



# Advanced Computing Systems & Services: Adapting to the Rapid Evolution of Science and Engineering Research (NSF 20-606)

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<https://www.nsf.gov/pubs/2020/nsf20606/nsf20606.htm>

# Purpose of this Webinar

- Inform potential proposers on the Advanced Computing Systems & Services (ACSS) program
- Clarify changes from previous solicitation (NSF 19-587)
- Describe the current solicitation (NSF 20-606)
- Provide answers to FAQs and take questions from the community
  - **Send Webinar Questions to us via Q&A function in Zoom.**
- Slides, audio, and transcript from this webinar will be available on the event page website

Solicitation available at: <http://go.usa.gov/xG6Jd>

# Revision Notes for NSF 19-587

- Solicitation 20-606 will only accept proposals for resources broadly defined to include “Category II: Innovative Prototypes/Testbeds”.
- The solicitation has been modified to remove all references to Category I. Proposals submitted to “Category I: Capacity Systems,” as defined in NSF 19-587, WILL BE RETURNED WITHOUT REVIEW.
- This solicitation (NSF 20-606) ***replaces previous solicitation NSF 19-587 and updates the deadline for NSF receipt of proposals to be*** December 3rd, 2020

# Advanced Computing Systems & Services (ACSS) Program

- Requests proposals from organizations willing to serve as service providers (SPs) within the NSF Innovative High-Performance Computing (HPC) program
- SPs will provide advanced cyberinfrastructure (CI) capabilities and/or services in production operations to support the full range of computational- and data-intensive research across all of science and engineering (S&E).
- The current solicitation will only accept proposals for resources broadly defined to include “Category II: Innovative Prototypes/Testbeds”.
- The solicitation has been modified to remove all references to Category I. Proposals submitted to “Category I: Capacity Systems,” as defined in NSF 19-587, WILL BE RETURNED WITHOUT REVIEW.

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# Advanced Computing Systems & Services (ACSS) Program

- Category II, Innovative Prototypes/Testbeds: innovative forward-looking capabilities deploying novel technologies, architectures, usage modes, etc., and exploring new target applications, methods, and paradigms for S&E discoveries.

# Guiding Principles of the ACSS Program

- Increase the Nation's capacity for transformative S&E discoveries
- Emphasis on provisioning advanced computational resources and services responsive to the dramatic increase in number and nature of applications using NSF-funded resources
- Focus on the growing scale and diversity of the S&E community
- Provide CI capabilities and/or services with high degrees of stability and usability during production operations
- Expanding the range of possibilities

# Budget: Anticipated Funding Amount

- A total of up to \$10,000,000 is available for this solicitation, subject to the availability of funds.
  - Up to 1-2 awards in Category II at up to \$5,000,000 per award for up to five years.
- User support and operating costs are expected to be up to 20% of the acquisition cost per year for up to five years.
- Up to an additional 5% per year may be requested along with very strong justification.

# Acquisition Budget vs User Support & Operating Costs

- This solicitation limits initial awards up to the \$5,000,000 (Category II) maximum thresholds for acquisition of resources.
- **Acquisition proposals with budgets in excess of the identified maximum thresholds may not be considered appropriate and may be returned without review**
- Budget Details for User Support and operating costs should be discussed in the Operations Plan section of the Project Description and the Detailed Projected Operations Costs supplementary document as instructed by the solicitation.
- User support and operating costs should **not** be included in the budget section of proposals responding to this solicitation

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# User Support and Operating Costs Thresholds

- User support and operating costs of the system of up to 20% (or up to an additional 5% with very strong justification) of the acquisition costs per year will be considered.
  - Acquisition costs are defined as the total value of acquisition award
  - For example: a proposed Category II resource with proposed budget of \$5,000,000 may request up to \$1,000,000 (or \$1,250,000 with very strong justification) of user support and operating costs per year.
  - Such a budget would come in a future second request for operations related supplementary funds to be submitted after the initial NSF award.
- Questions about what constitutes “acquisition costs” vs “user support and operating costs,” can be sent to the cognizant program directors.

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# Eligibility Information

- Who May Submit
  - Institutions of Higher Education
  - Other Federal Agencies and Federally Funded Research and Development Centers (FFRDCs): Contact the appropriate program before preparing a submission.
- Who may serve as PI:
  - Individual can be PI or co-PI on no more than one proposal. There is no limit on the number of proposals in which an individual may be associated in other capacities (e.g. Senior Personnel)
- Limit on Number of Proposals per Organization: 1
  - An organization may submit only one proposal but may be a subawardee on other proposals responding to this solicitation.

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# Collaborative Projects

- Collaborative projects may only be submitted as a single proposal in which a single award is being requested (*PAPPG Chapter II.D.3.a*). The involvement of partner organizations should be supported through subawards administered by the submitting organization.

# Proposal Preparation Guidance

- Proposal titles must begin with “Category II”
- Only personnel directly connected to the project should be listed as collaborators.
- The page limit for the Project Description section of the proposal is **30** pages.
- The page limit for the Budget Justification for the lead institution and each potential sub-awardee institution is 5 pages

# Proposal Preparation Guidance

- Project Description Must include the following sections:
- Intellectual Merit:
  - Resource specification;
  - S&E Application Performance;
  - Resource Reliability and Usability;
  - Project Management and Risk Mitigation;
  - Data Infrastructure;
  - Security;
  - Operations Plan; and
- Broader Impacts

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# Required supplementary documents

- Data Management Plan;
- Post-Doctoral Researcher Mentoring Plan (if applicable);
- Actual or estimated performance benchmark results as described in Section V.A.;
- Detailed Projected Operating Costs as described in Section V.A., not exceed 5 pages;
- A list of all institutions and companies involved in the project, together with their roles within the project and the levels of funding;
- A plan for user support; and
- Letters of collaboration

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# NSF Review Criteria

- When evaluating NSF proposals, reviewers will consider:
  - What do the proposers want to do?
  - Why do they want to do it?
  - How do they plan to do it?
  - How do they will know if they succeed?
  - What benefits would accrue if the project is successful?
- These issues apply both to the technical aspects of the proposal (intellectual merit) and the way in which the project may make broader contributions (broader impacts).

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# Solicitation Specific Review Criteria

- Reviewers will be asked to assess the adequacy of the descriptions provided in the required sections of the Project Description:
- Intellectual Merit:
  - Resource Specification;
  - S&E Application Performance;
  - Resource Reliability and Usability;
  - Project Management and Risk Mitigation;
  - Data Infrastructure;
  - Security;
  - Operations Plan; and
- Broader Impacts

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# The Award Process

- Initial Acquisition Award
- Preparation of Project Execution Plan, including definition of criteria for acceptance review
- Consideration of supplemental funding action for user support and operating costs
- Acceptance Review

# Note on Schedule

- Category II machines are expected to be deployed by the end of September 2022
  - Category II Deployment is defined as when the system is prepared to meet the metrics presented to NSF for acceptance of the resource or service.
  - More details about this timeline expectation can be found in section **B. Budgetary Information** of the solicitation

# Summary

- Deadline: 3 December 2020
- Accepting ONLY Category II proposals
- Additional requested sections within the Project Description
- Additional requested supplementary documents
- Solicitation specific Review Criteria
- Note the Budget restrictions and Operating costs vs Acquisition costs differentiation

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# Questions?

- Please use the Q&A function within Zoom to submit your questions

## Frequently Asked Questions

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# Submit Proposals as Research

- Q: When filling out the Cover Sheet to our proposal, what category of proposal should one select?
- A: This question is covered in Section **V: Proposal Preparation and Submission Instructions** of NSF 20-606. The stated guidance is as follows:

*During completion of the proposal **Cover Sheet** (See [PAPPG Chapter II.C.2.a](#)), the PI will be prompted to select the applicable response that describes the nature and type of proposal being developed. For this solicitation, please choose Research.*

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# User Support and Operating Costs

- Q: The solicitation states that “User support and operating costs are expected to be up to 20% of the acquisition cost per year...” Does each year of operating expenses constitute 20% of the yearly acquisition cost or 20% of the total acquisition cost?
- A: The “initial acquisition cost” is defined as the total value of acquisition award, irrespective of how a proposer may break it down. For example, a Category II system with a budgeted total acquisition cost of \$5M could request up to \$1M (20%) in user support and operating costs per year or up to \$1.2M (25%) per year **with very strong justification for the request.**

# User Support and Operating Costs Budget Listing

- Q: Should anticipated user support and operating costs be incorporated into the budget section of the proposal?
- A: No. NSF 20-606 is considering funding for the **acquisition** of advanced computing systems and services. As noted in the solicitation, user support and operating costs will be considered and provided as a second action to an awarded cooperative agreement. At this point, such costs should be listed in the relevant supplementary documentation, namely the Detailed Project Operating Costs.

# Questions?

- Please use the Q&A function in Zoom to submit your questions.

***THANK YOU!***

- These slides, an audio recording, and a script of this webinar will be available at <http://go.usa.gov/xGh28> and the program webpage.
- Cognizant Program Directors:
  - Robert Chadduck, [rchadduc@nsf.gov](mailto:rchadduc@nsf.gov) or (703) 292-8970
  - Edward Walker, [edwalker@nsf.gov](mailto:edwalker@nsf.gov) or (703) 292-4863,
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