

**PAC Findings/Recommendations**  
**June 22-23, 2023**  
**Submitted July 14, 2023, by Serina Diniega (PAC Chair)**

**1. PSD Budget Prioritization**

*Context:* There is currently a high degree of uncertainty regarding federal government budgets in the coming years, leading to difficulties in developing plans and decisions through all levels of planetary/PSD work. Such concerns are compounded by recent increases in general mission costs, including the still evolving estimates for the Mars Sample Return (MSR) project, and questions about how such costs would be covered. Within potential future hard decisions about where to put funding, the Planetary Science and Astrobiology Decadal Survey and the community have both emphasized the importance of programmatic balance for science advancement, community engagement and experience, and opportunities for diverse and broad contributions. Such balance should be considered across missions of different sizes and with different target bodies/investigations, between competed and directed efforts, and between continued high science return from extended missions and development of new science investigations/incorporation of improved technologies.

*Finding:* The PAC applauds PSD's transparency in laying out priorities and potential trades and endorses PSD's stated budget priorities, which are consistent with the OWL Budgetary Decisions Rules. These are, first, to protect/grow R&A to at least 10% of PSD budget (per the OWL Decadal recommendation); second, support ongoing and confirmed (Phase C) missions; third, support missions that have been selected and are currently in Phase B, including restarting VERITAS; then, after current firm commitments are addressed, new starts and AOs would be initiated.

*Recommendations:*

- a) The PAC endorses the plan to increase the R&A budget to 10% of the PSD budget by FY28, as proposed in the FY24 President's Budget Request. The PAC recommends not delaying achievement of this Decadal Survey-recommended funding level beyond FY28 and, should increased funding be available, the PAC supports meeting this goal sooner.
- b) The PAC recommends that PSD adopt the OWL recommendations for MSR and future MEP missions, including cost limits. Specifically, the PAC (1) supports development and execution of a comprehensive architecture of missions, partnerships, and technology development to enable continued scientific discovery at Mars; and (2) recommends that PSD follow the guidance in the Decadal Survey regarding MSR cost management, of no more than 35% of the PSD budget and no greater than 20% beyond \$5.37B. For the second item, the PAC requests that regular reports on the MSR project status continue to be provided to them and the community, including results of the current Independent Review Board (IRB) for MSR, and to hear about specific mechanisms planned for MSR cost management.
- c) Until the budget is available for a new large mission start, the PAC recommends early study funds, budget permitting, for the Uranus Orbiter and Probe and Lunar Endurance Rover so as to keep these Decadal-prioritized concepts maturing.

- d) The PAC supports the funding of extended missions at levels recommended by Senior Review evaluations.

## **2. Broadened R&A Program Scope**

*Context:* PSD has proposed an R&A program, including three new elements starting in FY25, that aim to not only increase total budget but use additional funds to broaden participation in planetary science and create a more diverse and inclusive planetary science community. The new proposed program elements include funding for (1) mission concept studies, (2) a named postdoctoral fellowship program (i.e., not tied to an institution), and (3) studies to explore approaches to improving and broadening participation in planetary science with eventual embedding of these approaches through all PSD programs.

*Finding:* The PAC agrees with the proposed R&A program's overall aims and scope and endorses the addition of the three notional new elements, pending future budgets enabling their addition.

## **3. "Ethics in Fieldwork" Policy**

*Context:* The PSD Astrobiology Program and ROSES, working with indigenous scientists and groups, have generated a detailed set of guidance and resources for the community to raise awareness of ethical responsibilities and related legal requirements for fieldwork. Such awareness, and related policies, are important within fieldwork and work with samples as the value of the site/materials for societal communities and future researchers/visitors should be considered in addition to value for their immediate science investigation. Intentional respect towards the lands, waters, and skies of a study area, along with any people invested in that area, will broaden and improve fieldwork planning and protect the potential for future viewing and research within a site/with a sample. Furthermore, such ethical behaviors will contribute towards fostering a more inclusive science community and culture.

*Finding:* The PAC strongly supports development of this new fieldwork policy, based on the generation of authentic partnerships with indigenous communities and valuation of indigenous cultures and science, that would complement policies to increase safety within fieldwork and environmental protection of study sites. The PAC encourages continued dissemination of related resources and guidance to the planetary science community, in particular to those involved with fieldwork and terrestrial or planetary sample collection and analysis.

## **4. Inclusion Plan Requirements in ROSES**

*Context/Finding:* The PAC recognizes and appreciates the recent improvements in the definition and standardization of the inclusion plan (IP) requirement for the ROSES program and the scope of information shared with the community. The PAC supports the aim of the requirement that proposers must generate an inclusion plan and agrees with (1) the requirement being flexible so as to enable an IP to be tailored to a specific team/project/institution and (2) the IP's quality not currently being a basis for award selection.

*Recommendations:* The PAC recommends that the resource website and requirement description/guidance continue to evolve so as to further clarify to the community what is

needed. In particular, future sharing of the rubric to be used by the reviewers of inclusion plans will provide useful guidance to proposers. The PAC also recommends communicating to the community that IP requirements in ROSES may be different from IP (or Diversity and Inclusion Plan) requirements in other NASA programs.

#### **5. Psyche IRB Follow-up with Institutional Assessment**

*Context/Finding:* The PAC expresses our appreciation for the transparency and insights provided by JPL and PSD leadership in addressing the issues identified in the Psyche Independent Review Board (IRB) findings. JPL's proactive attitude of taking interim steps to mitigate remaining concerns with the Standing Review Board (SRB) review process, while NASA leadership assesses the SRB review process, is laudable. Similar proactive interim steps are desirable at other NASA Centers

*Recommendation:* With important upcoming reviews for major missions, the PAC requests an update on the status of the Agency's internal reviews of the SRB review process and the Agency's response to the IRB recommendations.