

Task Group of the NASA Advisory Council Science Committee
Minutes
May 4, 2011

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Waleed Abdalati, Chair



T. Jens Feeley, Executive Secretary

Meeting Report Prepared By:
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Opening Remarks

Dr. T. Jens Feeley, Executive Secretary of the Science Committee, convened the teleconference on May 4, 2011, at 2:00 p.m., noting that the call is governed by the Federal Advisory Committee Act (FACA). Non-members were instructed to participate as observers. Dr. Waleed Abdalati, NASA Chief Scientist and teleconference Chair, planned to join the call late from another meeting. Following a roll-call, Dr. Feeley, posted a slide on Web-ex showing the current structure of the Science Mission Directorate (SMD) Analysis and Assessment Groups (AGs).

AG Discussion

The primary purpose of the teleconference was to discuss how to organize AGs to serve the needs of more than one NASA Mission Directorate. Dr. Jim Green, Director, Planetary Science Division (PSD), described the current AG structure, noting it is divided into logical groups of input that include: the Mars Exploration Program Analysis Group (MEPAG), the Lunar Exploration Analysis Group (LEAG), the Outer Planets Assessment Group (OPAG), the Small Bodies Assessment Group (SBAG) and the Venus Exploration Analysis Group (VEXAG). At one time, SBAG and OPAG were combined; however, as the program evolved and Discovery missions were repurposed, more dedicated input was needed from Small Bodies. The chair of each group is also a member of the Planetary Science Subcommittee (PSS). Findings from each group are presented to PSS by the group chairs. The AG is open to anyone in the community.

The Lunar Exploration Analysis Group (LEAG) is dual-purposed, serving Science and Exploration Systems Mission Directorates; this dual-purposed structure has worked extremely well. Dr. Michael Wargo, Exploration Systems Mission Directorate (ESMD), and NASA Headquarters (HQ) civil servant contact for the LEAG, explained that LEAG members come from the exploration, science, and commercial communities. The people who have served as LEAG chair have had connections with both Science and Exploration.

LEAG's findings and analysis have been instrumental in ESMD's planning for both return to the Moon and other potential destinations like small bodies. ESMD has similar interests as the lunar, small bodies, and Mars communities, and there is value in having arrangements with the other analysis or assessment groups similar to their relationship with LEAG. There have been some discussions about ESMD's interest in a similar structure to obtain consolidated input. Small bodies are becoming very important in Human Exploration (HE), perhaps sooner than Mars or return to the Moon, thus having a group discussing those exploration elements and views might be important. The former LEAG Chair, Dr. Clive Neal, and Dr. Mark Sykes (on behalf of SBAG), have discussed potential coordinated activities along those lines, including the possibility of a combined meeting where both communities can come together. However, given the communities' diversity, there hasn't been any discussion about actually combining the two into one group. Past experience with the joint SBAG and OPAG group might indicate this would not be the best approach. Since separating the two groups, SBAG has been very responsive and its findings and input have been very healthy. Dr. Jim Green agreed that a joint meeting idea could be explored if the current AG structure remains.

NASA's engagement of the lunar science community during the solicitation, development, and execution of the Lunar Reconnaissance Orbiter (LRO) and the Lunar CRater Observation and Sensing Satellite (LCROSS) missions indicates that the success of exploration missions can be significantly enhanced by leveraging the best that Science has to offer. As Exploration continues to identify other destinations, whether small bodies or Mars, that same approach should be taken to build and capitalize on the LRO and LCROSS success. PSS needs to understand Exploration's current thinking relative to the Moon in terms

of emphasis and next steps. With respect to the Moon as a future target, Dr. Wargo explained there is a flexible path, and the planning will continue to evolve depending on how the capabilities are created and matured along the way; the Moon is still on Exploration's planning path along with small bodies and Mars.

The moons of Mars are typically studied by the Mars people more so than small bodies; however, there is some overlap. During the last five to six years, Phobos and Deimos have been considered more as captured bodies that have nothing to do with Mars, although they may have some Mars materials on them. The science community believes that Mars materials brought back from Phobos and Deimos would not constitute a Mars sample return without specific knowledge of their origin; these materials are more likely accumulated from various parts of the solar system.

The Planetary Science Decadal Survey (DS) has a different structure than the Science AG structure with five community input panels: Mars, Outer Planets, Outer Planet Satellites, Small Bodies, and Inner Planets (Venus, Mercury and the Moon). Given the success of this structure for the DS, this could be a possible model for a restructured AG; however, this has not yet been discussed by PSS. Understanding Exploration's needs in terms of community input and how it should be organized is a critical step in this process.

MEPAG is not dual-chartered; however, it operates that way in that it also has a HE goal. The SBAG charter is similar and even broader because it also includes Planetary Defense, thus a dual charter of SBAG and MEPAG could be part of the plan. PSS will look at the AG structure post DS as well as the Terms of Reference for LEAG (with respect to its joint charter), to see if that model can be applied to the Terms of Reference for SBAG and MEPAG. There is a potential overlap between Exploration and Science, e.g. LEAG has looked at the role the Moon could play as small bodies are explored, as well as asteroid activities that might enable more effective exploration of the Moon. Because of this overlap, it is not known what additional value might be derived by combining the two. Dr. Greeley commented that having a dotted line between SBAG and MEPAG makes sense; however, PSS needs to discuss what is coming out of the AGs for science-related issues before going forward. While the analysis groups provide a valuable service to the Mission Directorates (with some small structure changes), a question looms as to whether PSS itself should have a formal connection to Exploration rather than just through the analysis groups.

The current LEAG chair is a member of the PSS. One option would be that the LEAG chair would sit on the Exploration Committee, and the Vice or Co-Chair would sit on the PSS. SBAG and MEPAG both currently have only chairs, so another element of this discussion would be to decide *whether co-chairs should be added*; the co-chairs would sit on the Exploration side. Dr. Greeley commented that this structure has merit. LEAG for example, would have voting representation on multiple committees whereas the other analysis groups would not. This could be resolved by having co-chairs on the Exploration Committee. This scenario would increase the size of the Exploration Committee. What size the Exploration Committee should be is an outstanding issue that needs more discussion.

The way the NAC Charter is written, there is a requirement that the analysis group chair must also be a member of the parent subcommittee – a top-down approach to assigning chairs. The LEAG chair is appointed by the Administrator with advice and counsel of the NAC chair. Dr. Green summarized that there are some procedural changes and that the co-chairs are the way to fill out the management structure in LEAG, SBAG and MEPAG; one of those will sit on the Exploration Committee, and one will continue to sit on the PSS. It was also noted that this activity involves two different reporting levels within the council structure; the Exploration Committee, on the same level as the Science Committee, is working with the PSS that is under the Science Committee. It was noted that funding for cooperative Exploration and Planetary Science activities is proposed in the President's FY 12 budget request that is before the Congress.

Dr. Feeley explained that the Office of Science Technology Policy (OSTP) now requires that there be a broad (as possible) call for members and chairs of all FACA advisory committees; the calls need to be advertised in the Federal Register. FACA requires that committee membership must be representative and diverse so there is a constant balance and different perspectives. Members also cannot all be from the same institutions or from the same area.

Action Items

- 1) It was the consensus of the group that the PSS should be tasked to review the alignment of the six existing Planetary Science analysis groups and recommend any changes. [the PSS schedule of meetings includes a short teleconference in late June 2011, and a two-day face-to-face meeting in late October 2011]
- 2) Dr. Jens Feeley will review the LEAG draft Terms of Reference and draft proposed changes to the SBAG and MEPAG Terms of Reference that incorporate the joint tasking and joint reporting aspects. These drafts are to be circulated to the members in advance of the Task Group's next teleconference.

Closing Remarks

The next teleconference is on May 25 at 2 p.m., EST. A Federal Register notice will be released shortly.

The meeting was adjourned at 3 p.m., EST.

Appendix 1 - Participants

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| Waleed Abdalati | NASA Headquarters |
| Carolyn Cook | Consultant (Minute Taker) |
| Doug Craig | NASA Headquarters |
| T. Jens Feeley | NASA Headquarters |
| Ronald Greeley | Arizona State University |
| Jim Green | NASA Headquarters |
| Noel Hinnens | Consultant |
| Holly Kellogg | Department of Navy |
| William Mackey | Canadian Space Agency |
| Marian Norris | NASA Headquarters |
| Michael Wargo | NASA Headquarters |