

Planetary Science Enabling Facilities and Major Equipment

Frequently Asked Questions

Please direct additional questions to: HQ-PSEF@mail.nasa.gov

Updated January 2024

PSD supports equipment and facilities in a variety of ways: 1) Support for establishing and operating shared facilities can be proposed to C.17, Planetary Science Enabling Facilities, which is solicited in even-numbered ROSES years; 2) Equipment requests can be incorporated into proposals submitted to most program elements covered by ROSES Appendix C.1, Planetary Science Research Program Overview; 3) Funded investigators can request augmentations for the purchase or repair of equipment. This document addresses common questions about how these processes work.

1. PSEF Facilities proposals

a. What is a PSEF?

- i. A Planetary Science Enabling Facility (PSEF) is defined as: a combination of equipment, instrumentation, infrastructure, or staff, typically for performing complex or challenging experiments or measurements, that are otherwise not widely available to the community.

b. Can a PSEF facility have more than one instrument?

- i. Yes, a PSEF facility can have one or multiple instruments.

c. Can a PSEF facility primarily serve just one institution or one region?

- i. Yes, however it is important to note that the PSEF intends to fund facilities housing combinations of equipment, instruments, infrastructure, and technical expertise capable of supporting the research of a *broad user base* performing research relevant to NASA's Planetary Science Division. The merit of the facility management plan is an important criterion for selection.

d. Can a portion of a PSEF facility be reserved for the PI's research, or another specific group? Or are facilities independent of funded research projects?

- i. Yes, a portion of a PSEF facility can be reserved for the PI's research or another specific group. However, the expectation would be that the funding requested for the facility through PSEF would not include expenses related to the research of the PI or another specific group. Scientific research is excluded from the PSEF call; such efforts should be proposed to an appropriate research solicitation.

e. What fraction of an instrument's operating time must be available for PSD-related research?

- i. There is no minimum requirement of an instrument's operating time that has to be made available for PSD-related research. However, the facility's management plan must include a statement of the percentage of the facility's time that would be made available to external users (e.g., PSD-funded researchers, others doing PSD-relevant research, the broader community). Reviewers will assess the details of the plan to determine: if it is sufficient to successfully ensure satisfactory facility availability to the community; quality of the process for solicitation and evaluation of requests for facility access or use; and whether the

facility staffing plans, their technical expertise, and time allocated for user support are sufficient.

- f. Can I request funding for technicians or operating costs to support non-PSD-related research?**
 - i. No. All costs associated with the proposed work must be for the portion of the proposed facility that will be funded by PSD.
- g. How do I budget for unforeseen repairs and upgrades that may be needed in a facilities proposal?**
 - i. All proposals will be evaluated by peer review for cost reasonableness. One of the components assessed is: are the proposed other direct costs (i.e., supplies, equipment, travel, instrumentation) adequate to ensure the operation of the facility? It is permissible for a proposer to include a small amount of money for facility maintenance and support (i.e., a contingency budget), but the reasonableness of this will be included in peer review and may also be considered a programmatic factor. Once a facility is funded, unforeseen repairs or upgrades required to continue successful operation of the facility may be requested in the same manner as for research proposals (see below).
- h. Can facilities be jointly operated between NASA and other agencies?**
 - i. Yes. Although cost sharing is not part of the peer-review evaluation criteria and is not required, the Selection Official may take cost sharing into account as a programmatic factor. Once a facility is funded, cost sharing must be verifiable from the recipient's records, and those records are subject to audit. Should the recipient become aware that it may not be able to meet its cost share requirement, the recipient shall notify its NASA Grant Officer and request that the approved cost sharing amount be revised. This request must describe why the cost sharing contribution cannot be met and how the recipient plans to continue or close out the project in the absence of the approved cost share. If the Grant Officer approves the request, then the award must be modified through an amendment, and the award amount may be reduced in proportion to the cost share not provided. If the Grant Officer does not approve the request, then the award may be terminated.
- i. Can I request funding for service contracts? What fraction is appropriate?**
 - i. Yes, funding can be requested for service contracts. The fraction of support requested should be commensurate with the amount of time that is being made available for PSD-related research.
- j. Can I purchase a new instrument as part of a PSEF proposal, without running it as a facility?**
 - i. No. All instrument requests associated with a PSEF proposal are expected to be operated as part of the facility.
- k. Where can I learn more about the available PSEF facilities and how to utilize them?**
 - i. Information regarding a variety of facilities available for planetary science research, including types of access, fee structure, and points of contact, can be found at <https://science.nasa.gov/researchers/planetary-science-enabling-facilities>.

- I. How should use of a PSEF be included in a new proposal submission?**
 - i. There is no one defined way to include a PSEF in a new proposal submission and how the PSEF is included is largely up to the institution where the PSEF is located. Proposers are encouraged to reach out to the point of contact for a given facility found at <https://science.nasa.gov/researchers/planetary-science-enabling-facilities> for instructions on how to include the PSEF in a new proposal submission. Some PSEF will require the addition of personnel as a Co-I or collaborator to the proposal, others will provide a letter of support indicating use of the facility would be allowed should the proposal be selected for funding. All costs associated with the use of the PSEF, if any, should be provided by the PSEF institution and included in both the budget narrative and budget details of the new proposal submission.
- 2. Equipment funding as part of a research or other non-PSEF proposal**
 - a. How can I purchase an instrument that I mainly need to do a new research project?**
 - i. Requests for instruments to conduct new research that will not be part of a Planetary Science Enabling Facility can be included in a proposal to most PSD R&A programs. Proposers are encouraged to review Appendix C.1, Planetary Science Research Program Overview, for instructions on requirements for the purchase, construction, or upgrade of instrumentation, and how to incorporate requests into proposals.
 - b. How can I purchase a workhorse instrument needed by my department or local community?**
 - i. There is no longer an avenue to purchase a standalone piece of equipment not associated with a specific research project(s) unless it is a shared facility appropriate to the PSEF program. When an instrument request is incorporated into a research proposal, it must be justified primarily on the need for the instrument to conduct the proposed science; its wider benefit to a department or community would not be considered a major strength.
 - c. Can I put service contract costs in my non-PSEF ROSES proposal?**
 - i. Yes, however the percentage of the service contract requested should be commensurate with the percentage of overall usage needed for the research project.
 - d. How big an equipment request is reasonable in a research proposal?**
 - i. There are two sources of funding possible to support equipment requests. All programs may use their planned budget for new selections, listed in the individual program solicitations, to cover equipment. In addition, in certain programs, a separate source of funds is available to supplement program budgets for the purchase of equipment. See Appendix C.1 for a list of programs eligible for supplemental equipment funding. Proposers should consider how much funding may be available through the program and supplements in deciding how large a request might be reasonable.
- 3. Supplemental equipment requests for funded investigators**

- a. **A critical instrument used in my funded PSD research needs repair or replacement. How can I request funding for this?**
 - i. Contact the program officer for the program where the PSD research is funded to discuss potential options to fund the repair and/or replacement of the critical instrument.
- b. **I'd like to upgrade a critical instrument used in my funded PSD research. How can I request funding for this?**
 - i. Contact the program officer for the program where the PSD research is funded to discuss potential options to fund the repair and/or replacement of the critical instrument.
- c. **I currently have a NASA funded piece of equipment that has reached the end of its life. What is the process for getting a new one?**
 - i. There is no longer an avenue to purchase a standalone piece of equipment not associated with a specific research project(s). Requests for instruments to conduct new research that will not be part of a Planetary Science Enabling Facility can be included in a proposal to numerous R&A programs. Proposers are encouraged to review Appendix C.1 Planetary Science Research Program Overview for explicit instructions on requirements for the purchase, construction, or upgrade of instrumentation.

4. General PSEF proposal questions

- a. **What's the difference between a collaborator and a person writing a letter of support?**
 - i. A collaborator is an individual who is not critical to the proposal but committed to providing a focused but unfunded contribution for a specific task. A person writing a letter of support does not have any contribution to any specific task in the proposal, but rather is affirming that they would have a need to utilize the proposed facility. Note that those providing letters will be considered to have a conflict of interest in the same way as proposal team members, and thus will not be able to serve as reviewers of the proposal.
- b. **Are letters of support important?**
 - i. Letters of support will not be considered major factors in evaluation of proposals (e.g., such letters will not result in the finding of a major strength). However, they can be used to demonstrate the community need for and use of the proposed facility. Such letters are neither required nor encouraged, but are allowed.
- c. **Are matching funds important to include? Do they increase the likelihood of selection?**
 - i. Although cost sharing is not part of the peer-review evaluation criteria and is not required, the Selection Official may take cost sharing into account in decisions between proposals of otherwise equal merit. If included, cost sharing must be verifiable from the recipient's records, and those records are subject to audit. Should the recipient become aware that it may not be able to meet its cost share requirement, the recipient shall notify its NASA Grant Officer and request that the approved cost sharing amount be revised. This request must

describe why the cost sharing contribution cannot be met and how the recipient plans to continue or close out the project in the absence of the approved cost share. If the Grant Officer approves the request, then the award must be modified through an amendment, and the award amount may be reduced in proportion to the cost share not provided. If the Grant Officer does not approve the request, then the award may be terminated.

5. Other questions

a. **What happens at the end of the award period? Will my facility have to re-compete? How often will current PSEF facilities need to fully re-compete in the program rather than provide evidence of community utilization/success?**

- i. Each selected PSEF will be required to complete a mid-term review. This review will assess: 1) Progress made towards development of the facility and enabling use by the broader scientific community; 2) The scientific need for the facility; 3) The demand/usage for the facility by the external community. The results of this mid-term review will result in one of three recommendations: wind-down, continue, or extend.
 1. Wind-down: The facility will receive the remaining award funds. The facility will not be eligible for an augmentation or funding extension on the existing award. The facility is discouraged, but not disallowed from proposing to a future opportunity.
 2. Continue: The facility will receive the remaining funding on the award. The facility can re-propose to the next available opportunity. If the proposal is not selected in the next opportunity, the facility will be given the opportunity to submit a request for a one-time, one-year augmentation to wind-down.
 3. Extend: The facility will receive the remaining funding on the award and be given the opportunity to submit a request for a one-time only, up to four (4) year extension. An additional mid-term review will take place in 2 years' time. The award will be terminated at the end of the new period of performance (initial plus 4 years). The facility can re-propose to a future opportunity.

b. **How will progress reports be evaluated? Are there performance metrics?**

- i. PIs of facilities are required to submit annual progress reports and are encouraged to utilize the PSD-supplied template. At minimum, these progress reports must describe:
 1. The current operational state of the facility, including any issues with instrument or equipment availability;
 2. How availability of the facility has been communicated to the community, and any changes that will be made in the future;
 3. The process by which facility use requests are solicited and evaluated, and any changes that will be made in the future;
 4. The status of all Facility use requests received during the period of performance, including a brief description of the rationale for their

acceptance or declination, whether the accepted requests have been completed, or if they are still pending, the expected date by which the request will be fulfilled;

5. A description of the userbase including institution types and career stage of users (i.e., students, postdoctoral researchers, soft-money scientists, tenure-track or equivalent), and whether that userbase is growing, holding steady, or declining;
 6. A review of Facility costing, to determine if current funding levels are appropriate
- ii. All progress reports will be reviewed annually by the PSEF Program Scientist and NASA HQ. NASA reserves the right to also send progress reports for external peer review if necessary.

c. What happens in the mid-term review of a funded facility?

- i. A mid-term review will be conducted every two years starting in 2025. This review will be of all currently operating Planetary Science Enabling Facilities funded through C.17. PIs of facilities will be required to submit a package that will be subject to peer review. At minimum this package will include:
 1. The current operational state of the facility, including any issues with instrument or equipment availability;
 2. How availability of the facility has been communicated to the community, and any changes that will be made in the future;
 3. The process by which facility use requests are solicited and evaluated, and any changes that will be made in the future;
 4. The status of all Facility use requests received during the period of performance, including a brief description of the rationale for their acceptance or declination, whether the accepted requests have been completed, or if they are still pending, the expected date by which the request will be fulfilled;
 5. The userbase and whether that userbase is growing, holding steady, or declining;
 6. A review of Facility costing, to determine if current funding levels are appropriate;
 7. A summary of plans for the remainder of the award period including any changes that will be implemented that may impact the facility;
 8. A list of research products (e.g., abstracts/publications) or known research projects that have been produced as a result of utilizing the facility, as applicable;
 9. A description of any risks and mitigation strategies that the facility is facing;
 10. A description of any outreach, diversity, inclusion, accessibility, or equity efforts the facility has undertaken (Optional).

d. Will different facilities be funded each round? What happens if a facility is funded in one round but then not funded in the next?

- i. Different facilities may or may not be funded each round, depending on the results of the peer review panel evaluations and availability of funds. If a facility is funded in one round and not funded in the next round, the facility has the ability to request a one-time, one-year augmentation to wind-down facility activities. For more details, see the answer to question 5a.
- e. **If all PSEF facilities continue to perform well, will there be a point at which no new PSEF facilities will be solicited/funded?**
 - i. Theoretically yes as the program currently has a fixed budget; however, we do not anticipate this to be an issue anytime soon given the extensive review process these facilities will be required to undergo to remain a functioning and funded PSEF and the current size of the programs budget. We are also actively monitoring the selections and budgets of selections to ensure future out year funds are available for new selections.
- f. **Is it hard for a "new" lab to compete in terms of impact with existing facilities that have a steady stream of funded work coming in over a multiyear proposal? How does the panel take the historical difference aspect into account?**
 - i. Panelists are instructed to evaluate every proposal with equal attention. Panelists are instructed to not conduct any triage before or during the panel; to not compare proposals to each other, to evaluate all proposals with respect to an absolute standard, and to be consistent in applying this standard across all proposals. The panel does not necessarily take historical differences between “new” and “existing” facilities into account, but rather evaluates each selection criteria for each proposal with respect to an absolute standard. Our aim is to fund the most useful and most important facilities that will enhance planetary science research.