

NASA Advisory Council
National Aeronautics and Space Administration
Washington, DC 20546

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Mr. Daniel S. Goldin
Administrator
National Aeronautics and
Space Administration
Washington, DC 20546

Dear Mr. Goldin:

We had a very substantive meeting at NASA Headquarters on March 16-17, 2000. The Council was pleased that you were able to spend time discussing the major issues facing the agency. Despite the recent setbacks, the Council continues to believe in the need for cutting-edge exploration and technology innovation. The three review committees provide us with fair and comprehensive assessments of the recent failures. It is unfortunate the Young Report was not ready for release during our meeting. The Council will likely ask Tom Young for a report at our next meeting.

As you know, the Council heard from the three review committees: Mars Climate Orbiter (MCO) Mishap Investigation Board, the Faster, Better, Cheaper Task Force, and the Shuttle Independent Assessment Team Report. All three reports clearly illustrate the problems that occur when both human and budget resources are limited. The Council applauds the recommendations and awaits NASA's response to the reports.

The Council also heard from Mr. Norman Starkey about the pending Shuttle Safety Upgrades. A comprehensive review of the proposed upgrades will be undertaken by the Space Flight Advisory Committee and reported to the Council at its June meeting. The Council was not completely satisfied with the explanation of the prioritization process presented. The findings of the Shuttle Independent Assessment Team should be part of the data input to the Upgrades program.

As noted in prior letters, the Council believes that NASA needs to have a second generation RLV flying in ten years. Unless a second generation RLV target date is set for this timeframe, it is questionable whether NASA will get there. It appears that NASA is still heading

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toward an indefinite technology effort with an Initial Operations Capability (IOC) goal not defined. The plans presented to the Council by Mr. Sam Venneri are compatible with past NAC recommendations, but the issue is where the funds will go. Funds should not be diverted to technology developments that are not consistent with the IOC goal of 2010. The Council requests that you and Mr. Venneri meet with Admiral Robert Monroe's Space Transportation Subcommittee to discuss this issue further. I have enclosed a recent letter from Adm. Monroe on this subject.

R

The Council is also pleased with the Agency's ability to begin hiring and its efforts at focusing on the problems of the aging workforce. Many ideas were discussed regarding how to attract bright and motivated "fresh-outs" to NASA. We applaud the innovative ideas that are being considered and urge you to continue looking into mentoring and educational support initiatives.

The Council also heard from a number of committees. Dr. Claude Canizares presented an overview of several recent Space Studies Board (SSB) reports and will chair a small task force for the Council on International Traffic in Arms Regulations (ITAR) and its impact on basic research. He will work closely with Sam Armstrong and report back in June.

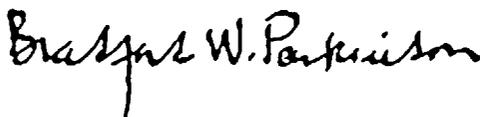
AC

The Space Science Advisory Committee has recommended that NASA establish a Planetary Protection Advisory Committee under the auspices of the NAC. The need arises from the fact that there is increasing emphasis in the coming years on the many issues associated with planetary protection. The SSB will be releasing two reports on the topic shortly. Council Staff Director, Michael Green will report at our June meeting on the pros and cons from an agency and FACA perspective. Finally, the Council heard a report on the Earth Sciences Enterprise Implementation Plan and was pleased with the results.

S/Z

There were no formal recommendations from the meeting beyond what was listed above. The Council's next meeting will be on June 6-7, 2000, at Langley Research Center. Once again, thank you for sharing your time with the Council.

Sincerely,



Bradford W. Parkinson
Chair

Enclosure

Space Transportation Subcommittee
of
Aero-Space Technology Advisory Committee

March 8, 2000

Dr. Brad W. Parkinson
Department of Aeronautics & Astronautics
Mail Code 4035
Stanford University
Stanford, CA 94305-4035

Dear Brad:

At your NAC meeting last December 14, during review of NASA's new "Integrated Space Transportation Plan" (ISTP), you asked the Space Transportation Subcommittee (STS) to review the ISTP in its final form and comment to the NAC on planning for the next-generation space transportation system.

NASA has provided the STS with a December 1999 summary of their ISTP, and we have reviewed it as requested.

The Space Transportation Subcommittee believes this ISTP still lacks the essential front-end commitment to a New RLV Program. America urgently needs a much lower-cost space transportation system to meet manned-space requirements; and significant cost savings are possible if commercial requirements can be efficiently met with a largely common system. The ISTP should convey a real sense of urgency and focus in meeting this requirement. Instead, the ISTP would spend several billions of dollars over the next five years on a wide range of desirable but less-urgent space activities. The STS urges immediate adoption of a high-priority, single-focus national program along the lines of Attachment 1.

All members of the STS wish to express their appreciation for the NAC's continued support of the Subcommittee's activities, and your interest in hearing our views.

Sincerely,



Robert R. Monroe
Chairman
Space Transportation Subcommittee

Attachment

cc: Daniel Mulville, Associate Deputy Administrator, NASA
James M. Sinnott, Chairman, ASTAC

**Space Transportation Subcommittee's
Comments on
NASA's Integrated Space Transportation Plan (ISTP)**

March 8, 2000

- The principal space challenge facing America today—as for the past decade—is reducing the cost of access to space.
- The ISTP, NASA's latest response to this challenge, does **not** present an urgent, focused, viable plan to develop the next-generation, reduced-cost space transportation system. Instead it provides "something for everyone," e.g., more study (STAS), Shuttle upgrades, Shuttle-derived design, CTV, CRV, Advanced space transportation programs, 3rd generation (2030) RLV, etc.
- What is needed is an urgent, focused New RLV Program (probably TSTO), distinguished by the following characteristics:
 - A clearly defined match of system requirements, capital cost, and life-cycle cost.
 - A viable government-industry cost-sharing plan, recognizing that: (1) Manned space flight must be funded by government; (2) Commercial space flight must be funded by industry; and (3) Significant cost savings can be achieved if these needs can be met by a largely common system.
 - An announced, front-end **national** commitment to fund the government requirements.
 - A competitive procurement program making use of existing technology and established materials (time is not available for research, exploratory development, or advanced development).
 - Major savings in operations and maintenance, approaching the commercial aviation standard.
- A program along the following lines would be more responsive to the national cost-reduction objective.
 - FY00-01. Detailed systems analysis and implementation planning for New RLV Program. Requirements must be matched to achievable funding; and realistic government-industry cost-sharing approaches must be defined.
 - FY02. One-year industry-wide conceptual design competition (several teams; any of which might use Shuttle-derived elements). This phase ends with downselect to two teams.
 - FY03-05. Three-year, well-funded **systems engineering and technology validation** competition. This phase ends with downselect to single winner who has relatively mature design and reasonably validated technology.
 - FY06-10. Five-year **full-scale development** program, including a well-funded engine program.