

MEETING REPORT
of the
Planetary Sciences Subcommittee (PSS)
NASA Advisory Council Science Committee
NASA Headquarters
26-27 January 2011

The next meetings of the PSS are telecons in March and at NASA HQ 18-19 April 2011

Introduction

The Planetary Science Subcommittee (PSS) of the NAC Science Committee met for two days at NASA HQ January 26th and 27th 2010. The meeting opened with welcoming remarks by Jim Green (Director, Planetary Science Division (PSD)) and Ron Greeley (PSS Chair). Agenda and presentation materials with detail are available on the informal PSS web site (<http://lpi.usra.edu/pss>).

NASA Launch Services (NLS) 2 Update (Jim Norman/Jim Adams)

Jim Norman discussed the new launch services contract and the considerably higher price tags attached. It was noted that the decadal survey discussions were based on the old pricing system.

PSD Updates (Doug McCuiston – Mars, Curt Niebur – EJSM)

Doug discussed the progress on MSL and the need for augmented funding. He also discussed NASA's work coordinating with ESA looking at the 2016 and 2018 opportunities.

Curt talked about the possible joint ESA/NASA Europa Flagship mission, Europa Jupiter System Mission (EJSM) currently envisioned as a two component mission with a Jupiter Europa Orbiter (JEO) contributed by NASA and a Jupiter Ganymede Orbiter (JGO) contributed by ESA.

Impact of FY11 CR & FY12 Budget (Jim Green)

Jim discussed the difficult funding situation this year. Because of the Continuing Resolution (CR), the division is currently held to FY10 budget levels. Also under the CR, no new starts are allowed, which impacts Plutonium restart and the ESJM instrument AO. The FY10 budget is roughly 115M less than the FY11 request. If a full year CR is enacted, that difference will be made up by the Plutonium restart delay, eliminating the planned Near Earth Object (NEO) survey enhancements (~16M), and from the R&A budget (~20M). If, as rumors suggest, a budget is passed which returns us to FY08 levels, that's an additional ~30M less that will have to be found. In addition to those budget issues, there are additional MSL costs that need to be accommodated (82.1M over FY10-13). Per PSS Guiding Principles those cost increases should be first borne by JPL, the implementing organization for the mission. Then additional funds sought (next) from within the Mars Exploration Program, and then finally, impacts to non-Mars programs as needed, after those two sources of funds are exhausted. These should be sought through delays rather than cancellation of approved missions now under development. At this time, it looks like the overruns can be accommodated without forcing any mission cancellations; however, the budget situation is obviously tenuous and subject to change.

Jim concluded his talk with a reminder of all of the exciting planetary events coming up in the "Year of the Solar System" <http://solarsystem.nasa.gov/yss/>, including three mission launches: Juno,

GRAIL, and MSL; MESSENGER and Dawn achieving orbit at their respective destinations; and the Stardust-NExT Temple 1 encounter in February.

MESSENGER Senior Review (Ed Grazeck)

All extended missions are required to undergo a Senior Review at least every two years. There are 6 operating missions that PSD expects to review for Extended Mission status in ~March 2012. They are: Mars Odyssey, Mars Exploration Rovers, Mars Express, Mars Reconnaissance Orbiter, Cassini, Lunar Reconnaissance Orbiter. PSD would like to have all of the reviews run at essentially the same time. The timing of this combined review, however, does not line up well for the MESSENGER mission. Ed Grazeck presented options for dealing with the MESSENGER extended mission and it was recommended that a focused MESSENGER-only senior review be held this summer so findings could be communicated to the Project 6 months before the normal completion of operations.

Lunch Discussion with Ed Wieler

Ed reiterated the difficulties of dealing with the CR, particularly for Earth Science and Planetary, since we were expecting sizable increases in FY11. He also noted that in the President's State of the Union address he proposed to keep discretionary funding flat. This is noteworthy because the Decadal Study Group was operating under the assumption of a 4-5% a year increase. This, along with the increased price of rockets means that we will not be able to afford to do everything that will be in the decadal and HQ will have to work with the community to achieve as many of those goals as possible within the budget limitations. He warned that we may be facing fundamental changes in the way we look at planetary missions, such as using smaller rockets. He also noted that, personally, he felt that the more we involve other space agencies, the better off we will be. He stressed creative thinking, such as reusing spacecraft (e.g. EPOXI and Stardust-NExT) and flexibility.

Planetary Analysis Group (PAG) Reports

Each PAG chair gave brief reports on the activities of their group, noted up-coming events, and presented some new science highlights. Some key items include:

- a) CAPTEM noted that the US share (10%) of the Hayabusa returned samples should be received towards the end of the year and Mike Zolensky will be responsible for their curation at JSC. The LEAG/CAPTEM simulant working group reported out and recommended the creation of a Planetary Simulant Advisory Team (not just a lunar issue). Also the updated Stardust curation website is now online: <http://curator.jsc.nasa.gov/stardust/curation.cfm>.
- b) LEAG completed the joint LEAG/CAPTEM Lunar Sample Acquisition and Curation Review (LSACR) report, with a new preamble to explain how it is relevant to all sample return, not just the Constellation plan.
- c) MEPAG is working to hold a MEPAG meeting in Europe (Lisbon) in June 2011, as a way to further advance cooperation on joint ESA-NASA missions
- d) OPAG lauded the completion of the final report of the NASA-ESA Joint Science Definition Team (JSDT) for the Europa Jupiter System Mission.
- e) VEXAG was disappointed that the JAXA Akisuki mission failed to achieve orbit around Venus. While 7 US Participating Scientists were selected, those grants will not be completed, although a future call is possible in a few years if attempts to get the mission into orbit are successful.
- f) SBAG is working hard on building their "Roadmap for Small Bodies Exploration in the Solar System."

New NASA Chief Scientist Waleed Abdalati

Waleed has only been on the job about 3 weeks, but took the time to introduce himself and answer questions from the Committee. He agreed to take the job after talking to NASA Administrator Charlie Bolden who convinced him that this would be an important role and that he really wanted science represented in his inner circle, a science voice on the 9th floor that doesn't have to worry about the day-to-day issues. Waleed sees his role as not just advising, but to some extent advocating for science when it is in the best interest of NASA. As Waleed's background is Earth science, he is keen to appoint a space science deputy, possibly from the planetary community. He has identified interfacing with the Exploration side of NASA as a priority and has already met with the Exploration Science Mission Directorate (ESMD). He would also like to be another voice to communicate with the White House Office of Science and Technology Policy, he has already begun discussions with them about several topics, including the astrophysics decadal, and they seem receptive. He sees his office as quite complementary to the new Office of the Chief Technologist (OTC), and calls Bobby Braun his "best friend at HQ right now". He notes that the difference between his office and OTC is that there is an SMD, but no technology equivalent, so he has the advantage of not having to "get into the day-to-day weeds," but being able to see the whole picture from a more strategic standpoint and the opportunity to see that the whole ends up being greater than the sum of the parts. He would like to see science at NASA put "on the same pedestal as human spaceflight". He pledged to be a "tireless champion" for NASA science.

Waleed will be chairing a group that is organizing now which will look at the role of the various AGs and how they can help bridge the gaps between SMD and ESMD.

R&A recommendations (Ron Greeley)

Based on the findings of the R&A survey, several recommendations were introduced, discussed, and are being reviewed.

SR&T study draft report (Ron Greeley and the SR&T study group)

The SMD was recommended by the NRC to construct a matrix to link the mission enabling activities to NASA's goals. The PSS SR&T study group has met 3 times (1 telecon, 2 meetings) and have produced a draft report that was presented for review by the full PSS. There was vigorous discussion about the best way to accomplish what the NRC has asked us to do and how best to present the information, level of detail necessary, which activities to include, etc. A general approach was agreed to and several assignments were made. This activity is scheduled to be completed this summer.

Planetary Science - Technology Panel Update (Tibor Krenic)

Concurrent with the PSS SR&T study, a PSS technology panel was chartered to assist PSD in developing a coordinated and integrated technology development plan that will better utilize technology resources. The panel will produce: an interim report for the assessment phase, a final report, and two high-level notional technology roadmaps (one budget driven, the other need-based). They have completed the assessment phase and are in the process of collecting and developing recommendations but are awaiting the results of the decadal survey before finalizing them.