

Summary of the meeting between Alan Stern and MEPAG representative
MEPAG Reps: J. Mustard (Chair), H. McSween, V. Hamilton, L. Pratt, J. Grant, J. Johnson
NASA: Alan Stern, D. McCuistion, M. Meyer, A. Cheng, Jim Green

Date: Sept. 24, 2007

Following the MEPAG (Mars Exploration Program Analysis Group) meeting on July 10, 2007 at the 7th International Mars Conference, Jack Mustard (MEPAG Chair) relayed to Alan Stern (Associate Administrator for NASA-SMD) the outcomes of the MEPAG meeting and the response of the community to the recent developments of committing to a Mars Sample Return (MSR) in the coming decade and the development of a simple sample cache system to be placed on the Mars Science Laboratory (MSL). Dr. Stern invited MEPAG to meet with him about the Mars Exploration Program (MEP). On September 24, 2007 Jack Mustard and a group representing the Mars community met to hear from Dr. Stern on his vision for the MEP and for MEPAG to communicate their thoughts and responses.

Introductory Remarks by A. Stern and D. McCuistion (Director, Mars Exploration Program)

Dr. Stern gave an overview of the NASA planetary program, emphasizing the place of the MEP in the program. His fundamental support for research activities and for training the next generation of NASA scientists was clearly evident. He conveyed in no uncertain terms, however, the harm done by cost overruns and the fact that over the past 5 years, about 5 billion from the Planetary Science division have been diverted from mission and R&A activities by cost over runs. He then focused on the recent developments in the Mars program. MSL was reviewed in detail by Doug McCuistion, providing some history and context on how it arrived at the current state of financial problem. Due to the active exploration of Mars (current active missions include MER, Odyssey, MRO, Phoenix) the MEP budget is very tight. MSL has a significant cost problem related to instruments and spacecraft/rover. The descope decisions were reviewed and placed into context. The viewgraphs from this discussion are provided on the MEPAG web site.

The group discussed various aspects of the MEP, including MSR, MSL, the MSL cache, and the Mars Science Orbiter (MSO), summarized below.

Mars Sample Return (MSR)

- Dr. Stern stated that his vision is to launch MSR by 2020. In order to be able to afford this, the program would need to skip one launch opportunity next decade.
- He would welcome a recommendation by the community of what the other pre-MSR mission opportunities should be.
- Planning for science, mission architecture, and curation are proceeding in tandem for MSR.
- International participation from European Space Agency is expected in MSR and may provide a significant contribution.
- International Mars Exploration Working Group (IMEWG) is starting an international Mars Sample Return architecture analysis group and they will complete their study in the coming year

- It was clearly stated that MSR is viewed by Dr. Stern as the first sample return from Mars
- MEPAG emphasized that the Mars community is very excited about sample return.
- If MSR occurs at the expense of other elements deemed essential to the MEP over the next decade, however, community enthusiasm would be tempered and support for MSR would diminish.
- MEPAG has started a Science Analysis Group (SAG) to examine the requirements for MSR

MSL

- D. McCuiston provided a detailed history leading up to the MSL descopes and emphasized the need to fix the MSL cost over runs within MSL first and then the MEP
- MEPAG stated concerns that the largest science impact will result from the changes to the imaging systems and the potential loss of Chemcam from the rover.
- Almost all comments relayed to the MEPAG chair preceding the meeting were related to Chemcam, noting the loss of remote geochemical capability and the significant investments of the French science and technology communities
- MEPAG relayed concerns regarding the international implications of the stop funding order for Chemcam

MSL Cache:

- There was considerable discussion about the MSL cache, and MEPAG received an update on progress in the MSL cache design and implementation. The guiding principles were re-iterated:
 - Will not affect the operations of MSL
 - Will be less than \$2 million
 - The funds are contributed by SMD and are not coming from the MEP.
- Dr. Stern outlined the three primary goals for the MSL cache:
 - Kick start a sample return activity
 - Building and flying a cache is important for building political support
 - The cache provides a potentially valuable contingency for sample return, depending what MSL discovers
- The MEPAG group re-iterated the need for appropriate samples for MSR, and that poorly documented rock fragments in an open sieve basket will not meet the criteria for science as outlined in numerous National Academy and MEPAG reports.
- Dr. Stern noted that the MSL cache would not be the prime focus of an MSR mission, which would surely have independent sampling capability if only to have a contingency sample. In addition, MSR would have the option of targeting a completely different landing site should new results deem that appropriate.

Mars Science Orbiter

- MEPAG requested an update on NASA's planning for MSO
- Dr. Stern asked MEPAG if there were one strategic mission opportunity between the 2011 Scout and MSR, would the Mars community choose MSO.
- MEPAG responded that this was an issue that it would like to look at in detail
- Dr. Stern said he would request from MEPAG an analysis of the issues

Prepared by Dr. Jack Mustard, MEPAG Chair, Oct. 5, 2007.