National Aeronautics and Space Administration

Headquarters
Washington, DC 20546-0001

AUG 13 2015

Reply to Attn of: MEMORANDUM FOR THE RECORD

Documenting the 2016 Planetary Missions Senior Review (PMSR) process

This memo documents the plan for the 2016 PMSR of Operating Missions, consistent with Section 5.8.1.1 of the SMD Management Handbook.

Scope

This plan covers all missions that will be operational at any time during the upcoming five-year period (FY17-FY21), organized into two lists. Missions that have arrived at a target destination by the end of FY 2015, which plan to complete prime operations before the end of FY 2018, will be subject to this review. Missions that do not meet this criteria, or have been previously approved through end of mission, will not be reviewed.

a) Missions that will be subject to the review

There are 9 missions that will be subject to the 2016 PMSR: New Horizons, Dawn, Lunar Reconnaissance Orbiter, Mars Express, Mars Reconnaissance Orbiter, Opportunity, Odyssey, Curiosity and MAVEN.

New Horizons will be evaluated for a complete 4-year mission to visit a Kuiper Belt Object. Dawn will be evaluated through its end of mission, which is expected to be less than two years. MAVEN completed a bridge review and is approved for operations through the end of FY 2016, with its first full two-year extension to be evaluated during this review.

The Planetary Science Division plans to use two panels for the 2016 PMSR, one for Mars Exploration Program and one for Solar System Exploration Programs.

All of the missions subject to review will be requested to propose against the budgets identified during the PPBE17 budget process.

b) Missions that will not be subject to the review

Cassini's final three-year plan was reviewed and subsequently approved for operations through end of life as a result of the 2014 PMSR process. Since the final disposal plan is part of the integrated three-year sequence of maneuvers, it will not be reviewed again.
Juno is in cruise and does not arrive at Jupiter until July 2016, so with no basis to judge its science merits, it will not be reviewed. Any mission extension for Juno will require a standalone review, as Juno's lifetime is not expected to exceed FY 2018.

InSight, OSIRIS-REx, and ExoMARs Rover will not have arrived at their destinations to begin prime operations in time for the 2016 PMSR to consider the merits for their mission extensions.

The five-year plan for PMSRs is summarized in the following table.

Planetary Missions Senior Reviews	2016	2017	2018	2019	2020	2021	2022
Discovery/New Frontiers							
InSight	Cruise	Prime	Prime	2018 PMSR		2020 PMSR	
OSIRIS-REx	Pre-Launch	Cruise	Cruise	Cruise	Prime	Prime	Prime
Bepi Columbo	Pre-Launch	Cruise	Cruise	Cruise	Cruise	Cruise	Cruise
New Horizons	Prime	2016 PMSR				2020 PMSR	
Cassini	2014 PMSR						
Juno	Cruise	Prime	Special Review				
Dawn	Prime	2016 PMSR					
Lunar Reconnaissance Orbiter	2014 PMSR	2016 PMSR		2018 PMSR		2020 PMSR	
Mars Exploration							
ExoMars Rover	Pre-Launch	Pre-Launch	Cruise	Prime	Special Review	2020 PMSR	
Mars Express	2014 PMSR	2016 PMSR		2018 PMSR		2020 PMSR	
Mars Reconnaissance Orbiter	2014 PMSR	2016 PMSR		2018 PMSR		2020 PMSR	
Opportunity	2014 PMSR	2016 PMSR		2018 PMSR		2020 PMSR	
Odyssey	2014 PMSR	2016 PMSR		2018 PMSR		2020 PMSR	
Curiosity	2014 PMSR	2016 PMSR		2018 PMSR		2020 PMSR	
MAVEN	Special Review	2016 PMSR		2018 PMSR		2020 PMSR	

Schedule

The planned schedule is as follows:

- Draft Call for Proposals issued: October 30, 2015
- Final Call for Proposals issued: January 4, 2016
- Senior Review Proposals due: February 29, 2016
- Review panels: March 2016
- Delivery of the panel reports to NASA Headquarters: April 2016
- NASA Response/Direction to projects: May 2016

Communications Plan

The call for proposals will be posted on the LPI website.

Following the PMSR, the Planetary Science Division Director will receive the panel reports. Based on panel reports and budget availability, a plan and budget will be approved for each mission for FY17-18.

The decisions will be briefed to the SMD AA and other stakeholders, as appropriate.

The missions will be provided with a Letter of Direction containing decisions and directions and the panel report will be attached. The panel reports and the NASA response will be posted on the LPI website.

If any missions are proposed for termination, a communication plan will be worked with Agency leadership, the Office of Communications, Office of Legislative and Intergovernmental Affairs, and other appropriate stakeholders.

Evaluation Criteria for the 2016 PMSR

The PMSR evaluates the science merits of new proposed science investigations, using historical science return as a guide to possible productivity. This review does not evaluate operational capability of the spacecraft, or assess operational efficiencies, but assumes that the current capabilities will persist through the two-year period, except for known limitations (e.g. fuel, instrument degradation).

Evaluation criteria for this review will include an emphasis on past performance in archiving data in the Planetary Data System, as well as a request to identify existing data products that may be new candidates for archiving.

Each mission team will be asked to propose a transition plan to a new early career mission Principle Investigator or Project Scientist (PI/PS) to lead the extended mission. All missions that have not already handed the PI/PS responsibilities to early career scientists will be expected to do so. This is to help train the next generation of PI/PS to be ready to potentially lead new Planetary Science missions.

Submitted:

James L. Green 7/16/15

Jim L. Green
Director, Planetary Science Division
Date

Concurred in by the SMD Science Management Council on June 4, 2015.

Approved:

13 AUG 2015

John M. Grunsfeld
Associate Administrator for
Science Mission Directorate
Date