



Report of the Commercial Space Committee
NASA Advisory Council



NASA Headquarters
March 8, 2012

Commercial Committee Members

- ▶ **Patti Grace Smith, Chair**
 - ▶ Former FAA Associate Administrator for Commercial Space Transportation and consultant/advisor to space and aerospace companies
- ▶ **Maj Gen Donald Hard (USAF, Ret.)**
 - ▶ Independent consultant to government and industry
- ▶ **Bernard A. Harris, Jr., (M.D.)**
 - ▶ CEO of Vesalius Ventures, former NASA astronaut, and former SPACEHAB executive
- ▶ **Lon Levin**
 - ▶ Co-founder of XM Satellite Radio and other satellite businesses
- ▶ **Wilbur C. Trafton**
 - ▶ Former NASA Associate Administrator for Space Flight and executive at ILS and Kistler Aerospace
- ▶ ***Thomas Rathjen, Executive Secretary***
 - ▶ *Commercial Space Development Office, Human Exploration and Operations Mission Directorate, NASA HQ*

Agenda

- ▶ Committee Strategy for 2012
- ▶ Committee Meeting Schedule
- ▶ Summary of Recent Meetings
 - ▶ December 9, 2011
 - ▶ February 22-23, 2012
- ▶ Emerging Themes and Future Topics
- ▶ Next Steps

Committee Strategy for 2012

- ▶ Through mid summer, Committee is gathering data that will contribute to formulating advice to the Agency
 - ▶ Receive briefings from all ten NASA Center Directors
 - ▶ Perceptions and promotion of Agency's Commercial Space strategy
 - ▶ Plans for transition
 - ▶ Excess capacity plans
 - ▶ Clarification of Space Act Agreements (SAAs) at the Center level
 - ▶ Increase awareness of NASA resources among new market entrants
 - ▶ Conduct tours of lesser known NASA Centers with commercial activities and opportunities
 - ▶ Receive briefings on various commercial space topics
 - ▶ Emphasis on areas where there are opportunities for the Committee to provide meaningful and timely advice
 - ▶ Periodic one-on-one meetings between Committee Chair, other committee chairs, and NASA leadership

- ▶ In late summer and fall, Committee will develop formal observations, findings, and recommendations to forward to the full NAC

Committee Meeting Schedule

- ▶ Dec 9, 2011, NASA Headquarters, Washington DC – Complete
- ▶ Feb 22-23, 2012, NASA Marshall Space Flight Center, Huntsville AL – Complete
- ▶ April, 2012, NASA Glenn Research Center, Cleveland OH – *In Planning*
- ▶ July, 2012, NASA Dryden Flight Research Center, Edwards CA – *Tentative*
- ▶ Sept, 2012, NASA Headquarters, Washington DC – *Tentative*
- ▶ Nov, 2012, NASA Headquarters, Washington DC – *Tentative*

Summary of Recent Meetings – Dec 9, 2011

- ▶ NASA Headquarters in Washington, DC
 - ▶ Closed session only (Committee planning and administrative matters)
- ▶ Attended by:
 - ▶ Patricia Smith, Chair
 - ▶ Maj Gen Donald Hard
 - ▶ Lon Levin
 - ▶ Bernard Harris (by telecon)
 - ▶ Will Trafton
- ▶ Agenda:
 - ▶ NASA Leadership Remarks, Mr. Bill Gerstenmaier, Associate Administrator for NASA's Human Exploration and Operations Mission Directorate (HEOMD)
 - ▶ Discussion: Wrap-up of 2011
 - ▶ Discussion: Lessons-Learned
 - ▶ Committee Logistics
 - ▶ Approaches to Committee Discussions
 - ▶ NASA Leadership Remarks, Mr. Charles Bolden, NASA Administrator (unscheduled, impromptu visit)
 - ▶ Discussion: Future Topics
 - ▶ Discussion: Additional Committee Members

Summary of Recent Meetings – Dec 9, 2011

▶ Key take-aways:

- ▶ NASA and HEOMD leadership support the Committee's activities. Both offered suggestions of areas the Committee could provide helpful advice
- ▶ The Committee is firmly committed to providing relevant and effective responses and advice
- ▶ The Committee members prefer to plan meeting dates and locations out further in advance, rather than sync with NAC meetings
- ▶ The Committee members desire greater feedback on what happens with their findings and recommendations, and this will be accommodated
- ▶ Regarding new members, the Committee prefers to maintain the current membership for the time being

Summary of Recent Meetings – Feb 22-23, 2011

- ▶ NASA Marshall Space Flight Center (MSFC) in Huntsville,AL
 - ▶ Open and closed sessions
- ▶ Attended by:
 - ▶ Patricia Smith, Chair
 - ▶ Lon Levin
 - ▶ Bernard Harris
 - ▶ Will Trafton
- ▶ Agenda:
 - ▶ Tours of various MSFC facilities with commercial space relevance (Committee only)
 - ▶ Open Session:
 - ▶ Briefing: Overview of MSFC's Commercial Space Activities and Plans, Mr.Arthur E. "Gene" Goldman, Acting Director, MSFC
 - ▶ Briefing: Overview of Kennedy Space Center's Commercial Space Activities and Plans, Mr. Robert Cabana, Director, Kennedy Space Center
 - ▶ Briefing: Overview of Stennis Space Center's Commercial Space Activities and Plans, Mr. Patrick Scheuermann, Director, Stennis Space Center
 - ▶ Briefing: Status of Commercial Orbital Transportation Services (COTS) Program, Mr.Alan Lindenmoyer, COTS Program Manager
 - ▶ Closed session:
 - ▶ Briefing: Committee Member Activities and Appearance/Perception Considerations, Mr.Adam Greenstone, NASA HQ Office of General Counsel
 - ▶ Discussion: Committee Forward Plans
 - ▶ NAC Chairman Remarks to Committee

Summary of Recent Meetings – Feb 22-23, 2011

- ▶ Key take-aways:

- ▶ There are an impressive number of commercial partnerships ongoing or in planning at the three centers who presented
- ▶ Space Act Agreements are the key tool for enabling partnerships with commercial industry, and experience with the approval process has been mixed
- ▶ Although the COTS demo flights have experienced delays, both companies are progressing well toward spaceflight demonstration missions

Emerging Themes and Future Topics

- ▶ “Emerging Themes” are areas that might potentially evolve into Committee observations, findings, or recommendations after further fact-finding and deliberations:
 - ▶ The need to improve the processes and authorities for establishing agreements between the NASA Centers and commercial industry
 - ▶ There are many opportunities for commercial space partnerships at the NASA Centers, but they may not be as well known as they should be to maximize engagement and implementation

- ▶ The Committee is currently assessing candidate topics to pursue, which can result in meaningful and timely advice to the Agency. Some were suggested by NASA senior leadership. Potential topics include but are not limited to:
 - ▶ Commercial Crew’s certification phase
 - ▶ “What should commercial space look like in 30 years?”, and how to enable it
 - ▶ Indemnification in a commercial space environment
 - ▶ Commercial industry perspectives on FAR-based contracts’ requirements and restrictions
 - ▶ Agency culture change
 - ▶ Agency infrastructure, and excess capacity from a commercial space perspective
 - ▶ Other NASA areas that could present opportunities for commercialization
 - ▶ NPOESS/JPSS
 - ▶ NASA/FAA interfaces and potential partnerships

Next Steps

- ▶ Next Committee meeting will be at NASA Glenn Research Center (GRC), April.
 - ▶ Planned agenda items
 - ▶ Tours of GRC facilities pertaining to commercial space
 - ▶ Next round of briefings by Center Directors (tentatively: GRC, Goddard Flight Research Center, and Langley Research Center)
 - ▶ Annual ethics briefing
 - ▶ Other potential agenda items
 - ▶ TBD NASA senior leadership remarks/briefings
 - ▶ Commercial Crew certification phase planning
 - ▶ FAA interfaces
 - ▶ Closed session:
 - ▶ Continue formulating review topic plans and potential observations, findings, and recommendations
 - ▶ Annual ethics briefing