

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

**COMMERCIAL SPACE COMMITTEE
OF THE
NASA ADVISORY COUNCIL**

**FEBRUARY 8, 2011
NASA HEADQUARTERS
WASHINGTON, DC**

MEETING MINUTES

**John Emond, Executive Secretary
Commercial Space Committee**

**Bretton Alexander, Chair
Commercial Space Committee**

Commercial Space Committee

NASA Headquarters

Washington DC 20546

February 8, 2011

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Committee Members Present

- Bretton Alexander, Chair
- Lon Levin, Deputy Chair
- Major General (Ret) Donald Hard
- John Michael Lounge
- Patti Grace Smith
- Wilbur Trafton

Meeting Report prepared by
John Emond, Executive Secretary

John Michael Lounge (June 28, 1946-March 1, 2011):

Following the most recent meeting of the Commercial Space Committee whose minutes are enclosed herein, John Michael Lounge, former astronaut, former

SPACEHAB and Boeing executive, and Commercial Space Committee member, passed away on March 1, 2011 due to liver cancer that was diagnosed a short time prior to his death. He was a significant member of the Committee and will be deeply missed, both for his professional experience and insight, and for his warm personality.

Opening Remarks

Mr. John Emond, Executive Secretary of the Commercial Space Committee, opened the meeting at 2:00. He announced the meeting was a public session subject to the Federal Advisory Committee Act regulations, and explained that the purpose of the meeting was to deliberate on observations, findings and recommendations for the upcoming NASA Advisory Council regarding NASA implementation of programs to enable development of commercially viable space transportation capabilities.

Mr. Emond introduced Mr. Bretton Alexander, the Committee Chair.

Mr. Alexander thanked everyone for coming to the meeting. He indicated the specific topics for discussion would be as follows:

- Recommendation from the Education and Public Outreach Committee regarding commercial space company dissemination of information
- Mr. Michael Lounge's suggested language on capability-based service acquisition
- The anticipated merger of Space Operations Mission Directorate and the Exploration Systems Mission Directorate; and
- Other ideas/topics as they arise

Mr. Alexander noted that within Exploration Systems Mission Directorate (ESMD) and Space Operations Mission Directorate (SOMD) much progress has been made concerning specific program areas such as the Commercial

Orbital Transportation Services (COTS) but was not sure if the Agency as a whole has progressed and embraced commercial space.

Mr. Levin suggested the Commercial Space Committee explore what can be done regarding market issues concerning commercial space companies and what observations can be drawn from the fact-finding to date.

Education/Public Outreach

Mr. Alexander summarized the recommendation from the Education and Public Outreach Committee which wanted to have a joint statement with the Commercial Space Committee, to encourage commercial entity recognition for NASA's need to have more access to commercial media associated with commercial space and commercial space launch in particular, without NASA access becoming an overly constraining requirement. Mr. Alexander acknowledged the Education and Public Outreach charter to help NASA disseminate activities in the public interest, and to encourage commercial space entities to be more open.

The recommendation taken forward to the NASA Advisory Council is as follows; the only revision that took place during the subsequent NASA Advisory Council deliberation was to change "Administrator" direction to "NASA" as indicated below:

- ▶ **The NAC Education and Public Outreach and Commercial Space Committees jointly recommend that:**
 - 1. NASA encourage existing Commercial Orbital Transportation Services contractors to work with NASA's Office of Communication to integrate public outreach into mission planning and operations.**
 - 2. NASA Office of Communication draft a recommended commercial partner public outreach and participatory exploration policy (including contingency media/communication**

plans) to serve as a guideline when developing future partner agreements.

Capability Based Commercial Services Procurement

In terms of NASA commercial crew transportation service procurement, the Committee discussed the emphasis on performance goals rather than firm requirements from both a content and schedule perspective. The following text was brought forward by Mr. Alexander for deliberation prior to presentation to the NASA Advisory Council later in the week:

▶ *Short Description of the Proposed Recommendation:*

The NASA Advisory Council recommends that for the development activity, NASA present its commercial crew transportation service requirements (e.g., the 1130 document) as goals, with the clear understanding that the closer the offerors get to achieving them, the more likely they are to be awarded a service contract. In the end, this approach might give NASA more options and allow more CSP's to participate. It does require that NASA's programs (ISS in the near term, Beyond LEO Exploration in the long term) be open to adjusting their own architectures and conops to take maximum advantage of commercial sector capabilities .A commercial approach begins with an attitude that asks the question "let's see what these guys can do", rather than "Let's see if these guys can satisfy my total and specific mission requirements as I know them today.

Mr. Alexander and Mr. Lounge noted that NASA looked at and rejected a goals approach and chose instead a firm set of requirements. Mr. Lounge indicated it takes willingness on the program side to be flexible, not to

burden commercial space with untenable requirements rather than high requirements with waiver possibilities.

In response to a question raised by Mr. Alexander whether this issue of flexibility and goals rather than rigidly set requirements should be strongly encouraged now as an issue, General Hard recommended we should strongly encourage it now, and sooner rather than later. It is an important element to encourage commercialization. He indicated there may not be a perfect example, but the question is what are the needs rather than ideal desires.

Mr. Levin indicated regardless of where we come out on this issue and how to achieve such flexibility, there will be a challenge to the commercial sector. He indicated the concerns of the commercial sector need to be made clear.

General Hard indicated the issue is one of business risk, the challenge being the difficulty in business/investor commitment based on the hope for a waiver of requirements being developed.

Mr. Levin noted there can be a waiver approach as a way of raising commercial investment in space.

Ms. Smith noted the time is right to raise this issue.

There was a general discussion regarding the impact of no action taken on revision to commercial crew requirements as well as some issues that may surface regarding issuance of waivers. No action to address the present procurement approach to commercial crew transportation service requirements would discourage commercial providers who may not be able to respond to requirements; this adds uncertainty to the business case for this service. Waivers to the set requirements might have to be routinely issued which brings up another issue in terms of who receives a waiver, and who does not. This can result in inefficiency and potential legal challenges if a waiver is not granted in one instance, but is granted elsewhere.

Mr. Alexander noted a concern that if everything is characterized as a requirement and such requirements are outside the business case for broader commercial service application, this could result in customized services limited to NASA as the customer rather than a broader market which can include other customers, government and commercial.

Ms. Smith liked the idea of bringing up waiver requirements as an issue, since NASA may have to waive certain requirements in order to have U.S. providers.

Mr. Levin expressed concern that there may be requirements that cannot be met by U.S. companies, resulting in continued reliance on Russia or China spacecraft systems.

Mr. Lounge noted that money is invested during the development stage and tight requirements will stifle business interest and therefore business competition.

General Hard noted there could be a discouragement of commercial providers who could offer a credible capability but may not be able to achieve all of NASA's stated requirements.

Mr. Lounge indicated a need to convince NASA the approach of tight standards is a greater issue than what is done routinely including the use of waivers to such established standards.

Mr. Levin indicated waivers in the context of safety, would be politically challenged.

Mr. Lounge indicated an RFP could identify extra points if a commitment for selected standards would be stated in the RFP response, but the proposer would not be eliminated if those specific standards are not committed to in the procurement response

General Hard suggested early versions could allow for flexibility in meeting standards (though not compromising safety) with later iterations specifying

greater adherence as capabilities evolve and mature to meet such standards.

Mr. Levin indicated there needs to be a balance, neither overly restrictive nor too loose in meeting NASA's objectives.

General Hard noted the NASA 1130 documents will show some requirements being firm; service requirements need to be developed in a manner that shows where they must be fully met, and where there is any degree of flexibility.

Mr. Lounge stressed a focus on what the industry can do from a goals requirement perspective; both Mr. Lounge and General Hard indicated goals identification should drive requirements, allowing the responding company(ies) to be compliant with the procurement in areas that need that level of adherence, while providing flexibility for other requirements that will not hold the company(ies) to the same level of adherence/compliance.

General Hard noted there still remains a challenge of variability within the goal approach if offerors have divergent approaches in meeting stated goals.

The committee achieved consensus on the language for Mr. Alexander to take forward to the NASA Advisory Council regarding capability-based commercial services procurement.

Merger of Exploration Systems Mission Directorate and Space Operations Mission Directorate

Mr. Alexander indicated there has not been a briefing to the Committee regarding the envisioned merger. There was a concern that the commercial crew and cargo program will be primarily focusing on the International Space Station mission requirements and not address the broader commercial space arena in low Earth orbit/LEO. There was also a concern regarding the leadership configuration that will be altered as a result of the

merger. In response to a question why there was a merger, Mr. Alexander indicated no stated policy has been given but more information should be made available soon. He indicated this merger should be part of the agenda for the next Committee meeting, with a briefing by NASA officials on the merger.

General Hard noted if the reorganization will be will be addressed in a briefing to the Committee, the approach for commercial space development should be addressed in detail.

Market Assessment

Mr. Alexander indicated a NASA market assessment of the commercial space sector will come out in the March timeframe and recommended the Commercial Space Committee await the release of the report to see if the Committee can add value to the findings of the report.

Mr. Levin recommended there should be a market analysis separate from NASA's market analysis, and that the Committee should have a dialogue with those who can provide reflections on commercial alternatives to and opportunities apart from the International Space Station such as Bigelow Aerospace.

Mr. Alexander indicated he will meet with several people from the Committee's prior fact-finding.

Ms. Smith recommended that the Committee can reflect on the NASA market assessment report, tie that in with commercial sector responses to that report, and see where the NASA report may have gaps.

Next Meeting

The April timeframe was identified for the next meeting of the Commercial Space Committee; location still to be determined. Administrator Bolden's schedule would be one of the factors determining the next meeting date, as the Committee wants to meet again with the Administrator, building on

the interaction that took place with Administrator Bolden when he met with all of the Committees convening prior to the NASA Advisory Council. The Committee wants to have a chance to discuss topics and issues of particular interest to the Commercial Space Committee.

Apart from a requested interaction with the Administrator, the Committee wants in the next meeting the following briefings:

- The merger of Space Operations Mission Directorate and Exploration Systems Mission Directorate
- The NASA commercial space market report

Mr. Alexander thanked those in attendance. Mr. Emond adjourned the meeting at 3:30.