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ROUTING SLIP

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AK Executive Secretary

12 Aug 88

Date

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11 August 1988

NOTE FOR:

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FROM: DCI

SUBJECT: Lunch with David Acheson, CSIS
17 August 1988, 12:30, Metropolitan Club

David Acheson called on behalf of CSIS. He invited me to lunch and we agreed upon Wednesday, 17 August, at 12:30 at the Metropolitan Club. He is bringing along Jim Morrison, a full-time Director of the CSIS study of national space policy.

According to Acheson, the SIG-Space coordinating mechanism has proved to be ineffective. They are considering alternate proposals to suggest, at least one of which would borrow on the DCI dual authority concept. I think they are talking primarily about a civil space Assistant to the President, probably drawn from an existing Agency head.

Mr. Acheson wants to talk off-the-record on the way the DCI system works, its strengths and weaknesses. I think I can do this appropriately.

However, I recall some recent communications either from NSC or Defense which outline some new approaches to space coordination within the past week or so. What I'd like to have by Wednesday is anything that's available or useful on coordination of space efforts so that I can better understand what Mr. Acheson is proposing (not to be passed along to him). Any help would be appreciated.



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EA/DCI, [redacted]

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SUBJECT

Lunch with David Acheson, CSIS

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POINT PAPER ON COORDINATION OF SPACE EFFORTS

Why is there a need for space coordination mechanisms?

- o The nation has four separate but closely coordinated space programs:
 - Civil Governmental (Includes the NASA and NOAA space programs).
 - Defense (Includes DoD space programs for Comms, Warning, Surveillance, Navigation, Weather, ASAT, etc.).
 - DCI (Includes NRO space programs).
 - Commercial (Includes private sector ventures in Comms, Space Launch, etc. These programs are regulated by the government, e.g., DoT regulates private sector launch activities.)
- o These programs have many common interests that require interagency coordination. Examples include:
 - Common interests in certain space technologies, e.g., launch technologies, remote sensing technologies.
 - International cooperative activities that require coordination because of foreign policy and technology transfer interests.

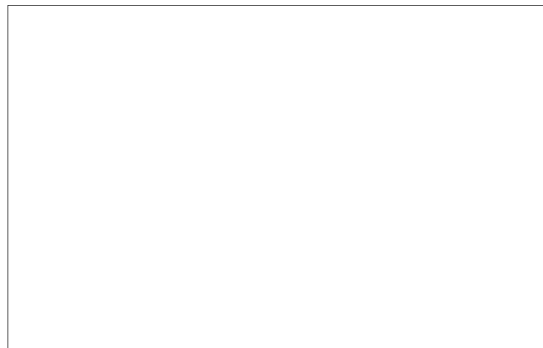


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- DoD procurement of new expendable launch vehicles for national security use. This procurement is establishing the industrial base on which much of the commercial launch industry will depend.
- Potential need for all space sectors to use the Space Station.

What are the current mechanisms for space coordination?

- o SIG(Space)
 - To provide a forum to all Federal agencies for their policy views, to review and advise on proposed changes to national space policy, and to provide for orderly and rapid referral of space policy issues to the President for decisions as necessary.



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- Members include Department of State (DoS), Department of Defense (DoD), Department of Commerce (DOC), Department of Transportation (DOT), Director of Central Intelligence (DCI), Organization of the Joint Chiefs of Staff, United States Arms Control and Disarmament Agency (ACDA), the National Aeronautics and Space Administration (NASA), Office of Management and Budget (OMB), and the Office of Science and Technology Policy (OSTP). Other executive agencies or departments will participate as the agenda of meeting shall dictate.
 - SIG(Space) is chaired by William Cockell of the NSC Staff. Representation is at the subcabinet level. The DCI representative is DDCI Gates. DoD representative is DepSecDef Taft. NASA representative is the administrator or his deputy.
 - An NSC meeting (expanded, if necessary) will be convened if the issue requires cabinet level review.
 - SIG(Space) is supported by an IG(Space) and working groups as required. DCI IG(Space) representative is D/ICS.
- o Commercial Space Working Group of the Economic Policy Council (EPC). (The EPC is a cabinet-level coordinating body chaired by the Secretary of the Treasury.)
- High-level focus for commercial space issues.
 - Members include DOC, NSC Staff, NASA, DCI, OMB, DoD, USTR, DoS, Treasury, CEA, DoL, and DoJ.
 - The Commercial Space Working Group is chaired by DOC. Members are at the Deputy Assistant Secretary level (or equivalent).
 - Issues are normally brought to the EPC for decision. However, SIG(Space) and the Commercial Space Working Group may address issues cooperatively. Such issues may be further addressed by SIG(Space).
 - There have been jurisdictional disagreements ("turf battles") between the SIG(Space) and the Commercial Space Working Group.

What are typical SIG(Space) and Commercial Space Working Group Activities?

Current SIG(Space) Activities

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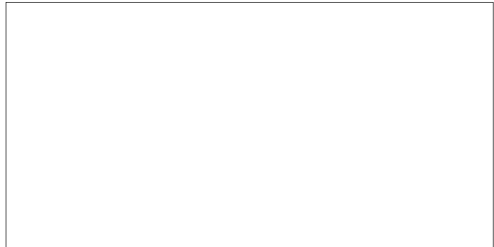
- o Space Debris Working Group--Providing recommendations on the implementation of the Space Debris Policy--that all space sectors will seek to minimize the creation of space debris.
- o Space Station Negotiations--Coordinating policy for cooperative agreements with Europe/ESA, Japan, and Canada.
- o US/USSR Space Cooperation--Developing policy for space cooperation projects. Considers foreign policy and national security interests, including technology transfer.

SIG(Space) Actions/Activities in the Last Five Years

- o National Space Policy Update--Update signed by President in January 1988. Consolidated previous Presidential Directives and established new policy relative to exploration of the solar system, commercial space policy, and launch policy. Fact sheet and Q&As are attached.
- o Shuttle Recovery Policy--Provided policy recommendations on national plan for launch recovery following the CHALLENGER accident. Considered Expendable Launch Vehicle (ELV)-related actions as well as procurement of a replacement orbiter.
- o Launch-Related Activities (prior to CHALLENGER)--Considered a variety of issues related to the Shuttle and ELVs including shuttle pricing for commercial payloads, DoD's initiation of the Titan IV program, procurement of a fifth shuttle orbiter, etc.
- o Space Station--Provided policy analysis and recommendations relative to NASA's proposal to begin the development of a Space Station. Considered governmental and commercial uses, international cooperation, and risks.

EPC/Commercial Space Working Group Activities

- o Private Sector Space Facility--The President announced an intent for the Federal Government to lease space as an "anchor tenant" in an orbiting space facility suitable for research and commercial manufacturing that is financed, constructed, and operated by the private sector.
- o Spacehab--The Administration committed to make best efforts to launch within the Shuttle payload bay, in the early 1990s, the commercially developed, owned, and managed Shuttle middeck module: Spacehab.



- o Microgravity Research Board--The President will establish, through Executive Order, a National Microgravity Research Board to assure and coordinate a broader range of opportunities for research in microgravity conditions.
- o External Tanks--The Administration is making available for five years the expended external tanks of the Shuttle fleet at no cost to all feasible US commercial and nonprofit endeavors, for uses such as research, storage, or manufacturing in space.
- o Insurance Relief for Launch Providers--The Administration will take administrative steps to address the insurance concerns of the US commercial launch industry which currently uses federal launch ranges.

(See attachment for additional information.)

How well are the existing mechanisms working?

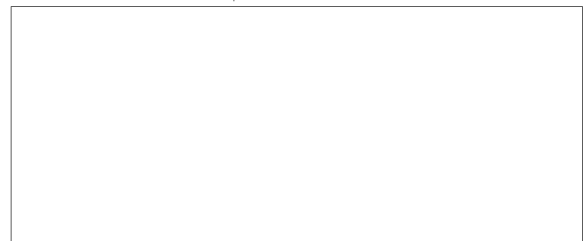
- o ICS believes that the existing mechanisms have generally worked well. However, there have been criticisms by some in Congress and the civil/commercial space community. Criticisms include:
 - lack of dynamic space leadership,
 - too slow a process for decisionmaking, and
 - national security domination of civil interests leading to slow growth in civil space budget as compared to national security.
- o We do not share these perceptions for the following reasons:
 - Coordination mechanisms do not provide leadership. This must come from the agencies/departments with program responsibilities and the White House. Clearly, budget constraints have prevented the rapid civil space growth desired by some.
 - Interagency coordination takes time. There is a need to gather facts, perform analyses, and build consensus to the extent possible. In the case of Shuttle Recovery Policy, the SIG(Space) was criticized as being slow and delaying the process. In actuality, SIG(Space) completed its work in a few months, but the Administration decision on the funding dragged on for several more months.
 - Although SIG(Space) has representatives from NSC Staff, DoD, JCS, DCI, and State, it is not correct to say that it is dominated by national security agencies. This representation does, however, ensure that national security interests will always be considered. Most members believe that SIG(Space) is a forum where all agencies can "get a fair shake."

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- o In summary, we believe SIG(Space) mechanisms are working well. We have:
 - a coherent national policy,
 - a forum where interagency problems can be worked out, and
 - most participants (including NASA) feel that the forum has been fair and is preferable to the EPC forum.
- o Can we do better?
 - Main current problem (in the last year or so) is the turf battle between SIG(Space) and EPC. Changes to fix this problem would be helpful but should not come at the expense of the SIG(Space) in its role as the overall coordinating body for space policy.

Attachments:

- A. White House Press Secretary Fact Sheet
- B. National Space Policy Questions/Answers



SUBJECT: Point Paper on Coordination of Space Efforts

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DCI/ICS [redacted] 16 Aug 88

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THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release

February 11, 1988

THE PRESIDENT'S SPACE POLICY AND COMMERCIAL SPACE
INITIATIVE TO BEGIN THE NEXT CENTURY

FACT SHEET

The President today announced a comprehensive "Space Policy and Commercial Space Initiative to Begin the Next Century" intended to assure United States space leadership.

The President's program has three major components:

- o Establishing a long-range goal to expand human presence and activity beyond Earth orbit into the Solar System;
- o Creating opportunities for U.S. commerce in space; and
- o Continuing our national commitment to a permanently manned Space Station.

The new policy and programs are contained in a National Security Decision Directive (NSDD) signed by the President on January 5, 1988, the FY 1989 Budget the President will submit shortly to Congress, and a fifteen point Commercial Space Initiative.

I. EXPANDING HUMAN PRESENCE BEYOND EARTH ORBIT

In the recent NSDD, the President committed to a goal of expanding human presence and activity in the Solar System. To lay the foundation for this goal, the President will be requesting \$100 million in his FY 1989 Budget for a major new technology development program "Project Pathfinder" that will enable a broad range of manned or unmanned missions beyond the Earth's orbit.

Project Pathfinder will be organized around four major focuses:

- Exploration technology;
- Operations technology;
- Humans-in-space technology; and
- Transfer vehicle technology.

This research effort will give the United States know-how in critical areas, such as humans in the space environment, closed loop life support, aero braking, orbital transfer and maneuvering, cryogenic storage and handling, and large scale space operations, and provide a base for wise decisions on long term goals and missions.

Additional highlights of the NSDD are outlined in Section IV of this fact sheet.

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II. CREATING OPPORTUNITIES FOR U.S. COMMERCE IN SPACE

The President is announcing a fifteen point commercial space initiative to seize the opportunities for a vigorous U.S. commercial presence in Earth orbit and beyond -- in research and manufacturing. This initiative has three goals:

- o Promoting a strong U.S. commercial presence in space;
- o Assuring a highway to space; and
- o Building a solid technology and talent base.

Promoting a Strong U.S. Commercial Presence in Space

1. Private Sector Space Facility: The President is announcing an intent for the Federal Government to lease space as an "anchor tenant" in an orbiting space facility suitable for research and commercial manufacturing that is financed, constructed, and operated by the private sector. The Administration will solicit proposals from the U.S. private sector for such a facility. Space in this facility will be used and/or subleased by various Federal agencies with interest in microgravity research.

The Administration's intent is to award a contract during mid-summer of this year for such space and related services to be available to the Government no later than the end of FY 1993.

2. Spacehab: The Administration is committing to make best efforts to launch within the Shuttle payload bay, in the early 1990s, the commercially developed, owned, and managed Shuttle middeck module: Spacehab. Manifesting requirements will depend on customer demand.

Spacehab is a pressurized metal cylinder that fits in the Shuttle payload bay and connects to the crew compartment through the orbiter airlock. Spacehab takes up approximately one-quarter of the payload bay and increases the pressurized living and working space of an orbiter by approximately 1,000 cubic feet or 400 percent in useable research volume. The facility is intended to be ready for commercial use in mid-1991.

3. Microgravity Research Board: The President will establish, through Executive Order, a National Microgravity Research Board to assure and coordinate a broader range of opportunities for research in microgravity conditions.

NASA will chair this board, which will include senior-level representatives from the Departments of Commerce, Transportation, Energy, and Defense, NIH, and NSF; and will consult with the university and commercial sectors. The board will have the following responsibilities:

- o To stimulate research in microgravity environments and its applications to commercial uses by advising Federal agencies, including NASA, on microgravity priorities, and consulting with private industry and academia on microgravity research opportunities;
- o To develop policy recommendations to the Federal Government on matters relating to microgravity research, including types of research, government/industry/and academic cooperation, and access to space, including a potential launch voucher program;

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- 3 -

- o To coordinate the microgravity programs of Federal agencies by:
 - reviewing agency plans for microgravity research and recommending priorities for the use of Federally-owned or leased space on microgravity facilities; and
 - ensuring that agencies establish merit review processes for evaluating microgravity research proposals; and
- o To promote transfer of federally funded microgravity research to the commercial sector in furtherance of Executive Order 12591.

NASA will continue to be responsible for making judgments on the safety of experiments and for making manifesting decisions for manned space flight systems.

4. External Tanks: The Administration is making available for five years the expended external tanks of the Shuttle fleet at no cost to all feasible U.S. commercial and nonprofit endeavors, for uses such as research, storage, or manufacturing in space.

NASA will provide any necessary technical or other assistance to these endeavors on a direct cost basis. If private sector demand exceeds supply, NASA may auction the external tanks.

5. Privatizing Space Station: NASA, in coordination with the Office of Management and Budget, will revise its guidelines on commercialization of the U.S. Space Station to clarify and strengthen the Federal commitment to private sector investment in this program.
6. Future Privatization: NASA will seek to rely to the greatest extent feasible on private sector design, financing, construction, and operation of future Space Station requirements, including those currently under study.
7. Remote Sensing: The Administration is encouraging the development of commercial remote sensing systems. As part of this effort, the Department of Commerce, in consultation with other agencies, is examining potential opportunities for future Federal procurement of remote sensing data from the U.S. commercial sector.

Assuring a Highway to Space

8. Reliance on Private Launch Services: Federal agencies will procure existing and future required expendable launch services directly from the private sector to the fullest extent feasible.
9. Insurance Relief for Launch Providers: The Administration will take administrative steps to address the insurance concerns of the U.S. commercial launch industry, which currently uses Federal launch ranges. These steps include:
 - o Limits on Third Party Liability: Consistent with the Administration's tort policy, the Administration will propose to Congress a \$200,000 cap on noneconomic damage awards to individual third parties resulting from commercial launch accidents;

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- o Limits on Property Damage Liability: The liability of commercial launch operators for damage to Government property resulting from a commercial launch accident will be administratively limited to the level of insurance required by the Department of Transportation.

If losses to the Government exceed this level, the Government will waive its right to recover for damages. If losses are less than this level, the Government will waive its right to recover for those damages caused by Government willful misconduct or reckless disregard.

10. Private Launch Ranges: The Administration will consult with the private sector on the potential construction of commercial launch range facilities separate from Federal facilities and the use of such facilities by the Federal Government.
11. Vouchers for Research Payloads: NASA and the Department of Transportation will explore providing to research payload owners manifested on the Shuttle a one time launch voucher that can be used to purchase an alternative U.S. commercial launch service.

Building a Solid Technology and Talent Base

12. Space Technology Spin-Offs: The President is directing that the new Pathfinder program, the Civil Space Technology Initiative, and other technology programs be conducted in accordance with the following policies:
 - o Federally funded contractors, universities, and Federal laboratories will retain the rights to any patents and technical data, including copyrights, that result from these programs. The Federal Government will have the authority to use this intellectual property royalty free;
 - o Proposed technologies and patents available for licensing will be housed in a Pathfinder/CSTI library within NASA; and
 - o When contracting for commercial development of Pathfinder, CSTI and other technology work products, NASA will specify its requirements in a manner that provides contractors with maximum flexibility to pursue innovative and creative approaches.
13. Federal Expertise on Loan to American Schools: The President is encouraging Federal scientists, engineers, and technicians in aerospace and space related careers to take a sabbatical year to teach in any level of education in the United States.
14. Education Opportunities: The President is requesting in his FY 1989 Budget expanding five-fold opportunities for U.S. teachers to visit NASA field centers and related aerospace and university facilities.

In addition, NASA, NSF, and DoD will contribute materials and classroom experiments through the Department of Education to U.S. schools developing "tech shop" programs. NASA will encourage corporate participation in this program.

15. Protecting U.S. Critical Technologies: The Administration is requesting that Congress extend to NASA the authority it has given the Department of Defense to protect from wholesale release under the Freedom of Information Act those critical national technologies and systems that are prohibited from export.

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III. CONTINUING THE NATIONAL COMMITMENT TO THE SPACE STATION

In 1984, the President directed NASA to develop a permanently manned Space Station. The President remains committed to achieving this end and is requesting \$1 billion in his FY 1989 Budget for continued development and a three year appropriation commitment from Congress for \$6.1 billion. The Space Station, planned for development in cooperation with U.S. friends and allies, is intended to be a multi-purpose facility for the Nation's science and applications programs. It will permit such things in space as: research, observation of the solar system, assembly of vehicles or facilities, storage, servicing of satellites, and basing for future space missions and commercial and entrepreneurial endeavors in space.

To help ensure a Space Station that is cost effective, the President is proposing as part of his Commercial Space Initiative actions to encourage private sector investment in the Space Station, including directing NASA to rely to the greatest extent feasible on private sector design, financing, construction, and operation of future Space Station requirements.

IV. ADDITIONAL HIGHLIGHTS OF THE JANUARY 5, 1988 NSDD

- o U.S. Space Leadership: Leadership is reiterated as a fundamental national objective in areas of space activity critical to achieving U.S. national security, scientific, economic and foreign policy goals.
- o Defining Federal Roles and Responsibilities: Government activities are specified in three separate and distinct sectors: civil, national security, and nongovernmental. Agency roles and responsibilities are codified and specific goals are established for the civil space sector; those for other sectors are updated.
- o Encouraging a Commercial Sector: A separate, nongovernmental or commercial space sector is recognized and encouraged by the policy that Federal Government actions shall not preclude or deter the continuing development of this sector. New guidelines are established to limit unnecessary Government competition with the private sector and ensure that Federal agencies are reliable customers for commercial space goods and services.
- o The President's launch policy prohibiting NASA from maintaining an expendable launch vehicle adjunct to the Shuttle, as well as limiting commercial and foreign payloads on the Shuttle to those that are Shuttle-unique or serve national security or foreign policy purposes, is reaffirmed. In addition, policies endorsing the purchase of commercial launch services by Federal agencies are further strengthened.
- o National Security Space Sector: An assured capability for national security missions is clearly enunciated, and the survivability and endurance of critical national security space functions is stressed.
- o Assuring Access to Space: Assured access to space is recognized as a key element of national space policy. U.S. space transportation systems that provide sufficient resiliency to allow continued operation, despite failures in any single system, are emphasized. The mix of space transportation vehicles will be defined to support mission needs in the most cost effective manner.
- o Remote Sensing: Policies for Federal "remote sensing" or observation of the Earth are established to encourage the development of U.S. commercial systems competitive with or superior to foreign-operated civil or commercial systems.

#

NATIONAL SPACE POLICY

Q: How long was the policy in preparation?

A: The Interagency Group for Space (IG-Space) held its first meeting on July 31, 1987, to begin revising existing national space policy. The Senior Interagency Group for Space (SIG-Space) held its final review meeting on December 17, 1987. The remaining time until the President signed the new policy was devoted to final administrative preparation of the directive, and final policy and legal review.

Q: What agencies participated in preparing the new policy directive?

A: SIG-Space member agencies include the National Security Council Staff (chair); the Departments of State, Defense, Commerce, and Transportation; representatives of the Director of Central Intelligence, Organization of the Joint Chiefs of Staff, the National Aeronautics and Space Administration, Office of Management and Budget, and the Office of Science and Technology Policy. In addition, the Treasury Department participated throughout the review process.

Q: Why did it take so long?

A: This was a comprehensive review of all aspects of national space policy--the first since 1982.

Q: The trade press reported that the interagency process encountered numerous serious arguments among the agencies. Will you comment?

A: Over the course of the review, a range of options was considered on the various issues. The important thing is that any differences that existed were resolved in an

orderly process that thoroughly examined all of the options identified.

Q: Did some of the issues go to the President for resolution?

A: I will not comment on the specific issues considered by SIG-Space or the President. Suffice it to say that a structured process exists to obtain decisions within the interagency process when consensus cannot be obtained.

Q: Was the reestablishment of the National Aeronautics and Space Council considered during the policy review? If so, why was the idea rejected?

A: The idea was surfaced during deliberations, but it did not enjoy much support. Replacing one interagency process (SIG-Space) with another (the Space Council) accomplishes little. The President has established an effective interagency process not only for space, but for all important U.S. matters that cut across agency boundaries. To single space out for different treatment would invite other areas to demand their own tailored decision-making process--a sure recipe for bureaucratic gridlock. SIG-Space works as an effective forum for senior-level consideration of space issues, and if agreement cannot be obtained there, an orderly process exists to elevate decisions and if necessary, secure Presidential decisions. The very fact that SIG-Space was able to produce this revised national space policy attests to its effectiveness.

Q: How did the SIG-Space process and the Economic Policy Council's deliberations on space commercialization work -- together or separately?

A: SIG-Space was responsible for the revision of national space policy, integrating all the broad elements of governmental space activity (civil and national security) as well as private sector, nongovernmental space activities. To encourage the private sector, SIG-Space developed policies to make certain that the government avoids actions that may deter or preclude the development of the commercial sector, and within a framework that ensures that government agencies are reliable customers for private sector space goods and services. Consistent with this policy, the EPC, consistent with its central role for private-sector space activities, developed a number of significant commercial space initiatives to further these overall national objectives for space commercialization. In summary, the efforts were complementary, well-coordinated, and substantial numbers of the participants were involved in both processes.

Q: Were the reports of the National Commission on Space (Paine Report) and Sally Ride's report on "Leadership and America's Future in Space" used in the preparation of this revised space policy?

A: Both of these reports were considered in the preparation of this policy.

Q: What else was used?

A: IG-Space representatives used a wide variety of source documentation including previous National Security Decision Directives relating to space, proposals developed by the Economic Policy Council's Commercial Space Working Group, testimony before Congressional committees, as well as numerous editorials and policy papers on the topic of

America's future in space. Other key sources of information were comparisons that were accomplished of U.S. space activities versus those of other countries in three areas: civil, commercial, and national security.

Q: Can you comment on the conclusions of these comparisons?

A: In general, these studies do not support claims that the U.S. is years behind the Soviets in space capabilities, popular impressions of "lost U.S. leadership in space" notwithstanding. The reality is that in most important areas the U.S. is ahead technologically. In fact, by most important quantifiable measures (data accuracy, timeliness, quality, and quantity), U.S. space systems are the world's finest and will remain so for the foreseeable future (notable exceptions are in manned spaceflight, deployed ASAT capabilities, and space transportation systems). Most comparisons that appear in the trade and popular press have highlighted the fact that U.S. manned and unmanned launch systems suffered disastrous accidents that essentially prevented launch of most U.S. space systems in 1986 and most of 1987. While true, these statements rarely go on to say that the U.S. has made major technical and policy changes to prevent a recurrence of these launch problems. Moreover, the successful Titan launches at both east and west coasts late last year have signalled that all U.S. expendable launch vehicles are once again operational, and we're confident the Shuttle will be returned to safe, reliable operation later this year. Furthermore, during the launch

hiatus caused by the Shuttle and Titan failures, our on-orbit spacecraft continued to function extraordinarily well and provided us with necessary services through that difficult period. That fact attests to the quality of our space systems. The U.S. does not need to duplicate Soviet space capabilities; we must use space systems efficiently to support U.S. requirements. The comparisons point out that the U.S. is not preeminent in every aspect and discipline of space activity. However, our space policy acknowledges that space leadership in an increasingly competitive international environment does not demand this universal preeminence; rather, it states that the U.S. objective is leadership in those areas critical to important U.S. goals.

Q: What are the implications of these assessments?

A: In the civil sector, the assessment revealed that the space capabilities of our competitors are indeed growing, and in some cases, at a more rapid rate than ours. However, in most critical areas (space transportation and manned spaceflight being notable exceptions) U.S. technological capabilities remain the best in the world. It is clear, though, that the launch hiatus has diminished the traditional U.S. lead in several key science and exploration areas--a trend that will continue until the Space Shuttle is returned to safe, reliable operation and we begin to launch the backlog of important civil payloads that are awaiting access to space.

In the national security area, U.S. space capabilities, under conditions short of direct attack on our space systems, are clearly superior to those of our potential adversaries. In the event of a conflict involving attacks on space systems, our technological lead would tend to be offset by demonstrated Soviet antisatellite capabilities for which the U.S. has no direct counterpart. Nonetheless, the national security space sector has taken a number of steps to assure continued mission capability even if we experience failures in our on-orbit or launch assets, whether from natural causes or hostile action.

In commercial space systems, U.S. efforts, although still in an embryonic stage, promise important economic, industrial base, and national security benefits as long as government policies continue to provide a climate conducive to sustained commercial growth in space-related activities. As a direct result of these policies, American firms are aggressively marketing launch services worldwide and, to date, U.S. ELV companies have signed contracts to launch 12 satellites, contributing approximately \$500 million to the U.S. balance of trade. Investments totaling approximately \$400 million have been made in this emerging business by commercial expendable launch vehicle (ELV) companies, which may result in the creation of some 8,000 new jobs. For its part, the U.S. Government is making its facilities and services available to commercial launch firms at direct cost. Martin Marietta Corporation, General Dynamics

Corporation, and Space Services, Inc. have each signed agreements with the U.S. Government to use national launch facilities. A streamlined licensing process, administered by DOT, is already in place.

Q: In exactly what areas are the Soviets ahead?

A: The Soviets are pursuing particularly aggressive programs in areas of long-duration manned spaceflight and heavy-lift launch capability which serve particular Soviet needs for which there is not always a direct U.S. counterpart. And, as previously mentioned, the operational Soviet antisatellite program is a continuing and troublesome asymmetry.

Q: Is NASA's budget adequate to ensure U.S. leadership?

A: The President's FY 1989 budget, to be submitted to Congress shortly, supports the objective of space leadership in areas of critical importance to the U.S. while remaining consistent with the President's commitment to deficit reduction. "Leadership" is achieved not through just NASA's budget, but through the funding requested for all U.S. government space activities, as well as the important contributions provided by the U.S. private sector. The budget provides for a carefully balanced strategy of research, development, operations, and technologies for science, exploration, and appropriate applications. NASA's FY 1989 funding request is a significant increase over the funds appropriated in FY 1988. NASA agrees that the FY 1989

budget projections support the civil leadership objectives in the policy.

Q: Would you explain what the establishment of this human exploration goal means? Is this a commitment to fly people to Mars or return to the Moon? What is the dollar commitment associated with the Pathfinder technology program announced in the policy?

A: This new long-range goal establishes the general direction and focus for efforts and technologies guiding the Nation's civil space sector.

It is not a commitment to any particular mission at this time. It is premature now to decide whether Mars, the Moon, or even another body in the solar system represents the appropriate pathway for future exploration. We first need to understand the many challenges that such potential future missions would encounter. The Pathfinder technology program consists of studies and research efforts to examine the key challenges expected before mission-specific decisions are made.

The funding for the Pathfinder program is contained in the President's FY 1989 budget, to be submitted to Congress shortly.

Q: When would a specific manned planetary decision be made?

A: Decisions on manned planetary programs will follow when such programs can be realistically achieved. As we learn more about the long-term aspects of living and working in space, identifying and meeting the technical challenges ahead of us, the more we will understand about when and where specific programs are possible. Until we have the results

from Pathfinder, it is premature to speculate when a manned planetary mission might be appropriate. As we study such programs, we will also begin to understand and consider the cost implications as an input into when the Nation could afford the associated investment.

Q: Isn't this just another way for the Administration to delay indefinitely a real leadership decision on America's next big space program?

A: No. The Administration has committed to the long-term goal of human expansion, and proposes the Pathfinder program as the best way to reach a realistic decision on specific missions to achieve this new goal. To do otherwise at this time, by committing prematurely, for example to a manned mission to Mars by a certain date, could turn out to be a hasty, costly, and even dangerous decision based on current data and technology.

Q: Might the U.S. and the Soviets cooperate in a future manned mission?

A: International cooperation is a goal of U.S. space policy. Such cooperation will consider U.S. national security, foreign policy, scientific and economic interests. The current U.S. - Soviet cooperative agreement on space (signed April 15, 1987) outlines cooperation in 16 space science projects, all unmanned. These projects could conceivably form the basis for discussions concerning future cooperative manned missions, but it is very premature to speculate on such cooperation. The U.S. has not committed itself to any manned mission to Mars, and the current budget situation makes such an outlook, even in the future, difficult at

best. Moreover, we are presently rebuilding our space cooperation relationship with the Soviet Union after a five year interruption, and it will take some time to restore confidence to the level at which more ambitious cooperative projects could be considered.

In the manned realm, NASA's Space Station program continues to be the focus of our international efforts through the end of this century, emphasizing the cooperation with friends and allies which the President is seeking.

Q: Why has the military space budget been rising faster than NASA's?

A: Decisions on military space spending are made within the overall DOD budget based on the contribution that space systems make in the overall national security strategy and independent military requirements. Rising military space spending reflects recognition that military space activities are increasingly critical to our national security. Part of the increase in DOD's space spending reflects the costs associated with its launch recovery program initiated in the aftermath of the ELV and Space Shuttle Challenger accidents.

Q: Doesn't this risk military dominance over civil space activities?

A: As the new space policy states, the civil and national security sectors of the overall space effort are distinct and independent, responding to their own requirements, yet they are strongly interacting to avoid unnecessary duplication. The relative magnitude of the efforts should not be the focus of attention as each responds to

independent requirements, and funding for one sector is not at the expense of another.

Q: What restrictions remain on government regulation of civil Earth remote sensing?

A: There are no predetermined limitations or restrictions on the performance of civil Earth remote sensing systems. In reviewing licensing applications for civil Earth remote sensing systems, the federal government will consider national security and foreign policy factors, including those required by law. Such considerations have not precluded licensing in the past. A key national space policy objective is to encourage US-operated commercial systems that are competitive with or superior to foreign-operated systems.

Q: What about the Soviet lead in heavy lift launch systems; doesn't this provide them with a significant advantage?

A: Not necessarily. U.S. launch capability responds to identified launch requirements, as it did during the Apollo program when the Saturn V provided the necessary lift. The current and planned family of U.S. launch vehicles meets all current U.S. launch needs. On the other hand, we do not completely understand how the Soviets will use their heavy lift capability. It could certainly give them new capabilities for manned space activities or planetary missions. It could also allow them to duplicate military capabilities we have achieved using lower weight systems. In addition, the President has recently (1-4-88) approved the management and funding plan for the joint DOD-NASA

Advanced Launch System program which will address the future U.S. need for more capable launch systems by the end of the 1990s.

Q: What role do U.S. commercial space ventures play in this new policy?

A: The policy clarifies and reaffirms the government's commitment to rely on the private sector for space-related goods and services where feasible and commercially available. Both "feasible" and "commercially available" are defined in the policy. It directs that U.S. government actions that preclude or deter commercial space activities, except for national security and public safety, are to be avoided. By seeking to eliminate laws and regulations that unnecessarily impede the private sector, the policy seeks to encourage the private sector and allow the space environment to become another arena for free enterprise.

Q: What does the policy have to say about commercial launch vehicles?

A: Commercial launch operations are recognized as an integral part of the Nation's launch strategy. DOT's lead role within the government for establishing Federal policy and regulatory guidance affecting commercial launch operations is reaffirmed. The policy also directs government agencies to encourage a domestic commercial launch industry by contracting for necessary ELV launch services directly from the private sector whenever feasible. It also provides guidelines for the use of government launch-related facilities by U.S. commercial launch operators.

Q: Most of the policy seems to focus on launch systems and commercialization. Does this imply that space science is being downgraded?

A: No, quite the contrary. Under this policy, the first objective of U.S. civil space activities is to expand knowledge of the Earth, its environment, the solar system, and the universe. This policy, and the implementing guidelines, reaffirm the long-standing objective of supporting a vigorous and far-reaching program of space science.

Q: What about unmanned space exploration? Are we ending this program?

A: No, not at all. The policy guidelines state that NASA will conduct a balanced program of manned and unmanned exploration. The new guidelines on unmanned exploration make the importance of this activity to the achievement of overall space objectives clear. The fact is that we need both manned and unmanned exploration, with determinations made on the basis of cost, safety, suitability, and expected results given the specific mission objectives involved.

Q: What is the significance of the policy statement on space debris?

A: We have long recognized that space debris could have an impact on future space missions. NASA and the Air Force have had the problem under study for several years, and the DOD has addressed the issue in its own space policy statement last year. Space debris is a long-term problem which has complex technical and economic implications. An interagency group will be established to consider this issue

fully and to make recommendations on actions we can take that are cost effective and consistent with mission requirements.

Q: Isn't this (space debris) an international problem? What are other countries doing? The U.N.?

A: In the long run, solving the space debris problem will require action by all major spacefaring nations and organizations. Several countries have expressed concern about the problem, and the issue has been mentioned in the committees of the International Telecommunications Union and in the U.N. Committee on the Peaceful Uses of Outer Space. However, the general feeling is that it is premature for discussion in the U.N. and that it would be a mistake to rush through politically-driven measures to deal with this problem. We do not believe there are any simple, easy solutions to the space debris issue.

Q: What are the reasons for including a statement on continued government support for research and development of advanced space communications technologies?

A: Our review reaffirmed that space communications are critical to a wide range of U.S. goals. NASA's past work in developing and transferring communications satellite technology to industry resulted in a commercial space communications program of unparalleled success. The policy recognizes the need for an active U.S. Government role in developing appropriate space communications technologies to meet special government needs.

Q: In your guidance and implementation section, you refer to studies of financing alternatives for the space

infrastructure developments. What are space infrastructural elements?

A: These are the elements not used up or degraded by their role in supporting a specific mission. Ground and (eventually space) deployed support facilities; nonrecurring development and production costs; space utilities; space habitats, etc., are examples.

Q: What are the objectives of the infrastructure financing study?

A: We would like to understand the opportunities and potential for enlisting the private sector capital sources in the initiatives, risk assumption and the profit potential of space undertakings. The desirability of such undertakings, the specific mechanisms, the legislative or regulatory procedures, the relationships to the mission-responsible agencies, the cash flow and profitability are essential expected results.

Q: Does the policy say anything about SDI?

A: The policy does state that DOD will ensure that the military space program incorporates the support requirements of the Strategic Defense Initiative.

(THE FOLLOWING Q & As ARE NOT TO BE HANDED OUT)

Q: Why is there no mention of U.S. space reconnaissance in the policy? (OR) What can you tell us about satellite reconnaissance?

A: As you know, the U.S. conducts satellite photoreconnaissance for monitoring arms control agreements. As a matter of policy, this subject is not discussed outside of classified channels, and I prefer not to address it.

THE FOLLOWING EXPANDED RESPONSE SHOULD BE GIVEN ONLY WHEN A
FURTHER RESPONSE CANNOT BE AVOIDED:

The only "facts of" the United States photoreconnaissance program that have been declassified are that: (1) the United States conducts satellite photoreconnaissance for peaceful purposes, including monitoring of arms control agreements, intelligence collection, and providing defense related information for indications and warning, and (2) photoreconnaissance has a near-real-time capability. I want to make clear that all other information about this activity is classified, and the current policy does not in any way signal a relaxation in our classified protection of this sensitive source of information. Other than what I've just mentioned, as a matter of policy this subject is not discussed outside of classified channels.

Q: But so much has been written about satellite reconnaissance, how can you continue to pretend that this information is classified?

A: There is always speculation in the open press, as well as in the academic and scientific worlds, concerning the full

range of classified activities--intelligence, space, and defense. This is an area we do not discuss.

ALL OTHER QUESTIONS ON THIS TOPIC

Other than what I've just mentioned, as a matter of policy this subject is not discussed outside classified channels, and I am not authorized to discuss this subject further.