Findings from the PAC Meeting September 23-24, 2019

Senior Review Subcommittee-related Findings

The PAC commends the Senior Review Subcommittee (SRS) and its panels of Subject Matter Experts (SMEs) for conducting a comprehensive, thorough, and uniform evaluation of the six mission proposals to NASA's Planetary Mission Senior Review for 2019.

The PAC finds that the ranked summary of extended mission proposals presented in the SRS Report on Proposals for Mission Extensions for 2019 (Table 1) grouped by adjectival rating accurately reflects the scientific and technological merits and weakness of the proposals. Final selections will need to balance these ratings with overall operational and budgetary constraints.

Based on the proposal and the SRS report, the PAC sees insufficient scientific justification for continuation of NASA Mars Express (MEX) funding. The PAC recommends that Planetary Science Division (PSD) management evaluate whether the operational importance of MEX to NASA's other Mars assets, e.g., its service as a backup relay, justifies continued NASA support.

Unassigned Future Expenses (UFE) were incorporated into the budgets of Mars Reconnaissance Orbiter (MRO) and Mars Science Laboratory (MSL), but not into the budgets for the other four missions under consideration for extension. The PAC finds that NASA should consider establishing a common "UFE pool" available to all extended missions to fund requested overguides that can enhance science and increase mission robustness for missions as needed.

A widely-used common portal for access to all Mars orbital data from all past and present NASA missions is currently supported by the Mars Odyssey Thermal Emission Imaging System (THEMIS) team. The PAC finds that to insure continued widespread access to this website, a multi-Mars mission data service should be supported at the Mars Program level independent of any individual mission.

NASA Travel Restrictions on Mission-Funded Contractors

Present restrictions on NASA mission-funded contractor travel reduce the effectiveness of collaboration and dissemination of results from NASA missions and increase costs to those missions. The PAC finds that NASA should reevaluate the guidelines for contractor travel to international conferences and NASA-sponsored meetings on project funds.

NEOCam

The PAC is glad to see progress on bringing to fruition a space-based infrared survey telescope to discover hazardous NEOs, as recommended in a recent National Academy of Sciences (NAS) report[1]. However, the PAC is concerned that the change from the PI-led NEOCam mission to a directed mission carries significant risk of insufficient transfer of scientific and technical information. Despite the fact that the motivations of the directed mission will not be primarily scientific in nature, as is appropriate,

[1] https://www.nap.edu/catalog/25476/finding-hazardous-asteroids-using-infrared-and-visible-wavelength-telescopes

scientific leadership did play a critical role in maturing the mission concept to its present state. Moving forward, the scientific leadership and technical knowledge within the NEOCam team will be needed to achieve the directed mission's strategic goals in an effective fashion. The PAC finds that it is vital to honor and utilize the extensive work and preeminent expertise of the NEOCam team. NASA should seek to preserve the role of the NEOCam scientific and technical leadership in the execution of the directed mission. The PAC requests a detailed explanation of the directed mission's leadership plan and structure, when it is available.