

# Notes from the Space Transportation Association Roundtable Discussion on Human Spaceflight September 8, 2010 Washington DC

## Meeting Description

The Space Transportation Association (STA) hosted a roundtable discussion focused on the topic, "An Engineering Assessment of the Way Forward in Human Spaceflight". The panelists included:

- Mike Griffin, former NASA Administrator and Professor, University of Alabama in Huntsville
- Bob Dickman, Executive Director, American Institute of Aeronautics & Astronautics
- Gary Payton, Former Deputy Under Secretary of Defense for Space and
- Scott Pace, Director, GWU Space Policy Institute.

The panel was held on Thursday, September 9, 10am – noon in room 2325 of the Rayburn House Office Building.

## Twitter Notes

The notes below were tweeted from CSWIKI on September 9, 2010, and appear in reverse chronological order. Read them starting with the last entry (#82) and continue backward to entry #1.

1. Panel is now over. Thanks for reading! See ya!
2. SP: what is missing from Admin goals, are attention to many non-engineering realities.
3. This may not be the most efficient path, but it's necessary to account for human psychology.
4. Larger goals must be linked smaller goals of about 5 yrs in length each.
5. MG: had a chapter of how human affairs need to be adapted to dates and goals. We work in 3-8 year effort chunks.
6. SP: science community does a good job of setting dates and destinations. MG: referring to Freeman Dyson's "disturbing the universe"
7. Q: how to win the minds of young people? Are recent discoveries of organic mat'l on Mars compelling enough?
8. MG: it is not worth the risk to postpone the gap. To eliminate the gap, then maybe it would be worth it, but need to risk nat'l treasure too.
9. GP: no. The vehicle has killed 14 people. MG: I agree. Is preserving US in human spaceflight arena worth asking people to risk their lives?
10. Q: to eliminate the gap, should the shuttle be extended?
11. MG: if we conduct a boring space program, we should expect students to be bored.

12. Exploration is what attracts the younger students. Military space programs don't attract the attention of youngsters.
13. GP: DoD has struggled with diminishing workforce issues for years. Career decision made in 4th-6th grades.
14. Q (from chuck divine): workforce development issues abound. How to solve the problem?
15. MG: is there a human future in space? The question becomes what can you use that's already out there and be able to profit from it?
16. MG: the biz case can't be closed as long as you're hauling stuff from the ground. Same thing for fuel depots.
17. Q: why is nobody in govt willing to talk about space solar power?
18. It is regrettable when Congress has to be the Design Bureau of last resort.
19. Q: is the Senate is being overly prescriptive in the design of space systems? MG: Congress has an oversight role.
20. SP: it's hard to define who that community is but it has to be taken seriously as a strategic capability.
21. SP: Senate is looking for opportunities in space exploration to see the opportunity boundaries that could then be prioritized.
22. Q: who is the stakeholder community for human spaceflight exploration?
23. MG: somewhere, policy should state that space is a strategic natl goal.
24. SP: having a govt crew vehicle capability allows govt to take the risk on a comm'l vehicle.
25. SP: Lack of prioritization and clear logic results in volatility in Congress.
26. Q: what do we do beyond LEO? We need a HLV to give science community new capabilities. Science wants volume, not mass.
27. Not really a question.
28. Q: tradeoffs are such that one undermines the other. NASA needs a joint chiefs-like group to raise hell when things are in question. ...
29. SP: yes, we have a long list of desirements. There needs to be a prioritization and allocation process.
30. Q: Andreas Dickmann (ESA rep to US): there is the impression that NASA is still on an unsustainable path. Is this the case?
31. MG: NASA was supposed to be able to do 2 lunar and 2 cargo resupply missions per year.
32. Q: how often would we be able to do Beyond earth exploration missions given today's budget?
33. MG: saturn V and LM were about 6 yrs from design to flight.

34. Q: could we go back to the moon quickly, if money were not an issue? MG: there are long lead time issues, like industrial base, etc.
35. SP: NASA does a good job of mentoring people. There are fewer opportunities for hands-on experience today.
36. BD: we know more now than the previous generations did. MG: if we don't do things regularly, we become inept.
37. Jeannie Krantz asks "any concern in gap of knowledge of post-Apollo generations?" Can we really make the jump?
38. MG: today's technologies vs. Advanced tech is a false dichotomy. Need to do both.
39. BD: we need to let people do some basic R&D (6.1 research) on new ideas.
40. SP: NTP is part of a range of nuclear capability options, and require long lead-time R&D.
41. End of prepared statements. Q&A starts. What has been looked at for in-space propulsion. GP: nuclear thermal propulsion.
42. 20-30 yrs from now, low cost reusable access to space will be routine.
43. In-space propulsion is the key technology, not a heavy lift vehicle.
44. If you could continually accelerate at 1g to mars, transit time would be 3 days. 0.1g would take 30 days. "That changes everything."
45. 180 day transit times are not realistic. Mars and asteroids are not viable targets.
46. Govt would be well-served to coordinate launch demand to aid the routinization of space transportation to LEO.
47. Main goal of ROI may result in decisions different than mission success.
48. NASA is not the only org that can be successful in launch industry. Personal spaceflight \*will\* happen.
49. 14 separate families of US vehicles have been used to launch cargo and people, most designed by industry.
50. We need to have debate and be able to take differing sides. Launching cargo is different than launching humans.
51. He'll be speaking for himself and not for AIAA. MGriffin will be on ballot as Pres-Elect for AIAA next year.
52. Payton out. Bob Dickman of AIAA up last. Then Q&A.
53. NASA has continuously been underfunded by billions for yrs.
54. He calls hi-tech challenges that need to be overcome "miracles". Inadequately tested, immature systems kill people.
55. We need a safe, reliable, predictable system asap.
56. Nat'l defense missions require that continuity. Civil space gaps have been failure of nat'l leadership. But we are where we are.

57. Giving many examples from all military branches.
58. Last 8 yrs in DoD so not up to date on NASA Auth bills. DoD never allows a gap for any continuing mission.
59. Gary Payton up next.
60. A decadal approach will reduce volatility of the nation's space program.
61. Nat'l Academies should do decadal review to identify questions to be addressed over a certain time period.
62. Congress should start w/Senate bill but use House numbers since it will maximize chance of programmatic success.
63. Comm'l crew space transportation risks would be fully borne by govt, and is therefore not comm'l space.
64. Scott says one of his first jobs was STS flight rate estimates, for which he will be "doing time in pergatory." Big laugh.
65. New nat'l space policy defines "comm'l space" not unlike previous definitions.
66. Congress functions best as incremental organization. It had no choice but to go back to basics. House bill has better programmatic success.
67. Obama plan ignored in-house talent drain and overestimated comm'l capabilities. Congress was skeptical of radical new direction.
68. Caused turmoil in industrial base and lost the Moon as a target. Every program wants to put stamp on Space program.
69. Today is first day Rosh Hashanah, the beginning of a new year. Bush Admin underfunded Constellation and Augustine Commission called that ...
70. MG's statement completed. Scott Pace up next.
71. Congress must say so if they want their original intent to be implemented.
72. Any more debate wastes time and increases the gap for US access to LEO.
73. We'll be using the next HLV for the next 50 yrs so we need to design the right one.
74. MG is "tired of viewgraphs". (I haven't seen a viewgraph since 1985... Just sayin'... -KD)
75. Congress must assess and decide the resolution of current problems. Senate and House bills are better than Pres' budget
76. New Administration revectorred the agency in many negative ways. Flies in face of NASA Auth laws of 2005 & 08.
77. Lack of space Vision was a failing of national leadership. - JLogsdon
78. The debate set the goals of the agency and they were supported by Dem Congress.
79. MGriffin: wake generated by loss of Columbia still not settled. Debate in 3 yrs after the loss, there was extensive.

80. Discussing an engineering assessment of the way forward. Opening statements first.
81. STA panel just starting now. STA=Space Transportation Association. 20 minutes late.
82. Will be tweeting notes from the STA Roundtable Discussion w/MGriffin, SPace, GPayton & BDickman starting @ 10am EDT.