of these people in and say, hey, you know, this is what your job is, you're supposed to do this, and keep on track. These people are very dedicated to their jobs and in many respects are committed to the principle.

And we do undertake, as I mentioned before, a training program for all of these folks to ensure that they understand what the limits are and what the conditions are and so that they're doing it in a proper manner.

Senator DEWINE. I'm interested in—I appreciate your answer. I'm interested in asking you some questions about what we know and what actually gets reported. It is my understanding that these monitors do not provide written records of all conversations. In other words, if there is a conversation that starts and there might be a concern, and you say stop that conversation, my understanding is they do not report that. Is that true? Is my understanding correct?

Mr. TARBELL. Pat, maybe you might want to respond to that detail.

Lieutenant Colonel SMITH. Senator, the normal process at a technical meeting would be if a subject that was being discussed verged on being inappropriate, that the monitor would stop that conversation by interrupting the meeting.

Senator DEWINE. But what gets reported, though?

Lieutenant Colonel SMITH. The report can come in a variety of ways. After the mission is over and they've returned to the United States, they will typically create a trip report that will identify things that they did. If there was a significant item, that trip report is sort of a post-report because they've already called us and talked to us about it. And we're available to them 24 hours a day to provide guidance on issues.

Senator DEWINE. Are you telling me, though, that it is on a case by case basis? In other words, any conversation that's stopped is not automatically made a note of and reported?

Lieutenant Colonel SMITH. That's correct, Senator.

Senator DEWINE. That's a little troubling to me, but——

Lieutenant Colonel SMITH. Well, you need to place this in a context, sir, of this takes place over the course of three years, not just at the launch site——

Senator DEWINE. I understand.

Lieutenant Colonel SMITH [continuing]. For four weeks.

So if they reported every conversation——

Senator DEWINE. Every conversation that was stopped, now. I'm not saying every conversation.

Lieutenant Colonel SMITH. Yes, sir.

Senator DEWINE. Every conversation that was stopped, which means that man or woman who is the monitor made a conscious decision, ah, we have a problem here, stop it. That doesn't get reported down. I'm not going to—I don't have much time, and I just—the answer is no, right?

Lieutenant Colonel SMITH. The answer is no. And I refer you back to Mr. Tarbell's statement that the field monitors tend to be exceptionally conservative on this subject and they——

Senator DEWINE. I would hope they would be! I would hope they would be.

My understanding, you talk about these trip reports, that all trip reports have not been retained; is that correct?

Mr. TARBELL. That's correct, Senator. If there is not anything of note in the trip reports, they are not archived. They haven't been archived over the period of time of the monitoring program.

Senator DEWINE. So somebody has to make a decision whether or not there's anything of note in there, and if there's nothing of note in there——

Mr. TARBELL. Then it's not kept.

Senator DEWINE [continuing]. It's not kept. Again, I just—we keep a lot of things in government, we store a lot of things that we probably don't need. I just wonder if when we're dealing with something as serious as this we probably shouldn't keep those.

Why don't DTSA monitors provide reports that include the names of all participants and all possible infractions? To my understanding, that's not done.

Mr. TARBELL. I'm sorry, why don't we keep all reports and——

Senator DEWINE. Include the names of all the participants in the meeting and all possible infractions.

Mr. TARBELL. My understanding is that the companies keep those reports as a condition of their licenses, keeps the records of those meetings—who participated in a meeting and what happened during the meeting.

Senator DEWINE. Okay. Just so I understand, we rely on the companies to do that and then that is subject, I assume, to inspection; is that correct? I'm getting a nod in the back of you.

Lieutenant Colonel SMITH. That's correct. That is correct, Senator.

Mr. TARBELL. That is correct.

Senator DEWINE. Okay.

But we do rely on them to do it? I mean, we don't——

Lieutenant Colonel SMITH. It is a condition of their license that they do maintain that library.

Senator DEWINE. Mr. Chairman, my time is up. I'll come back.

Chairman SHELBY. Senator Robb.

Senator ROBB. Thank you, Mr. Chairman.

Some of the things that are of interest to me I don't think would be appropriate for open session. But let me see if I can—since we've got Colonel Smith engaged at this point, it might be useful to describe your experience with the actual monitoring, if you can, without going into any details that would fall into the area that would be sensitive or should not be reported. But can you give us some sense of the kinds of challenges, the difficulties that you face in

completing this kind of an operation? Are there areas where you feel that the access or authority or some other element that is available to you is insufficient to be able to report at the end of a cycle—for example, the launch and closure of the report—that you're confident that no improper technology transfer has taken place?

Lieutenant Colonel SMITH. In previous discussion there was a comment about relationships with the contractor and how they might be difficult. At the working level—that's at the engineering staff level, at the launch site operational level, the working relationships are generally quite good. Access is provided in almost every case, and when there's any question, we generally work it out on site. So from that perspective, the ability to have access to whatever one of our monitors might need or, in my personal experience, whatever I might have needed, was always granted by the commercial company.

As far as access provided at other facilities, that's never been an issue either. So in general, I think the relationships we have with the commercial companies to make sure that they are in compliance with their license at technical meetings and at launch sites is pretty good.

Senator ROBB. Mr. Tarbell mentioned the fact that occasionally the problem wasn't too close a relationship, but over-aggressive monitoring, whatever the case may be. Is that more likely to take place when you're working with a contractor or during the monitoring phase when the satellite has been shipped and is in the launch vicinity and during that period of time? When is the time where that kind of activity has become a problem?

Lieutenant Colonel SMITH. That kind of activity is dependent on personalities of the particular monitors, and it could take place at any of the times you described, either in a technical meeting or at the launch site. Like I say, they tend—the field monitors, who don't do this every day and do it for us part-time, at times will be overly assertive if a question arises. Because of that over assertiveness, we'll generally have a discussion with them, we'll provide them additional guidance as to what is and is not appropriate, and the problem generally is resolved at the launch site or at the technical meeting.

Mr. TARBELL. Senator, maybe I might just comment on this so that I don't leave the wrong impression. We like over assertiveness in this process. This is something—this is a quality that is a good thing for this monitoring program.

And secondly, I should note that the whole objective of this process—and this goes to some of the things Senator DeWine was getting at—is for monitors to have the most boring time that they have ever had in their lives. And that is to sit there and not have to do anything; so that the idea here is that there's—that the interaction is regular and that the whole principal value of having the monitors there is as a deterrent.

And so, as a consequence, in a lot of these circumstances—as Colonel Smith has testified to—there is a good degree of cooperation, and nothing really happens. So when the reports come in, they are about how at 10:00, I went and saw how there was no unescorted access to the building. And at 12:00, we had a barbecue

with the Chinese. And at 1:00, we went to the launch site to preview the preparations. And at 3:00, we had a glass of tea. And—I mean, it's really of that nature, and so there is really no reason to keep those kinds of records.

Senator ROBB. So let me just ask then for a little clarification on the process of monitoring, because I think the lay person listening to that description would think it was somewhat intermittent at best. And as Senator DeWine suggested, in terms of the chain of custody, you're either in physical possession of, or know that you have sole access to something that you're trying to establish a chain of custody for.

Again, Colonel Smith, would you just give us some sense of what the life of a monitor is like? Again, I am not looking for anecdotal—but I am looking for some sense of the kinds of activities that you would carry out. Mr. Tarbell referred to some of the concerns but not in terms of what it's like to be a monitor, because I think there is some misunderstanding on that question.

Lieutenant Colonel SMITH. Okay. Let me give you just a real short description of the process from leaving the factory to getting it the launch site, and maybe that'll give you a little bit of an understanding.

Senator ROBB. That's exactly what I was hoping from you.

Lieutenant Colonel SMITH. Typically, for a large geostationary satellite, it is in a container that is as big as this floor down here. It will not fit inside a U.S. aircraft, so it gets picked up in California by an Antonov 124, a Russian-built aircraft. When that container goes on board, it's sealed up. We typically have a monitor who flies on this airplane with the Ukrainians.

Senator ROBB. You say typically, but you mean there are some cases where that package——

Lieutenant Colonel SMITH. Yes, sir.

Senator ROBB [continuing]. Would leave, although it would be secure, and would not be physically monitored again until it reaches its destination?

Lieutenant Colonel SMITH. The one circumstance where that might be true is in the case where there is insufficient room for an additional person to fly in the aircraft. In the case of the IRIDIUM program, they fly on a U.S. flag airplane with U.S. personnel on board. In that particular case there's not additional space for another passenger, and the monitor will pick up that airplane when it lands in China and escort it for the remainder of the time. But there is U.S. person with that aircraft the entire time, and with the satellites the entire time.

Senator ROBB. How about when it's picked up by Russians or others? You indicated that there were some instances where there might not be sufficient room. It seems to me with any payload of this size and weight that you're describing, that it would be hard to suggest that you couldn't provided additional—I mean, I've traveled on virtually every military aircraft that takes passengers, and in circumstances that were not compatible with civilian aviation, certainly. But if your concern is to establish a continuous oversight to be able to certify at the end of its journey that it has not either gone out of the sight or control for that period of time, that having

somebody physically accompany it, particularly when you're on non-U.S. flag transporter aircraft, wouldn't?

Lieutenant Colonel SMITH. In the case of a non-U.S. flag carrier, we always have somebody with it, or we always have, thus far a monitor does travel with the satellite when it is flying on a non-U.S. flag carrier. They would review the containers as they go on the aircraft, make sure they're sealed. They would be with the aircraft through the time it lands in China. At that time, there would be a convoy monitored by a U.S. person, the security force that the contractor—that Mr. Tarbell described earlier would be with that convoy. The monitor would probably also be with that convoy until it gets all the way into the launch site and the processing facility. Once that container with the spacecraft is placed inside the processing facility, it becomes a U.S.-controlled environment. The guards will seal-off the area. The monitor will make sure that all the appropriate security requirements have been met, and it becomes a Chinese escort-only area. If a Chinese national wants to enter that area, he must be escorted by a U.S. personnel, that chain of custody, if you will. It will remain that way until such time as joint operations take place, that mating of the spacecraft to the launch vehicle. Whether that takes place inside in a building or on the launch pad, there'll be a U.S. monitor and security personnel with that spacecraft the entire time it's out of the U.S.-controlled area.

When it goes up to the pad, that will continue to be the case; there will be U.S. security personnel. The monitor will be advised of any abnormalities. If during the period of time of the processing at the launch site there is any other technical meetings, the monitor will attend those. The security people will maintain that chain of custody of the actual hardware throughout the time, up through and including launch. If in fact there is a launch failure, they will—the monitor and the security personnel will then try to pick up the pieces and maintain a chain of custody on those pieces that might be available for recovery after the operation is completed.

Senator ROBB. One of the questions—and my time has expired, so I will not pursue it, but I may pursue it for the record—was the launch failure analysis that you alluded to just at the end, the kind of security and/or oversight that we're able to maintain on that—well, on those occasions when we do have launch failure. But I'll defer on that.

But one comment, if I may, before I conclude. Implicit in Mr. DeWine's question was one that I have as well, in terms of the prioritizing of records that are kept. It seems to me, with the extraordinary volume of records that we keep for all kinds of things that we will never, ever refer to again, that something as important as this, in terms of a relatively small document base that could be transferred to microfiche or some other record-keeping, that given the kinds of questions that could potentially arise, that this might be an area to review. I know Mr. Tarbell said that the—as a part of the licensing agreement, the companies are responsible for keeping certain records. But if there are records that would—could be used to substantiate the kind of control or to establish the fact that there was no opportunity for any intrusion, that would

be—seem to me to be a relatively small record-keeping task. But I'll just leave that as a comment.

And I thank you, Mr. Chairman.

Chairman SHELBY. Senator Levin.

Senator LEVIN. Thank you, Mr. Chairman.

Just a quick question on that airplane that—that Antonov airplane: As I understand it, there is a U.S. security person in the passenger area during the flight. Is that correct?

Lieutenant Colonel SMITH. That's correct, sir.

Senator LEVIN. Is it not also true that there's no access to the cargo bay from the passenger area during the flight in an Antonov?

Lieutenant Colonel SMITH. That is also true, sir.

Senator LEVIN. All right.

Mr. Tarbell, I have questions about those three satellites that were launched from 1992 to 1996.

Is it true that none of those satellites had militarily significant technologies in them, according to the Bush Administration designation?

Mr. TARBELL. That's true.

Senator LEVIN. Because if they did have any of those technologies, then would have remained on the Munitions List and would have required at that point to the monitoring of the launch. Is that correct?

Mr. TARBELL. Would have required a State Department license.

Senator LEVIN. Which—and monitoring.

Mr. TARBELL. Yes.

Senator LEVIN. Okay, because I want to be real clear. The three satellite launches we're talking about were not monitored because of two things. One, they were on the Commerce Department list, and number two, they didn't require a State Department license. Is that correct?

Mr. TARBELL. That's correct, Senator.

Senator LEVIN. And if they either contained any of the nine technologies identified in October '92 during the Bush Administration or if they required a State Department agreement, a so-called TAA, in either of those cases they would have been monitored. Is that correct?

Mr. TARBELL. That's true, Senator. It's both the same thing, because if it had any of those characteristics, then it would have been licensed by the State Department. It would have required a State Department license.

Senator LEVIN. But there are other reasons for requiring a State Department agreement, correct, besides having one of those nine characteristics? It could——

Mr. TARBELL. That's true, Senator.

Senator LEVIN. All right.

Those were all—those were three Hughes satellites; is that correct?

Mr. TARBELL. Yes, sir.

Senator LEVIN. All right.

And those are the ones I want to focus on in my next questions as well. All three satellites were in the custody, as I understand it, of Hughes or its subcontractor at all times. At least they were required to be. Is that correct?

Mr. TARBELL. That's correct. I don't know whether they actually were, but there is a requirement——

Senator LEVIN. But they were required to be.

Mr. TARBELL [continuing]. That they not allow the Chinese to have access to them.

Senator LEVIN. All right.

So even though none of them had any of the militarily significant technologies according to the Bush Administration list, they still were required to be in the custody of the contractor or its agent. Is that correct?

Mr. TARBELL. Well, let me put it this way. There was nothing in the Commerce license that authorized them to give access to the Chinese to those satellites.

Senator LEVIN. Does that mean that they should not have done that? And hopefully did not do that?

Mr. TARBELL. That's correct, Senator.

Senator LEVIN. All right.

So as far as we know—do we have any reason to believe that the custody ever left Hughes or its agents? Do we have any evidence that custody of those three satellites was ever handed over?

Mr. TARBELL. I'm not aware of any such evidence.

Senator LEVIN. Now, then comes along a 1995 executive order and a 1996 interagency agreement relative to satellites, and at that point the rest of the satellites that were not on the Commerce Department list were transferred to the Commerce Department list; but is it not correct that all the satellites now since 1996 require monitors, whether or not they would have required monitors under the Bush Administration designation?

Mr. TARBELL. Yes, and that's something that we insisted on when that transfer was done, that we clarify this and add that additional safeguard.

Senator LEVIN. So that those three satellites that did require monitors between 1992 and '96 would, after the executive order and the interagency agreement, require monitors now.

Mr. TARBELL. Yes. If those satellites were licensed today, they would require monitors.

Senator LEVIN. All right. I'm sorry, would require monitors. I misspoke.

Mr. TARBELL. Yes. Regardless of whether they were licensed by State or by Commerce.

Senator LEVIN. Did the 1995 executive order diminish the Department of Defense role?

Mr. TARBELL. The 1995 executive order on export control licensing?

Senator LEVIN. Right.

Mr. TARBELL. No, I don't believe it diminished the department's role in the process.

Senator LEVIN. In 1992, the Department of—I'm sorry, there's a red light on there, so my time is up.

Chairman SHELBY. Senator DeWine, you have a quick question?

Senator DEWINE. Just a quick question, Mr. Chairman. Thank you very much.

Why doesn't DTSA report all violations to the licensing agencies? And as a follow-up to that, who in DTSA decides whether a viola-

tion rises to a level that should be reported? Who makes that decision?

Mr. TARBELL. Well, Senator, if it rises to the level of an export control violation, then we do report it to the regulatory agency. Some of the so-called infractions that we referred to were people are wandering into areas that we prefer that they not, the idea here is that the monitor stop that activity from occurring and that the matter is resolved—when we say the matter is resolved on site or is resolved as a matter of a discussion between DTSA and company representatives at the corporate headquarters, in those circumstances if there hasn't been any technology that has been transferred, there's been no violation of export control laws. And so as a consequence there's nothing really to report as a violation of export control laws.

Nevertheless, it is a matter that, you know, some might refer to an irregularity in the conversation. But you might expect that that might occur on occasion.

Senator DEWINE. So—excuse me. But we could get close to a transfer and just not have a transfer. In other words, the key is, the way I understand your testimony is if you have a transfer, then it's a violation. If you don't have a transfer—in other words, if it's not a consummated act—then it becomes an infraction. And infractions don't necessarily get reported. Now, is that right?

Mr. TARBELL. That's correct, Senator DeWine.

Senator DEWINE. And then who—let me rephrase the question. Who decides, who makes that decision whether that infraction gets reported or not?

Mr. TARBELL. Those infractions are reported to the people who manage the monitor program for me—Colonel Garner and Colonel Smith, who are currently doing it—and they make a judgment about whether or not that rises to the level of violation. If it does, they bring it to my attention and we make a determination about whether to send it to the State Department.

Senator DEWINE. Okay. But if we went back to review any particular case we would not necessarily pick up in any kind of written record all the "infractions" then. In other words, if I was trying to reconstruct what happened in a particular case, would I be able to find out all "infractions" as we have just defined them, you and I have just defined them?

Mr. TARBELL. When you say all, we've already stated to you that we haven't kept all the records.

Senator DEWINE. Therefore we don't have all the infractions.

Mr. TARBELL. And so as a consequence, we don't have all the information about the infractions, yes. That's true.

Senator DEWINE. And so that is gone forever, then. Could be gone forever. Is gone forever.

Well, it's yes, isn't it?

Mr. TARBELL. Well, to the degree to which reports are not available, that's true. But some of the individuals who were engaged in the launches might have recollections and we might be able to track those people down if there were information that——

Senator DEWINE. You would have to actually go back and interview everyone.

Mr. TARBELL. And interview all the monitors, yes.

Senator DEWINE. All the monitors and depend on their recollection of whether or not there was an infraction.

Mr. TARBELL. That's correct, Senator.

Senator DEWINE. Okay.

Mr. Chairman, thank you very much.

Chairman SHELBY. At this point I have some questions, but I wanted to clarify something, or try to, that I said earlier.

There have been some statements of what the majority leader's speech was about yesterday. And I think I said something to the effect—I don't have the courtreporter—that I would not defend the majority leader, meaning that the majority leader was very capable of defending himself, if he needed to. I personally don't think he needs to defend himself. He is the majority leader. A lot of things have been said about what he said and the timing of it, and so forth. I want to reiterate that although I haven't, as chairman of the committee, made any judgment as to whether or not technology was transferred or not to the Chinese that would harm our national security, we all have our common sense approach to this.

At the proper time, when we finish this, I will make a public statement, and I'm sure everybody else will. I do believe at this point in time that the majority leader is entitled, as any Senator, to say what he wants to. He is the chairman of the Task Force, he is the majority leader of the Senate, and he is privy not only to some of the information, if not all, coming out of this committee, but he's privy to briefings, intelligence briefings. He's privy to other briefings. He's privy to other committees reporting to him as chairman of the Task Force. And I said yesterday, and I say it again today, that I believe the tendency of the evidence, up till yesterday, up to now—although we're not through with the hearings—tends to support his statements. And I wanted to say that. If I thought he needed defending—and I don't—I would certainly defend him.

Now I've got some more questions.

Prior to '92, who paid for travel expenses associated with the monitors and attendance at the launch?

Mr. TARBELL. Launches that were monitored prior to '92, which was all of them, the companies paid those expenses.

Chairman SHELBY. The companies paid them?

Mr. TARBELL. Yes.

Chairman SHELBY. For the three launches of Hughes-built satellites that were not monitored—which we've talked about—was there a provision in the Commerce license that would allow monitoring at all? Do you know off-hand?

Mr. TARBELL. I'll have to refer to my records. But—I'll have to take that for the record.

Chairman SHELBY. Would you do that for the record?

Mr. TARBELL. Yes, I will.

Chairman SHELBY. And would you check and see if the U.S. government had wanted to monitor the launches and pay associated travel expense at the launch site, could they have done so? Would you do that for the record?

Mr. TARBELL. I'll take that for the record, Senator.

Chairman SHELBY. Did any of the satellite companies push for this approach to monitoring so they could avoid paying for mon-

itors' travel expenses? Do you know? And if you want to take it for the record——

Mr. TARBELL. Senator, I think I'd like to go back and refer to each of the situations——

Chairman SHELBY. Okay.

Mr. TARBELL [continuing]. Because I just don't have that information off the top of my head.

Chairman SHELBY. Would you answer that for the record?

Mr. TARBELL. I will.

Chairman SHELBY. Who pays for required monitors today? And if the policy was changed, when was it changed and why?

Mr. TARBELL. As part of the agreement, subsequent to the 1996 regulatory change that transferred all commercial communications satellites over to Commerce, part of the monitoring requirement is also that the companies reimburse the department for incidental expenses associated with it. The department continues to pay for the salaries and benefits of the monitors. They pay for travel, hotels, lodging and incidentals of that nature.

Chairman SHELBY. Who monitors the operations of the satellite once it's launched?

Mr. TARBELL. Once the satellite is launched, it's in space——

Chairman SHELBY. It's gone?

Mr. TARBELL. We don't monitor that.

Chairman SHELBY. Okay.

So no one in the U.S. government tracks the operations of a satellite to ensure if it's not used by the military, like the Chinese military?

Mr. TARBELL. I wouldn't want to get into that in open hearings, Senator.

Chairman SHELBY. Okay.

In your testimony, you described the process where DTSA monitors seek to keep technical questions, including telephone calls, within the limits imposed by the export license. You say that the monitors' presence generally serves as a deterrent to unauthorized discussions and that—and to quote you, "Generally, a simply reminder of license restrictions is all that is necessary to resolve potential problems."

At the same time, in briefings to staff, you and your staff have been candid about the strong pressure from satellite makers for a smooth and successful launch campaign, which is common sense. As a result, while the monitoring scheme sounds good in theory, it seems to me that it must be very difficult to carry out in practice.

Now, I understand that many of your monitors are relatively young. They're in a high-pressure, high-stakes situation where they are, to put it bluntly, the so-called skunk at the garden party. What steps do you take to empower them to make it clear to contractors and the Chinese that these people speak for the U.S. government and for the Department of Defense? How do you do that?

Mr. TARBELL. Well, in the—first of all, they are, in many cases, junior officers, but they're awful good skunks. And——

Chairman SHELBY. A good skunk's a good monitor, isn't it?

Mr. TARBELL. That's true, Senator. And they're very well-trained skunks. And so we seek to give them the tools to make those judgments.

It is clear, from the license conditions, that the authority that those monitors derive is authority that the State Department has under the Arms Export Control Act. And under U.S. law, they're obligated to listen to that monitor, by virtue of that delegation to the Defense Department in this activity. And so from that standpoint, the companies are well aware that if they don't listen to the monitors, that there are severe penalties that could be brought to bear, not the least of which is that there might be then a license suspension or revocation, which would cause the entire project to stop completely, if we weren't getting the kind of cooperation that was necessary in order to ensure that we can do our jobs.

Chairman SHELBY. Senator Levin.

Senator LEVIN. Thank you, Mr. Chairman.

Peter Lightner, who works for DTSA, testified before the Committee on Governmental Affairs on June 25th as follows: Quote, "Over the past six years, the formal process to control dual-use items has failed in its stated mission—to safeguard the national security of the United States," close quote.

Do you agree with that statement, Mr. Tarbell?

Mr. TARBELL. Senator, I am personally very proud of the efforts that we've taken over the last few years to enhance U.S. export controls. And this is an area that I have spent a great deal of effort and my own personal time on, and I think that is an area that has benefitted our security interests, and I stand by that. And I stand by the system that we have. It is not a perfect system. No system is ever perfect. And we seek to improve it on a daily basis within the resources that we're given. And frankly, I have professionals in my organization that do a day-to-day job and find the situation to be one where they're proud of their organization and proud of the place that they work.

Senator LEVIN. Well, let me ask the question again. Do you agree with the statement that over the past six years, the formal process to control dual-use items has failed in its stated mission to safeguard the national security of the United States?

Mr. TARBELL. No, Senator, I don't agree with that statement.

Senator LEVIN. Just a few other questions.

Mr. Tarbell, in your opinion, should all communication satellites under the Commerce control list be transferred back to the State Department munitions list?

Mr. TARBELL. Senator, I see no reason for that to be done. Frankly, I believe we have a very solid control system in place for these satellites under the Commerce system as long as the companies and the Commerce Department adhere to the conditions and the agreements that we have in place and the system that we have in place and the safeguards that we have in place.

Senator LEVIN. There was an IG report in 1992—there was a DOD IG report in 1992 that found that DTSA back in 1992 was, quote, "in a general state of organized"—excuse me—"in a general state of organizational malaise," close quote. And the IG said that, quote, "We determined that senior DTSA managers do not accurately identify the number nor delineate the scope of problems facing the organization," close quote. And then they went into a whole number of problems. The IG said back in '92 that it had identified,

quote, "major systemic weaknesses in every inspected area of internal operations," close quote.

Then there was a broader report by inspectors general from the Department of Defense, State, Energy and Commerce, each of whom identified substantive problems that had to be remedied, in their judgment, in our export control system. Now, those reports did not examine operations during your watch. But if you remember those reports, did they—did they contribute to the Clinton Administration decision to revamp those procedures in its December '95 Executive Order, in the President's December '95 Executive Order?

Mr. TARBELL. I'm not aware that there was any direct linkage between those reports and the decision to improve the export licensing system as a result of the December 1995 Executive Order. And I'm not sure I can comment on the 1992 report. As I said, I joined the organization in August of '94, except to say that it is my understanding that that report was reviewed by the under Secretary for Policy at the time in the Bush administration, and all of the recommendations were looked into and, frankly, found to be not without merit.

Senator LEVIN. All right. And that would have been '92?

Mr. TARBELL. I should say, found to be without merit.

Senator LEVIN. There is a little difference there.

Mr. TARBELL. Yes, there is.

Was there also critical—or not critical. Strike that. But were there reports issued by the National Academy of Sciences in 1991 and '94 which advocated significant changes in our export control system?

Yes, Senator, I'm aware of those reports, but I haven't really focused on them. They're sort of before my time and I haven't really read them.

Senator LEVIN. Thank you.

Thank you, Mr. Chairman.

Thank you, both our witnesses.

Chairman SHELBY. I've got a few—a couple of more questions and I'll try to wrap it up.

We understand that the Commerce Department authorized Hughes to provide a launch failure analysis for the ABSTAR 2 launch to the Chinese without any Defense Department or State Department review. This would appear to be a very serious breakdown in the safeguard process, if that were true. Do you agree or disagree with that, if that were true?

Mr. TARBELL. Senator, I just received this report that the Commerce Department authorized, I just received it last week, so I'm not sure that I could characterize it one way or the other.

Chairman SHELBY. Let me ask you again for the record.

We understand that the Commerce Department authorized Hughes to provide a launch failure analysis for the ABSTAR 2 launch to the Chinese without any Defense Department or State Department review. This would appear to me and others to be a pretty serious breakdown in the safeguards process we've been talking about, you've been talking about. Do you agree or disagree?

Mr. TARBELL. Senator, I think that the report should have been provided to the Defense Department; we should have an opportunity to review it at the time.

Chairman SHELBY. That's right. Okay.

What is being done to investigate and to establish accountability as to what happened, determine the national security damage, and prevent a recurrence? Do you know?

Mr. TARBELL. We're in the process of reviewing this report to see whether there was any implication associated with this or any particular violation or problem with it. And that will take some time to undertake because it was a rather complicated affair.

Chairman SHELBY. It will take you a while to undertake an analysis of whether or not this was a violation of the law, regulations or policy in effect at the time; is that what you're saying?

Mr. TARBELL. Yes, and whether there was any national security problem associated with it. And so we're going to undertake such a review and make a determination.

Chairman SHELBY. And you'll share that with the Intelligence Committee, would you not, if we ask?

Mr. TARBELL. If you ask, Senator.

Chairman SHELBY. Thank you.

How does it affect your ability to carry out your mission if other agencies fail to consult you—and by you DTSA—in something as sensitive as a launch failure analysis?

Mr. TARBELL. Well, obviously, we only know what we know.

Chairman SHELBY. Absolutely.

Mr. TARBELL. And if other agencies don't consult with us as to national security impacts, we're not afforded an opportunity to provide a view about that. And since we have—pride ourselves on the expertise that we have in the department for making such determinations——

Chairman SHELBY. Okay.

Mr. TARBELL [continuing]. Obviously that's a challenge.

In this same regard, what discussion was there with the Department of Defense or interagency of whether Loral's actions in connection with the independent review committee should be a factor in consideration of the CHINASAT 8 waiver, or even grounds for denial? In other words, did any agency other than the Justice Department raise this issue or related concerns?

And let me—if I could go on just a step. Given DTSA's strong interest in effective enforcement, did DTSA at any time argue that the waiver should be denied or delayed? And if not, why not?

Senator, I'd like to just talk a little bit about the process to try to make it clear.

Chairman SHELBY. Okay.

Mr. TARBELL. There are two processes that occur in the course of getting an authorization from the government to launch a satellite in China. One process is you submit a license to the system and the Department of Defense reviews those licenses and we provide our views and recommendations to the regulatory agency. Once it has been determined that that license meets the threshold of being consistent with our national security interests and is ready to be approved, then there is an additional step, because of so-called Tiananmen Square sanctions, that the State Department, or

in certain circumstances the Commerce Department, has to go to the President to get a national interest waiver. This is a broad interest waiver of those sanctions.

We only review that waiver determination to ensure that it accurately describes the safeguards and conditions that have been put into the license that we have already reviewed and approved and recommended approval of. So we do not make a—we do not offer an opinion on the veracity of the national security—I mean, the national interest determination associated with the waiver. So in that context, in the course of the CHINASAT–8 affair, we did not weigh on that particular waiver decision.

Chairman SHELBY. Mr. Tarbell, we appreciate your long appearance here this afternoon, and we also more than that appreciate your work in what you do everyday.

Thank you. And Colonel Smith, thank you for accompanying him.

The committee is adjourned.

[Whereupon, at 5:39 p.m., the Committee was adjourned.]

TESTIMONY OF
DAVE TARBELL
DIRECTOR, DEFENSE TECHNOLOGY SECURITY ADMINISTRATION
U.S. DEPARTMENT OF DEFENSE

BEFORE THE
SENATE SELECT COMMITTEE ON INTELLIGENCE

July 15, 1998

Thank you, Mr. Chairman, for the opportunity to appear before your committee to discuss the role of the Department of Defense in monitoring technology safeguards associated with launches of U.S.-built satellites in China. The Defense Technology Security Administration (DTSA) is responsible for managing and coordinating DoD's space launch technology safeguards monitoring program. We work closely with Air Force in implementing this monitoring activity.

Today, I will address my statement to three main areas: (1) the underlying basis for the space launch technology safeguards monitoring program, (2) the evolution of the safeguards program, and (3) the particular monitoring activities associated with the safeguards program.

Basis for the Space Launch Technology Safeguards Monitoring Program

In 1988, President Reagan decided to allow China to launch U.S.-built satellites. To help ensure that no technology would be transferred that would improve China's missile or satellite capabilities, President Reagan also directed that launch-related activities be accompanied by strong technology safeguards. To this end, the U.S. concluded a technology safeguards agreement with the PRC in 1988. It was renewed with minor modifications in 1993 and remains in force today.

The agreement has two important features to protect U.S. national security interests: (1) it restricts the transfer of U.S. controlled satellite or launch vehicle technical data and assistance to China by U.S. companies; and (2) it requires oversight and monitoring of launch-related activities by the U.S. government.

We have implemented these safeguards primarily through conditions on export licenses -- for example, by requiring DoD monitors. Over the years, we have refined these conditions and today, we have a strong system of safeguards that

are included in all licenses for the launch of communications satellites in China issued by the Departments of Commerce and State.

Evolution of the Space Launch Technology Safeguards Monitoring Program

The space launch technology safeguards program has evolved from its early days when the first Chinese launch of a U.S. communications satellite was monitored in April 1990. I have attached a table that shows each U.S.-built communications satellite launched in China since 1988, the satellite manufacturer, the date of the license and the launch, and whether the launch was monitored by DoD.

The evolution of the space launch technology safeguards monitoring program has proceeded through three relevant periods primarily having to do with shifting jurisdiction over communications satellites between the Department of State and the Department of Commerce.

1989 to 1992

All communications satellites were licensed by the State Department under the International Traffic in Arms Regulations. In brief, State controlled all of the technical data and technical assistance required to perform a launch of a U.S.-built satellite in China. These controls also extended to all design, development, and manufacturing data on communication satellites. Licenses issued by State for satellite transfers to China for launch contained conditions that required monitoring pursuant to the U.S.-China technology safeguards agreement.

1993 to 1996

In late 1992, the Bush Administration decided to transfer license jurisdiction for purely commercial communication satellites from the State Department to the Commerce Department. Commerce was given the authority to control limited "form, fit and function" technical data necessary to mate the satellite to the launch vehicle which the U.S. satellite manufacturer could provide to the Chinese launch provider. Nine technologies were identified as giving a satellite specific military capabilities, and any satellite containing any of these nine technologies continued to require a license from the Department of State. For example, satellites with large antennas, intersatellite relay links, and specialized on-board processing remained under State control as did the "kick motors" necessary to launch satellites into high earth orbits. State also retained control over: (1) all launch vehicles; (2) all technical data beyond "form, fit, and function" that is associated with the

integration of satellites with launch vehicles; (3) all design, development, and manufacturing data on satellites; and (4) all technical assistance (e.g., engineering services) that might be provided by U.S. companies to the foreign launch service provider including any analyses of launch failures. The Clinton Administration issued some of the regulations implementing this jurisdictional change shortly after taking office in 1993.

During the 1993-1996 period, monitoring was required in all State licenses for launches of satellites that contained one or more of the identified military-related technologies or kick motors, any launch vehicle integration technical data or any technical assistance. There were three launches during this period that were not monitored. These were launches of commercial satellites, licensed by Commerce, that did not include DoD monitoring. Monitoring had always been associated with the licenses issued by the State Department, and DoD license review procedures anticipated that there would be at least one State license required for the launch of even these commercial satellites now licensed by Commerce. We are not aware of any transfer of technology from these unmonitored launches that contributed to China's missile or military satellite capabilities. Nevertheless, DoD did conclude that full monitoring would be a strong safeguard at relatively low cost to the companies that should be applied to all license cases, even those that did not require Department of State licenses. This was agreed by all agencies to be a requirement for all Commerce and State licenses issued after late 1996 when jurisdiction was transferred to Commerce for all commercial communication satellites.

1996 to the Present

In 1996, President Clinton decided to transfer additional jurisdiction for commercial communication satellites from the State Department to the Commerce Department. DoD supported this transfer because the transfer did not involve certain sensitive technology associated with satellites and launch vehicles and because the transfer was accompanied by several changes in procedures that protected DoD's ability to ensure that transfers are consistent with U.S. national security. The system is now the following:

- Companies can export complete commercial communication satellites under a Commerce license even if they contain one or more of the individual military technologies that defined State jurisdiction over communication satellites prior to 1996. All of those individual military technologies, however, must still get a State license when not exported as part of a

complete communications satellite. The Chinese launch provider is not allowed unescorted access to the satellite.

- Commerce continues to control certain limited "form, fit, and function" technical data necessary to mate the licensed satellite to the launch vehicle.

- State retains control over all launch vehicles, all technical data associated with launch vehicles or the integration of satellite payloads with launch vehicles, all design and manufacturing data for satellites, and all technical assistance that might be provided by U.S. companies to Chinese launch service providers including any launch failure analyses.

In addition, several changes were made to strengthen Commerce export control procedures and the 1995 Executive Order governing interagency reviews of dual-use licenses. The changes in procedures that are now in effect include:

- License determinations are subject to majority vote of reviewing agencies with a continuing right of any dissenting agency to escalate the matter up to and including the President.

- Licenses can be denied for broad national security reasons to any destination.

- Communication satellites are not subject to formal foreign availability determinations under the Export Administration Act.

- All communication satellite licenses must include strong safeguards including DoD monitoring and payment of DoD monitoring expenses by the companies.

DOD currently reviews all communication satellite licenses to ensure that the proposed export would be consistent with U.S. national security interests. DOD's recommendations reflect inputs from relevant DoD components such as the Air Force and the National Security Agency.

The Space Launch Technology Safeguards Monitoring Program

Today, whether licensed by Commerce or State, the export of U.S.-built satellites to China for launch contain strong safeguards to ensure that no technology is

transferred that would improve China's missile or satellite capabilities. In broad terms, the safeguards include the following significant elements:

- A requirement that every U.S. satellite exporter produce a technology control plan that must be approved by the Department of Defense prior to any technical exchanges between the exporter and the Chinese launch provider.

  - The plan covers, among other things, review and control of documention, including procedures for clearing releases to the Chinese side.

  - Prior to shipment of the satellite, the plan must be augmented with annexes that include: (1) a detailed transportation plan for shipping to ensure that only U.S. personnel have access to the satellite at all times; and (2) detailed security and joint operations plans that include procedures for the supervised mating of the satellite to the launch vehicle.

- A requirement that all technical data and information that the U.S. company wants to transfer to the Chinese must be approved in advance by DOD.

- A requirement that a DOD monitor be present at every technical meeting between the U.S. company and Chinese launch officials to ensure that no unauthorized technical data or information is transferred. This includes all interactions where technical information is to be discussed, including phone conversations.

- A requirement that a DOD monitor be present at the launch site in China to oversee physical site security and to prevent Chinese access to the satellite or transfer to the Chinese of unauthorized technical data or information.

- A requirement that the exporter reimburse the government for the costs of DOD monitoring.

DOD is involved in all aspects of U.S. government processes under the U.S.-China satellite technology safeguards agreement. I have attached a chart that outlines the activities associated with a typical launch campaign and how DoD currently participates in each phase.

Contract & Licensing Phase

During this phase, satellite manufacturers often brief DoD informally about the nature of the program being negotiated with the satellite end-user. We make suggestions about where there might be areas of concern to DoD during a future license review. Subsequently, a license application is submitted by the company to Commerce and/or State who refer the application to DoD for review and recommendations. After the license is issued, DoD then reviews and approves the Technology Transfer Control Plan that I referred to earlier and that is prepared by the company as a requirement of these licenses.

Satellite Manufacturing and Engineering Phase

Throughout this phase, it is necessary for the satellite manufacturer to provide technical data to the launch service provider. DoD reviews and approves all such data prior to its being provided to the foreign launch provider. This is basically an engineering activity that lays the ground work for physically connecting or "mating" the satellite to the launch vehicle. It involves exchanges of so-called "form, fit, and function" technical data on such things as dimensions, propellant, and orbit requirements as authorized under the license.

If there are any technical interchange meetings or phone conversations, DoD monitors them to ensure that inappropriate transfers of information do not occur. Technical interchange meetings (which are held at the facilities of the satellite manufacturer, launch provider and the ultimate satellite user) take place over a period of one to three years prior to the shipment of the satellite and subsequent activities at the launch site in China. These technical interchange meetings normally last from three to seven days, and there are typically six to twelve throughout a launch program. The exporter must notify DoD in advance of scheduled meetings with the foreign launch service provider. DOD then provides a monitor, and we at DTSA often send monitoring oversight personnel to the first meeting to present a "rules of engagement briefing" that outlines compliance requirements from preparations through launch and post-launch.

A monitor's task at these meetings is to ensure that all discussions stay within the bounds of the export license. If the exporter's personnel are adequately trained, the DOD monitor usually will not have to take any significant action. DoD often participates in training sessions with exporter personnel. Moreover, the monitor's presence serves as a deterrent to unauthorized discussions. Occasionally, discussions do stray from permitted subjects, for example, toward the end of the

satellite processing phase when engineering problems are encountered that engineers seek to correct. In such cases, the DOD monitor intervenes. Generally, a simple reminder of license restrictions is all that is necessary to resolve potential problems.

If the exporter disagrees with the DOD monitor's interpretation, the meeting is recessed for a discussion between the monitor and the U.S. exporter to resolve the issue. This has rarely happened in connection with China launch activties. When it has, issues have been resolved on site.

If problems are not resolved on site, the monitor contacts DTSA to report the situation and request guidance. In this connection, DTSA would assess whether the actions of the exporter rise to the level of a violation that should be reported to the appropriate licensing agency -- usually the State Department.

Launch Operations Phase

Once the satellite has been manufactured, it is ready to be transferred to the launch site for mating to the launch vehicle and launching. Since most of the engineering activity has already taken place during the course of technical interchange meetings, DOD monitoring during the launch operations phase is focussed primarily on the physical security of the satellite and related hardware and documentation. This phase includes transporting the satellite to the launch site, performing final tests, and mating the satellite to the launch vehicle. This phase normally lasts about four to eight weeks. As I mentioned earlier, shipment of the satellite from the U.S. and the conduct of joint operations at the launch site must be preceded by DOD approval of annexes to the technology transfer control plan that cover these activities.

Exporters typically hire a security contractor to ensure that there is no unescorted access to the satellite in transit or at the launch site. The DoD monitor provides oversight of these activities, but is not responsible for directing the security contractor. Monitors inform the satellite manufacturer's representative of any problems. The satellite manufacturer is responsible for ensuring compliance with the safeguards in the license and the technology transfer control plan. As in the case of technical interchange meetings, if the exporter has adequately trained its personnel, no serious problems are likely to arise. When problems have arisen during monitored launches in the past, most have been resolved on site by the monitors without the need for consultation with DTSA.

Once the satellite arrives at the launch site, it is placed in a secure, U.S. controlled processing area for final satellite checkout, testing, and fueling. Unescorted access by the Chinese launch provider is not permitted. The satellite is then moved to the launch pad where it is mated to the launch vehicle and undergoes final launch preparations. All of these activities are monitored.

If the launch is successful, the exporter must return all excess equipment to the U.S. This includes spares of components and miscellaneous test equipment. In the case of a failure after liftoff, the satellite manufacturer is responsible under the license to ensure the recovery of any debris and its safe return to the U.S. The DOD monitor is responsible for overseeing the recovery of debris and its safekeeping by the satellite manufacturer pending its return to the U.S. In this connection, the exporter is not authorized to conduct a failure analysis or investigation with or for the Chinese without a separate license.

Summary

In summary, DoD conducts the space launch technology safeguards monitoring program to protect U.S. national security interests while enabling satellite manufacturers to obtain prompt guidance on whether a broad range of their complex and sensitive activities in collaboration with launch service providers are consistent with license conditions and U.S. policy. We believe the safeguards that we have in place on these activities combined with the monitoring program significantly reduce the risk to national security.

CHINA SPACE LAUNCH - MONITORING HISTORY

Satellite Program	Satellite Manufacturer	License Agency - Date Approved	Launch Date	Launch Monitored
Asiasat	Hughes	State - Dec 89	Apr 90	YES
Optus B-1	Hughes	State - May 91	Aug 92	YES
Optus B-2	Hughes	State - May 91	Dec 92	YES
Apstar-1	Hughes	State - Mar 93	Jul 94	YES
Intelsat-708	Space Systems/Loral	State - Sep 93	Feb 96	YES
Asiasat-2	GE/Martin-Marietta	Commerce - Jan 94 State - Sep 92	Nov 95	YES
Apstar-2	Hughes	Commerce - Feb 94	Jan 95	NO
Optus B-3	Hughes	Commerce - May 94	Aug 94	YES
Echostar-1	Martin-Marietta	Commerce - Aug 94	Dec 95	YES
Apstar-1A	Hughes	Commerce - Jun 95	Jul 96	NO
Cosat/Chinastar-1	Lockheed-Martin	Commerce - Feb 96	May 98	YES
Chinasat-7	Hughes	Commerce - Feb 96	Aug 96	NO
Mabuhay 1	Space Systems/Loral	Commerce - Feb 96 State - Feb 96	Aug 97	YES
Apstar-2R	Space Systems/Loral	Commerce - Dec 95 State - Jan 96	Oct 97	YES
Iridium	Motorola	Commerce - Mar 97 State - Aug 95	Dec 97 Mar 98 May 98 Jul 98	YES YES YES Ongoing
Chinasat-8	Space Systems/Loral	Commerce - Mar 98 State - Feb 98	Projected Dec 98	Planned
APMT	Hughes	Commerce - Mar 97 Commerce - Pending State - Oct 96	Pending	Planned

DoD DTSA
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Typical Launch Program

Activity	DoD Involvement
Contract & Licensing Phase •• Marketing & Contract Negotiation •• Obtain Export License(s)	 Informal Meetings  Review Licenses  Approve Technology Transfer Control Plan
Satellite Manufacturing & Engineering Phase •• Program Office Established •• Satellite Manufacturing Begins •• Interaction w/ Foreign Launch Provider •• Satellite Testing •• Finalize Satellite Interface Plan	 Review Technical Data for Release  Monitor Technical Interchange Meetings
Launch Operations Phase •• Ship Satellite to Launch Site •• Testing & Joint Launch Site Operations •• Launch •• Return Spares & Test Equipment to the U.S. •• Debris Recovery if Launch Failure	 Monitor Shipment  Control Access & Monitor Launch  Monitor Return Shipment  Oversee Debris Recovery

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