Civic Innovation Challenge

A Research and Action Competition in the Smart and Connected Communities Domain

PROGRAM SOLICITATION

NSF 20-562

National Science Foundation

Directorate for Computer and Information Science and Engineering

Directorate for Engineering

Directorate for Social, Behavioral and Economic Sciences

U.S. Department of Energy, Vehicle Technologies Program

Department of Homeland Security, Science & Technology Directorate

Full Proposal Deadline(s) (due by 5 p.m. submitter's local time):

August 03, 2020

Stage 1

May 05, 2021

Stage 2

IMPORTANT INFORMATION AND REVISION NOTES

- Due to the COVID-1 pandemic, NSF delayed the original deadline for Phase 1 proposals to August 3, 2020. As a result, Phase 1 awardees commenced their activities later than originally anticipated. NSF is therefore delaying the deadline for Phase 2 proposals to May 5, 2021.
- Additionally:
  - The Division of Civil, Mechanical and Manufacturing Innovation in the Directorate for Engineering has joined the program.
  - The Anticipated Funding Amount has been increased to $11 million.
    NSF has issued a new Dear Colleague Letter, Supporting Research on Pandemics within the Civic Innovation Challenge and Broadened NSF Support for the Challenge (NSF 20-100), clarifying the additional support and focus areas of the program.

Any proposal submitted in response to this solicitation should be submitted in accordance with the revised *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) (NSF 20-1), which is effective for proposals submitted, or due, on or after June 1, 2020.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Civic Innovation Challenge (CIVIC)
A Research and Action Competition in the Smart and Connected Communities Domain

Synopsis of Program:

The Civic Innovation Challenge (CIVIC) is a research and action competition in the Smart and Connected Communities (S&CC) domain designed to build a more cohesive research-to-innovation pipeline and foster a collaborative spirit. Building on the NSF S&CC program and the extensive S&CC ecosystem, CIVIC aims to accelerate the impact of S&CC research, and deepen cooperation and information sharing across sectors and regions. CIVIC will lay a foundation for a broader and more fluid exchange of research interests and civic priorities that will create new instances of collaboration and introduce new areas of technical and social scientific discovery. CIVIC will fund projects that can produce significant community impact within 12 months (following a four-month planning phase) — in contrast to many community-university partnerships that take years to provide tangible benefits to communities — and have the potential for lasting

impact beyond the period of the CIVIC award.

CIVIC introduces several unique features that differentiate it from the NSF S&CC program: (1) CIVIC flips the community-university dynamic, asking *communities* to identify civic priorities ripe for innovation and then to partner with researchers to address those priorities; (2) CIVIC focuses on research that is ready for piloting in and with communities on a short timescale, where real-world impact can be evaluated within 12 months; (3) CIVIC requires the inclusion of civic partners in the core project team, to emphasize civic engagement; and (4) CIVIC organizes and fosters "communities of practice" around high-need problem areas that allow for meaningful knowledge sharing and cross-site collaboration during both pre-development and piloting. **For purposes of clarity, civic partners may include local, state, or tribal government officials; non-profit representatives; community organizers or advocates; community service providers; and/or others working to improve their communities.**

CIVIC is organized as a two-stage competition with two tracks centered around the following topic areas:

- Track A. Communities and Mobility: *Offering Better Mobility Options to Solve the Spatial Mismatch Between Housing Affordability and Jobs*; and
- Track B. Resilience to Natural Disasters: *Equipping Communities for Greater Preparedness and Resilience to Natural Disasters*.

In the first stage (Stage 1), about 12 awards per track will be made for Planning Grants – each with a budget of up to $50,000 for four months to undertake pre-development activities, including solidifying the team, maturing the project plans, and preparing to submit a well-developed full proposal for Stage 2. **Only awardees of Stage 1 will be eligible to submit proposals for Stage 2.**

In the second stage (Stage 2), about four teams per track will be selected from Stage 1 award recipients to receive a full award — each with a budget of up to $1,000,000 for up to 12 months to execute and evaluate their research-centered pilot projects.

Throughout both stages, NSF grantee (NSF award 1931690) MetroLab Network (metrolabnetwork.org, nsfcivicinnovation.org) will foster "communities of practice" through in-person and web-based activities, aimed at enhancing the teams' capacity-building, networking, impact, and ability to create methods and solutions transferable to other communities.

This research and action competition is jointly supported by NSF's Directorate for Computer and Information Science and Engineering (CISE), Directorate for Engineering, and Directorate for Social, Behavioral, and Economic Sciences (SBE), the Department of Energy (DOE), and the Department of Homeland Security (DHS). Track A is supported by NSF and DOE. Track B is supported by NSF/CISE and DHS. Additional support for CIVIC activities may be available from a set of philanthropic organizations working together with MetroLab Network. NSF will not share proposals or reviews with philanthropic organizations.

Cognizant Program Officer(s):

Please note that the following information is current at the time of publishing. See program website for any updates to the points of contact.

- David Corman, Program Director, CISE/CNS, telephone: (703) 292-8754, email: dcorman@nsf.gov
- Linda Bushnell, Program Director, CISE/CNS, telephone: (703) 292-8950, email: lbushnel@nsf.gov
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Applicable Catalog of Federal Domestic Assistance (CFDA) Number(s):

- 47.041 --- Engineering
- 47.070 --- Computer and Information Science and Engineering
- 47.075 --- Social Behavioral and Economic Sciences
- 81.049 --- Office of Science Financial Assistance Program
- 97.108 --- Department of Homeland Security, Science & Technology Directorate

Award Information

Anticipated Type of Award: Standard Grant

Estimated Number of Awards: 24 to 32

About 12 $50,000 planning grants per track (Stage 1) and about four $1,000,000 full awards per track (Stage 2) are anticipated, subject to the quality of proposals and availability of funds."

Anticipated Funding Amount: $11,000,000

Estimated program budget, number of awards and average award size/duration are subject to the availability of funds and quality of proposals received.

Eligibility Information

Who May Submit Proposals:

Proposals may only be submitted by the following:

- Institutions of Higher Education (IHEs) - Two- and four-year IHEs (including community colleges) accredited in, and having a campus located in the US, acting on behalf of their faculty members. Special Instructions for International Branch Campuses of US IHEs: If the proposal includes funding to be provided to an international branch campus of a US institution of higher education (including through use of subawards and consultant arrangements), the proposer must explain the benefit(s) to the project of performance at the international branch campus, and justify why the project activities cannot be performed at the US campus.
- Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in the U.S. associated with educational or research activities.

Who May Serve as PI:

There are no restrictions or limits.

Limit on Number of Proposals per Organization:

There are no restrictions or limits.

Limit on Number of Proposals per PI or Co-PI:

For Stage 1: an individual may participate as PI or co-PI in at most two proposals.

For Stage 2: an individual may participate as PI or co-PI in only one proposal.

In the event that an individual exceeds this limit, proposals received within the limit will be accepted based on earliest date and time of proposal submission. This limitation includes proposals submitted by a lead organization and any subawards included as part of a collaborative proposal involving multiple institutions. No exceptions will be made.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Not required
- **Preliminary Proposal Submission:** Not required
- **Full Proposals:**
  - Full Proposals submitted via FastLane: *NSF Proposal and Award Policies and Procedures Guide* (PAPPG) guidelines apply. The complete text of the PAPPG is available electronically on the NSF website at: https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg.
  - Full Proposals submitted via Research.gov: *NSF Proposal and Award Policies and Procedures Guide* (PAPPG) guidelines apply. The complete text of the PAPPG is available electronically on the NSF website at: https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg.
  - Full Proposals submitted via Grants.gov: *NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov* guidelines apply (Note: The *NSF Grants.gov Application Guide* is available on the Grants.gov website and on the NSF website at: https://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide).

B. Budgetary Information

- **Cost Sharing Requirements:**

  Inclusion of voluntary committed cost sharing is prohibited.

- **Indirect Cost (F&A) Limitations:**

  Not Applicable

- **Other Budgetary Limitations:**

  Not Applicable

C. Due Dates

- **Full Proposal Deadline(s)** (due by 5 p.m. submitter's local time):

  August 03, 2020

  Stage 1

  May 05, 2021

  Stage 2

Proposal Review Information Criteria

Merit Review Criteria:

National Science Board approved criteria. Additional merit review criteria apply. Please see the full text of this solicitation for further information.

Award Administration Information

Award Conditions:

Standard NSF award conditions apply.

Reporting Requirements:

Standard NSF reporting requirements apply.

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I. INTRODUCTION

The Civic Innovation Challenge (CIVIC) is a research and action competition in the Smart and Connected Communities (S&CC) domain designed to build a more cohesive research-to-innovation pipeline and foster a collaborative spirit. CIVIC aims to flip the community-university dynamic, asking *communities* to identify civic priorities ripe for innovation and to then partner with researchers to address those priorities. Together, academic and civic partners will leverage technical and social scientific discovery, along with community expertise, to make progress toward solving the spatial mismatch between housing affordability and jobs (Track A) and enhancing communities' preparedness and resilience to natural disasters (Track B).

CIVIC aims to accelerate the real-world impact of S&CC research, and deepen cooperation and information sharing across sectors and regions. Whereas many community-university partnerships take years to provide tangible benefits to communities, CIVIC will fund projects that have the potential to produce significant community impact within 12 months, following a four-month planning phase, and lasting impact beyond the period of the CIVIC award.

II. PROGRAM DESCRIPTION

A. Overview

CIVIC will lay a foundation for a broader and more fluid exchange of research interests and civic priorities that will create new instances of collaboration and introduce new areas of technical and social scientific discovery. This goal will be achieved by focusing on research that is ready for piloting in and with communities on a short timescale, where real-world impact can be evaluated within 12 months. A CIVIC project should address technical and social science research questions that arise from community-identified challenges via a tight collaboration between civic and academic partners, with the goal of achieving concrete impacts in the communities and that will also be scalable, sustainable, and transferable.

CIVIC comprises two tracks, which emerged from a set of discussions with civic and academic leaders at an Ideas Festival held in early 2019.

The two tracks are as follows:

Track A. Communities and Mobility: ***Offering Better Mobility Options to Solve the Spatial Mismatch Between Housing Affordability and Jobs***

Transportation and housing are fundamental to everyday life and represent a large share of household costs, especially for low- and middle-income residents. In many communities across the United States, residents cannot find housing that is affordable near where they work. This spatial mismatch between housing and jobs strains local economies (e.g., by restricting companies' access to workers and intensifying traffic) and affects residents' quality of life (e.g., by lengthening commute times and increasing transportation costs).

The goal of this track is to answer questions including but not limited to: How can communities and researchers work together to connect job centers to housing that is affordable by creating better transportation options for residents? How can stakeholders address the economic and societal costs of transportation, including expensive and extended commutes, traffic congestion, and inefficient energy usage?

In addition to addressing the mismatch between housing affordability and jobs, teams are encouraged to consider how mobility solutions can increase access to critical services and amenities that foster healthy and thriving communities, such as fresh foods, affordable childcare, medical care, education, and/or access to technology. Teams should develop viable solutions that leverage mobility, including data-driven strategies and pilot deployments. Teams should undertake deep community engagement, involving underrepresented and vulnerable populations in the data collection and piloting processes.

Teams in this track should consider integrating existing data sources, tools, and models with new resources that can be used by governments, employers, and housing developers. Project outcomes should benefit residents in the near term and consider how solutions accommodate and support future transportation systems.

Track B. Resilience to Natural Disasters: ***Equipping Communities for Greater Preparedness and Resilience to Natural Disasters***

Every year, natural disasters and extreme weather events affect millions of Americans. Many communities across the United States have struggled to adapt to the increasing frequency and severity of these events, which demand robust and resilient responses for rapid recovery. Research demonstrates that the negative impacts of disasters disproportionately affect vulnerable communities with lower incomes. This track will support sensor and decision technologies that can help prepare communities to respond to extreme weather and other events such as floods, hurricanes, wildfires, and heatwaves.

The goal of this track is to answer questions including but not limited to: How can communities and researchers work together to develop place-based, data-driven community resilience indicators as well as interventions that will better enable residents and businesses to prepare for, respond to, and recover from flooding and other natural disasters? How can these indicators be developed through integrating datasets, creating novel approaches to measure resilience, and unlocking creative interventions to build resilience? What role(s) do new tools and technologies play in these approaches, including sensor technology, real-time data collection and analysis, data integration and privacy methods, and civic engagement techniques? How can communities leverage real-time data, technologies, and civic engagement in order to enhance the resilience of residents and businesses who are at risk of natural disasters? What is the applicability of these indicators to disaster resilience in other communities? How do these resilience indicators relate to communities' systems and infrastructure (e.g., transportation, water, and energy) and how can those systems enhance residents' and businesses' resilience?

Teams in this track should undertake deep community engagement, reaching underrepresented and vulnerable populations. Approaches should consider how to involve residents in the collection of data that inform the community resilience indicators. Teams should consider how residents can be users of the indicators, including methods to build resilience within communities. Finally, teams should propose and pilot interventions that can boost community resilience. The interventions should draw from civic engagement, innovative use of sensors, decision algorithms, and other tools that can both help prepare communities to respond to and recover from these disasters.

For any proposal (in Track A or Track B), the core project team must include civic partners working together with researchers to develop, pilot, and evaluate the proposed project. Civic partners may include local, state, or tribal government officials; non-profit representatives; community organizers or advocates; community service providers; and/or others working to improve their communities. In addition, teams may choose to engage with industry partners. **To be true partners in these activities, proposers must include civic partner(s) as senior personnel on the project. For Stage 2, it is strongly encouraged for civic partner(s) to receive an appropriate distribution of funds in the project budget.** Although only universities and non-profit organizations are eligible to receive funds directly from NSF, other civic partners and organizations (including local and state governments) may receive funding via subawards from the awardee organization.

For this solicitation, civic engagement activities, communities, and academic and civic partners must be based in the United States. This may involve state, local, and/or Federally recognized Indian tribal governments. A "state" means any of the states of the United States, the District of Columbia, the Commonwealth of Puerto Rico, any territory or possession of the United States, or any agency or instrumentality of a State exclusive of local governments. A "local government" means a county, municipality, city, town, township, local public authority, school district, special district, intrastate district, council of governments (whether or not incorporated as a nonprofit corporation under state law), any other regional or interstate government entity, or any agency or instrumentality of a local government. A "federally-recognized Indian tribal government" means the governing body or a governmental agency of any Indian tribe, band, nation, or other organized group or community (including any native village as defined in Section 3 of the Alaska Native Claims Settlement Act, 85 Stat. 688) certified by the Secretary of the Interior as eligible for the special programs and services provided through the Bureau of Indian Affairs.

NSF is committed to broadening participation among underrepresented groups, institutions, and geographic regions, which is essential to the health and vitality of our Nation. Teams are encouraged to work directly with members of underrepresented groups as team members and/or to carry out civic engagement activities. Examples of underrepresented groups include but are not limited to women, persons with disabilities, African Americans/Blacks, Hispanic Americans, American Indians, Alaska Natives, Native Hawaiians, Native Pacific Islanders, and persons from economically disadvantaged backgrounds.

Proposals should anticipate providing Institutional Review Board (IRB)/Institutional Animal Care and Use Committee (IACUC) approvals as appropriate prior to award.

B. Project Categories

The CIVIC program comprises two stages. Stage 1 (Planning Grants) focuses on capacity-building to prepare project teams to propose well-developed Stage 2 (Full Award) proposals. Stage 1 projects will be selected through an open proposal submission, while only Stage 1 participants will be allowed to submit proposals for Stage 2. For Stage 2 projects, the PI must be the same as Stage 1, but other changes in the team composition are allowable. The Stage 2 projects are focused on developing and piloting solutions to community challenges in the two tracks.

Stage 1. Planning Grants (PGs). Projects funded in this category will provide support for a period of four months with a budget not to exceed $50,000. Each of these projects will undertake a range of planning activities in anticipation of submitting a Stage 2 proposal, such as strengthening collaborations

with relevant stakeholders, solidifying academic and civic partner team members' roles, and refining the vision and plan for executing the research-centered pilot project.

Stage 2. Full Awards (FAs). Projects funded in this category will provide support for a period of 12 months with a budget not to exceed $1,000,000. Each Stage 2 project will pursue a research-centered pilot project in either one of the two tracks, with clear intentions of the civic and research organizations, describing expected research and community impacts, and identifying the risks in execution and plans for sustainability beyond the period of the award.

C. "Community-of-Practice" Activities

MetroLab Network, supported by NSF award 1931690, will lead a range of activities critical to the success of CIVIC, including outreach, capacity building, grantee support, and joint-funder engagement. MetroLab Network will foster "communities of practice" through in-person and web-based activities aimed at enhancing the teams' capacity-building, networking, impact, and ability to ultimately create methods and solutions transferable to other communities.

Projects must participate in in-person and virtual cohort activities led by MetroLab Network and the NSF CIVIC program team. Projects must send a minimum of two team members to participate in these activities, including the PI and preferably another member of the project representing a sector different from the PI. For example, if the PI applies via a non-profit, they may send a second team member from academia; local, state, or tribal government; service provider; or another sector represented on the team. An alternate representative may attend these events, if approved by NSF.

For in-person activities, Stage 1 grantees must participate in a one- or two-day kickoff workshop and a two-day event at the end of the four months, including a showcase of progress to date on the first day and a workshop on the second day focused on preparing to submit Stage 2 proposals. Stage 2 grantees must participate in a two-day kick-off event, a two-day mid-year workshop, and a one-day showcase at the end of the projects. In addition, we anticipate that awardees from Stage 2 will be required to participate in the S&CC Principal Investigators annual meeting while their CIVIC awards are active. Additional activities are expected to be virtual.

At the showcases at the end of Stage 1 and Stage 2, awardees will present demonstrations and/or summarize progress made during their awards. In addition, each team will prepare a presentation that includes a one-page graphic summary of their project and a video of up to five minutes describing the project. The award recipients agree that the resulting presentation material may be posted online for public access and/or shared by NSF with interested parties. NSF anticipates the documents may be posted on a MetroLab Network or other appropriate website.

Teams must include in their budgets travel to these events. The events will be located in the Washington, DC, area. Teams will be required to participate in virtual capacity-building and networking activities, including webinars and project update calls. These activities are expected to be held on a monthly basis

III. AWARD INFORMATION

Anticipated Type of Award: Standard Grant

Estimated Number of Awards: 24 to 32

About 12 $50,000 planning grants per track (Stage 1) and about four $1,000,000 full awards per track (Stage 2) are anticipated, subject to the quality of proposals and availability of funds."

Anticipated Funding Amount: $11,000,000

Estimated program budget, number of awards and average award size/duration are subject to the availability of funds and quality of proposals received.

IV. ELIGIBILITY INFORMATION

Who May Submit Proposals:

Proposals may only be submitted by the following:

- Institutions of Higher Education (IHEs) - Two- and four-year IHEs (including community colleges) accredited in, and having a campus located in the US, acting on behalf of their faculty members. Special Instructions for International Branch Campuses of US IHEs: If the proposal includes funding to be provided to an international branch campus of a US institution of higher education (including through use of subawards and consultant arrangements), the proposer must explain the benefit(s) to the project of performance at the international branch campus, and justify why the project activities cannot be performed at the US campus.
- Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in the U.S. associated with educational or research activities.

Who May Serve as PI:

There are no restrictions or limits.

Limit on Number of Proposals per Organization:

There are no restrictions or limits.

Limit on Number of Proposals per PI or Co-PI:

For Stage 1: an individual may participate as PI or co-PI in at most two proposals.

For Stage 2: an individual may participate as PI or co-PI in only one proposal.

In the event that an individual exceeds this limit, proposals received within the limit will be accepted based on earliest date and time of proposal submission. This limitation includes proposals submitted by a lead organization and any subawards included as part of a collaborative proposal involving multiple institutions. No exceptions will be made.

Additional Eligibility Info:

If the PI is based at a university, proposers must include at least one civic partner as senior personnel on the project.

Proposals for Stage 2 may only be submitted by Stage 1 grantees. The PI must be the same, however other changes in the team composition are allowable.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Full Proposal Preparation Instructions: Proposers may opt to submit proposals in response to this Program Solicitation via FastLane, Research.gov, or Grants.gov.

- Full proposals submitted via FastLane: Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the general guidelines contained in the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG). The complete text of the PAPPG is available electronically on the NSF website at: https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg. Paper copies of the PAPPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-8134 or by e-mail from nsfpubs@nsf.gov. Proposers are reminded to identify this program solicitation number in the program solicitation block on the NSF Cover Sheet For Proposal to the National Science Foundation. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.
- Full Proposals submitted via Research.gov: Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the general guidelines contained in the *NSF Proposal and Award Policies and Procedures Guide* (PAPPG). The complete text of the PAPPG is available electronically on the NSF website at: https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg. Paper copies of the PAPPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-8134 or by e-mail from nsfpubs@nsf.gov. The Prepare New Proposal setup will prompt you for the program solicitation number.
- Full proposals submitted via Grants.gov: Proposals submitted in response to this program solicitation via Grants.gov should be prepared and submitted in accordance with the *NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov*. The complete text of the *NSF Grants.gov Application Guide* is available on the Grants.gov website and on the NSF website at: (https://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide). To obtain copies of the Application Guide and Application Forms Package, click on the Apply tab on the Grants.gov site, then click on the Apply Step 1: Download a Grant Application Package and Application Instructions link and enter the funding opportunity number, (the program solicitation number without the NSF prefix) and press the Download Package button. Paper copies of the Grants.gov Application Guide also may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-8134 or by e-mail from nsfpubs@nsf.gov.

See PAPPG Chapter II.C.2 for guidance on the required sections of a full research proposal submitted to NSF. Please note that the proposal preparation instructions provided in this program solicitation may deviate from the PAPPG instructions.

Multi-Institutional Proposals: For collaborative proposals involving multiple institutions, the proposal must be submitted by one lead institution with funding for all other participating institutions made through subawards. See PAPPG Chapter II.D.3.a for additional information**. Proposals submitted as separately submitted collaborative proposals (as described under PAPPG Chapter II.D.3.b) will be returned without review**.

Cover Sheet:

Proposal Title: The title of the proposal **must** begin with **"SCC-CIVIC-PG Track A"**, **"SCC-CIVIC-PG Track B"**, **"SCC-CIVIC-FA Track A"**, or **"SCC-CIVIC-FA Track B"**, corresponding to the proposal type and track.

The rest of the proposal title should describe the project in concise, informative language so that a scientifically- or technically-literate reader can understand the aims of the project. The title should emphasize the research project to be undertaken and be suitable for use in the public press.

Personnel Listed on the Cover Sheet: Provide complete information requested on the cover sheet for the PI and co-PIs.

Project Description:

All proposals must include all sections required by the PAPPG, including Intellectual Merit, Broader Impacts, and Results from Prior NSF Support.

Stage 1. Planning Grant (PG) Proposals

Project Description: PG proposals should describe the plan that will prepare the team to propose and execute a Stage 2 Full Award. **The Project Description for PG proposals is limited to 6 pages in length. PG proposals exceeding 6 pages in length will be returned without review.** References do not count as part of the page limits.

The Project Description must include separate sections labeled **Vision for a Research-Centered Pilot Project, Civic Engagement, Broader Impacts, and Results from Prior NSF Support.** Subsections labeled **Research Questions** and **Intellectual Merit** must be included as part of the Vision for a Research-Centered Pilot Project section. **Proposals lacking one or more of these sections or subsections will be returned without review.** Additional details about these sections follows:

1. **Vision for a Research-Centered Pilot Project** must be the central focus of the Project Description. This section must outline the project vision and goals; team members and their roles; the tasks to be performed during execution of the PG; and the respective roles of each organization.
    - **Research Questions** must detail technical and social science research questions, hypotheses, and research gaps that will be explored during the planning period of the proposed project
    - **Intellectual Merit** must include the content described in the PAPPG.

    Teams must propose activities in their vision for Stage 2 that go beyond a model, policy, best practices document, or academic publication. Projects must include a research pilot within a real- world context.

    Teams should consider the following as they develop their plans:

    - What is the vision of the project?
    - What research question(s) will be addressed?
    - Who are the members of the team, including academic and civic partners?
    - In which community(ies) will the activities be undertaken?
    - How will the team members work together for four months (Stage 1) and the following 12 months if awarded for Stage 2?
    - What are the activities to be undertaken during the Stage 1 Planning Grant?
2. **Civic Engagement** must describe the community(ies) in which the activities will be undertaken and detail how teams will work together to "close the loop" and achieve significant impact with their proposed activities. Details of past collaborations should be included, if relevant. NSF expects strong collaboration across the PG team. Details of past collaborations should be included, if relevant.

    Teams may wish to consider the following as they develop their civic engagement plans:

    - Who from the community should be engaged in the project? This may include city or state departments or agencies, regional councils of government, human and social service providers, as well as other stakeholders who are interested in addressing the specific topic, enhancing service provision, and/or creating better approaches for residents to inform a region, city, or community.
    - How will the collaborative approach break down barriers between academia, civic organizations, and local and state governments to achieve desired impact?
    - From the community's perspective, do the proposed activities address a problem of significance? In what ways has the community worked to address this problem previously? Why does the community believe this problem will benefit from inclusion of research?
    - What combination of civic partner(s), civic engagement activities, and research outputs will enable the project team to "close the loop" and achieve significant impact with their proposed activities?
    - Does the team have the capacity to undertake a fast-paced research-centered pilot project, including the ability to meet regularly?
3. **Broader Impacts** must include the content described in the PAPPG.
4. **Results from Prior NSF Support** must include the content described in the PAPPG.

Stage 2. Full Award (FA) Proposals

Project Description: The Project Description for Full Award proposals is limited to 15 pages in length. FA proposals exceeding 15 pages in length will be returned without review. References do not count as part of the page limits.

The Project Description must provide details on a pilot research approach and describe how the civic engagement components infuse and support the proposed pilot research. It should summarize activities conducted during the PG and how these activities have prepared the team for the FA. Proposals must include separate sections labeled **Vision for a Research-Centered Pilot Project, Civic Engagement, Broader Impacts, Results from Prior NSF Support, Management Plan, Evaluation Plan,** and **Scalability, Sustainability, and Transferability**. Subsections labeled **Research Questions** and **Intellectual Merit** must be included as part of the Vision for a Research-Centered Pilot Project section. **Proposals lacking one or more of these sections or subsections will be returned without review.** Additional details about these sections follows:

1. **Vision for a Research-Centered Pilot Project** section must be the central focus of the Project Description. This section must outline the project vision and goals; preparatory activities including those from the PG, team members and their roles; the tasks to be performed during execution of the FA; and the respective roles of each organization.
    - **Research Questions** must detail technical and social science research questions, hypotheses, and research gaps that will be explored during the planning period of the proposed project.
    - **Intellectual Merit** must include the content described in the PAPPG.

      Teams must propose activities in their vision for Stage 2 that go beyond a model, policy, best practices document, or academic publication. Projects must include piloting research within a real-world context.

      Teams should consider the following as they develop this section:

    - What is the vision of the project?
    - What were the results from the PG and how have they supported the vision for the FA?
    - What research question(s) will be addressed?
    - Who are the members of the team, including academic and civic partners?
    - If changes in the team happened from Stage 1 to Stage 2, what are the reasons for those changes and what are the additional capabilities of the new members?
    - In which community(ies) will the activities be undertaken?
    - How will the team members work together during the execution of the FA? What is the plan for providing funds to partners?
    - How will the proposed work leverage $1,000,000 over the next 12 months to achieve impact?
    - What technologies and/or prior work is being leveraged for this project and how ready is this for demonstration in the selected community on a short timescale?
    - Why are the proposed activities best suited for collaboration between researchers, community members, and civic partners, rather than as independent efforts?

      Teams may also wish to consider the following:

    - What are the constraints within which the project must work (e.g., availability of paid and unpaid individuals contributing to the project, deployment and operations restrictions or conventions in the community, and cost of the proposed activities)?
    - Who will be impacted by these activities? Is this impact sufficiently large to warrant investment of time and future funds on the part of

the community? Will the proposed activities receive the necessary “buy-in” from the local government and citizens in order to achieve the desired impact?
    - What data and community resources will be leveraged for the proposed activities, including from the partnering community? This may include a community’s logistics data, distribution of resources and services, human preferences and constraints, economic considerations and constraints, and other social factors and constraints.
    - How do considerations of equity, access, and data privacy factor into the proposed solution(s)
2. **Civic Engagement** must describe the community(ies) in which the activities will be undertaken and detail how teams will work together to “close the loop” and achieve significant impact with their proposed activities. Details of past collaborations should be included, if relevant.

   Teams may wish to consider the following as they are developing their civic engagement plans:

    - Who from the community should be engaged in the project?
    - From the community’s perspective, do the proposed activities address a problem of significance? In what ways has the community worked to address this problem previously? Why does the community believe this problem will benefit from inclusion of research?
    - What combination of civic partner(s), civic engagement activities, and research outputs will enable the project team to “close the loop” and achieve significant impact with their proposed activities?
    - Does the team have the capacity to undertake a fast-paced, research-centered pilot project, including the ability to meet regularly?
3. **Broader Impacts** must include the content described in the PAPPG.
4. **Results from Prior NSF Support** must include the content described in the PAPPG.
5. **Management Plan.** The Project Description for FA proposals must contain a Management Plan that describes the specific roles and responsibilities of all members of the team: PI, co-PIs, other Senior Personnel, and other partners. This section should describe the expertise each member or group brings to the project, including to the technical and/or social-science dimensions, access to the target community, and management of project tasks. If any member of the team is not included in the budget, describe the reason.

   In addition, the plan must include the following:

    - Who will manage the project on a day-to-day basis? **Note that although the lead PI must be from an institution of higher education or non-profit organization, teams are encouraged to designate funds for other member(s) of the team to participate in project management.**
    - How will the collaborative approach break down barriers between academia, civic organizations, and local and state governments to achieve desired impact? How did this approach work during the Planning Grant award period?
    - How will the project be managed across academic disciplines, institutions and organizations, and community(ies)? Identify specific collaboration mechanisms that will enable cross-discipline and cross-sector integration of teams.
    - How will tasks be carried out over the course of the project? Please include a timeline with principal tasks and associated interactions.
    - How will the team address data sharing and data governance?
6. **Evaluation Plan.** Teams should have a plan to monitor impact, adjust the proposed plan, and assess the viability of the pilot project for scalability. The Evaluation Plan should be specific to the project’s proposed goals and milestones. For example, it should describe criteria, metrics, and methods for assessing progress and outcomes. Evaluations may use methods most appropriate for measuring community impact (e.g., qualitative and/or quantitative assessment, periodic and/or longitudinal analyses, and public participation in data collection).
7. **Scalability, Sustainability, and Transferability.** If the outcomes of the proposed pilot project are successful, describe the plans to scale and sustain the project. Consider addressing the following:
    - What does full implementation mean in the context of the team’s proposed project? What are the next steps required before full implementation?
    - How will the team sustain the project beyond the period of NSF support to increase impact beyond the pilot stage?

Although the focus of the proposed activities should be on a pilot project specific to the team’s local community, projects should have some components that are transferable to other communities; this section should describe the aspects that may be transferable.

Supplementary Documents:

Proposers are required to submit Project Personnel and Partner Institutions (see below), which provides information about all personnel and institutions involved in the project. Letters of collaboration are strongly encouraged; if included, these should be uploaded to the Supplementary Documents section as well.

1. Project Personnel and Partner Institutions: All proposals (Stage 1 and Stage 2) must have current, accurate information of all personnel and institutions involved in the project. The list must include all PIs, co-PIs, Senior Personnel, paid/unpaid Civic Partners, Consultants or Collaborators, Subawardees, Postdocs, and project-level advisory committee members. This list should be numbered and include (in this order) Full name, Organization(s), and Role in the project, with each item separated by a semi-colon. Each person listed should start a new numbered line. For example:

- Maria Velasquez; XYZ University; PI
- Kiara Williams; Office of Governor X; coPI (Subawardee)
- John Jones; University of PQR; Senior Personnel (Subawardee)
- Jane Brown; XYZ University; Postdoc
- Bob Adams; ABC City Council; Paid Civic Partner (Subawardee)
- Mary White; Welldone Church; Unpaid Collaborator

Proposals that do not contain Project Personnel and Partner Institutions with the appropriate information will be returned without review.

2. Letters of Collaboration: Letters of collaboration explicitly describing roles and responsibilities of civic and academic partners are encouraged for Stage 1 and Stage 2. Letters should be provided in the Supplementary Documents section. **Letters that primarily serve as endorsements of the team or project or letters of support are explicitly excluded and may result in the proposal being returned without review.** The NSF PAPPG also contains a format for a letter of collaboration (“the standard letter”):

"If the proposal submitted by Dr. [insert the full name of the Principal Investigator] entitled [insert the proposal title] is selected for funding by NSF, it is my intent to collaborate and/or commit resources as detailed in the Project Description or the Facilities, Equipment or Other Resources section of the proposal."

Collaborative activities that are identified in the budget should follow the instructions in the NSF PAPPG. Any substantial collaboration with individuals not included in the budget should also be described in the Facilities, Equipment and Other Resources section of the proposal and documented in a Letter of

Collaboration from each collaborator.

Single Copy Documents:

Collaborators and Other Affiliations (COA) Information:

Proposers should follow the guidance specified in Chapter II.C.1.e of the NSF PAPPG. Grants.gov Users: The COA information must be provided through use of the COA template and uploaded as a PDF attachment.

Note the distinction to the list of Project Personnel and Partner Institutions specified above under Supplementary Documents: the listing of all project participants is collected by the project lead and entered as a Supplementary Document. The Collaborators and Other Affiliations are entered for each senior project personnel and, as Single Copy Documents, are available only to NSF staff.

CIVIC Proposal Preparation Checklist:

The following checklist is provided as a reminder of the items that should be checked before submitting a proposal to this solicitation. These are a summary of the requirements described above. For the items marked with (RWR), the proposal will be returned without review if the required item is not compliant at the submission deadline.

- Proposal titles must begin with “SCC-CIVIC-PG Track A”, “SCC-CIVIC-PG Track B”, “SCC-CIVIC-FA Track A”, or “SCC-CIVIC-FA Track B”.
- (RWR) Project Description must not exceed 6 pages for Planning Grant proposals.
- (RWR) Project Description must not exceed 15 pages for Full Award proposals.
- (RWR) Sections labeled “Vision for a Research-Centered Pilot Project”; “Civic Engagement”; "Broader Impacts" and "Results from Prior NSF Support" are required within the Project Description for all proposals.
- (RWR) Subsections labeled “Research Questions” and Intellectual Merit” are required within the "Vision for a Research-Centered Pilot Project" section of the Project Description for all proposals.
- (RWR) Project Personnel and Partner Institutions document is required as a Supplementary Document for all proposals.
- (RWR) Proposals must be submitted by one lead organization with funding for all other participating institutions made through subawards.
- (RWR) Proposals submitted as separately submitted collaborative proposals (as described under PAPPG Chapter II.D.3.b) will be returned without review.
- (RWR) Sections labeled “Management Plan”, “Evaluation Plan”, and “Scalability, Sustainability, and Transferability” are required within the Project Description for Full Award proposals.
- (RWR) For Stage 1: an individual may participate as PI or co-PI in at most two proposals.
- (RWR) For Stage 2: an individual may participate as PI or co-PI in only one proposal.
- Letters of Collaboration are permitted as Supplementary Documents for all proposals.
- In addition, all requirements in PAPPG must be fulfilled.

B. Budgetary Information

Cost Sharing:

Inclusion of voluntary committed cost sharing is prohibited.

Budget Preparation Instructions:

Projects must participate in in-person and virtual cohort activities led by MetroLab Network and the NSF CIVIC program team. Projects must send a minimum of two team members to participate in these activities, including the PI and preferably another member of the project representing a sector different from the PI. For example, if the PI applies via a non-profit, they may send a second team member from academia; local, state, or tribal government; service provider; or another sector represented on the team. An alternate representative may attend these events, if approved by NSF.

For in-person activities, Stage 1 grantees must participate in a one- or two-day kickoff workshop and a two-day event at the end of the four months, including a showcase of progress to date on the first day and a workshop on the second day focused on preparing to submit Stage 2 proposals. Stage 2 grantees must participate in a two-day kick-off event, a two-day mid-year workshop, and a one-day showcase at the end of the projects. In addition, we anticipate that awardees from Stage 2 will be required to participate in the S&CC Principal Investigators annual meeting while their CIVIC awards are active. Additional activities are expected to be virtual.

At the showcases at the end of Stage 1 and Stage 2, awardees will present demonstrations and/or summarize progress made during their awards. In addition, each team will prepare a presentation that includes a one-page graphic summary of their project and a video of up to five minutes describing the project. The award recipients agree that the resulting presentation material may be posted online for public access and/or shared by NSF with interested parties. NSF anticipates the documents may be posted on a MetroLab Network or other appropriate website.

Teams must include in their budgets travel to these events. The events will be located in the Washington, DC, area. Teams will be required to participate in virtual capacity-building and networking activities, including webinars and project update calls. These activities are expected to be held on a monthly basis.

C. Due Dates

- **Full Proposal Deadline(s)** (due by 5 p.m. submitter's local time):

  August 03, 2020

  Stage 1

  May 05 2021

  Stage 2

D. FastLane/Research.gov/Grants.gov Requirements

For Proposals Submitted Via FastLane or Research.gov:

To prepare and submit a proposal via FastLane, see detailed technical instructions available at: https://www.fastlane.nsf.gov/a1/newstan.htm. To prepare and submit a proposal via Research.gov, see detailed technical instructions available at: https://www.research.gov/research-portal/appmanager/base/desktop?_nfpb=true&_pageLabel=research_node_display&_nodePath=/researchGov/Service/Desktop/ProposalPreparationandSubmission.html. For FastLane or Research.gov user support, call the FastLane and Research.gov Help Desk at 1-800-673-6188 or e-mail fastlane@nsf.gov or rgov@nsf.gov. The FastLane and Research.gov Help Desk answers general technical questions related to the use of the FastLane and Research.gov systems. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this funding opportunity.

For Proposals Submitted Via Grants.gov:

Before using Grants.gov for the first time, each organization must register to create an institutional profile. Once registered, the applicant's organization can then apply for any federal grant on the Grants.gov website. Comprehensive information about using Grants.gov is available on the Grants.gov Applicant Resources webpage: https://www.grants.gov/web/grants/applicants.html. In addition, the NSF Grants.gov Application Guide (see link in Section V.A) provides instructions regarding the technical preparation of proposals via Grants.gov. For Grants.gov user support, contact the Grants.gov Contact Center at 1-800-518-4726 or by email: support@grants.gov. The Grants.gov Contact Center answers general technical questions related to the use of Grants.gov. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this solicitation.

Submitting the Proposal: Once all documents have been completed, the Authorized Organizational Representative (AOR) must submit the application to Grants.gov and verify the desired funding opportunity and agency to which the application is submitted. The AOR must then sign and submit the application to Grants.gov. The completed application will be transferred to the NSF FastLane system for further processing.

Proposers that submitted via FastLane or Research.gov may use Research.gov to verify the status of their submission to NSF. For proposers that submitted via Grants.gov, until an application has been received and validated by NSF, the Authorized Organizational Representative may check the status of an application on Grants.gov. After proposers have received an e-mail notification from NSF, Research.gov should be used to check the status of an application.

VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

Proposals received by NSF are assigned to the appropriate NSF program for acknowledgement and, if they meet NSF requirements, for review. All proposals are carefully reviewed by a scientist, engineer, or educator serving as an NSF Program Officer, and usually by three to ten other persons outside NSF either as *ad hoc* reviewers, panelists, or both, who are experts in the particular fields represented by the proposal. These reviewers are selected by Program Officers charged with oversight of the review process. Proposers are invited to suggest names of persons they believe are especially well qualified to review the proposal and/or persons they would prefer not review the proposal. These suggestions may serve as one source in the reviewer selection process at the Program Officer's discretion. Submission of such names, however, is optional. Care is taken to ensure that reviewers have no conflicts of interest with the proposal. In addition, Program Officers may obtain comments from site visits before recommending final action on proposals. Senior NSF staff further review recommendations for awards. A flowchart that depicts the entire NSF proposal and award process (and associated timeline) is included in PAPPG Exhibit III-1.

A comprehensive description of the Foundation's merit review process is available on the NSF website at: https://www.nsf.gov/bfa/dias/policy/merit_review/.

Proposers should also be aware of core strategies that are essential to the fulfillment of NSF's mission, as articulated in *Building the Future: Investing in Discovery and Innovation - NSF Strategic Plan for Fiscal Years (FY) 2018 – 2022*. These strategies are integrated in the program planning and implementation process, of which proposal review is one part. NSF's mission is particularly well-implemented through the integration of research and education and broadening participation in NSF programs, projects, and activities.

One of the strategic objectives in support of NSF's mission is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions must recruit, train, and prepare a diverse STEM workforce to advance the frontiers of science and participate in the U.S. technology-based economy. NSF's contribution to the national innovation ecosystem is to provide cutting-edge research under the guidance of the Nation's most creative scientists and engineers. NSF also supports development of a strong science, technology, engineering, and mathematics (STEM) workforce by investing in building the knowledge that informs improvements in STEM teaching and learning.

NSF's mission calls for the broadening of opportunities and expanding participation of groups, institutions, and geographic regions that are underrepresented in STEM disciplines, which is essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports.

A. Merit Review Principles and Criteria

The National Science Foundation strives to invest in a robust and diverse portfolio of projects that creates new knowledge and enables breakthroughs in understanding across all areas of science and engineering research and education. To identify which projects to support, NSF relies on a merit review process that incorporates consideration of both the technical aspects of a proposed project and its potential to contribute more broadly to advancing NSF's mission "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes." NSF makes every effort to conduct a fair, competitive, transparent merit review process for the selection of projects.

1. Merit Review Principles

These principles are to be given due diligence by PIs and organizations when preparing proposals and managing projects, by reviewers when reading and evaluating proposals, and by NSF program staff when determining whether or not to recommend proposals for funding and while overseeing awards. Given that NSF is the primary federal agency charged with nurturing and supporting excellence in basic research and education, the following three principles apply:

- All NSF projects should be of the highest quality and have the potential to advance, if not transform, the frontiers of knowledge.
- NSF projects, in the aggregate, should contribute more broadly to achieving societal goals. These "Broader Impacts" may be accomplished through the research itself, through activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to, the project. The project activities may be based on previously established and/or innovative methods and approaches, but in either case must be well justified.
- Meaningful assessment and evaluation of NSF funded projects should be based on appropriate metrics, keeping in mind the likely correlation between the effect of broader impacts and the resources provided to implement projects. If the size of the activity is limited, evaluation of that activity in isolation is not likely to be meaningful. Thus, assessing the effectiveness of these activities may best be done at a higher, more aggregated, level than the individual project.

With respect to the third principle, even if assessment of Broader Impacts outcomes for particular projects is done at an aggregated level, PIs are expected to be accountable for carrying out the activities described in the funded project. Thus, individual projects should include clearly stated goals, specific descriptions of the activities that the PI intends to do, and a plan in place to document the outputs of those activities.

These three merit review principles provide the basis for the merit review criteria, as well as a context within which the users of the criteria can better understand their intent.

2. Merit Review Criteria

All NSF proposals are evaluated through use of the two National Science Board approved merit review criteria. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two merit review criteria are listed below. **Both** criteria are to be given **full consideration** during the review and decision-making processes; each criterion is necessary but neither, by itself, is sufficient. Therefore, proposers must fully address both criteria. (PAPPG Chapter II.C.2.d(i). contains additional information for use by proposers in development of the Project Description section of the proposal). Reviewers are strongly encouraged to review the criteria, including PAPPG Chapter II.C.2.d(i), prior to the review of a proposal.

When evaluating NSF proposals, reviewers will be asked to consider what the proposers want to do, why they want to do it, how they plan to do it, how they will know if they succeed, and what benefits could accrue if the project is successful. These issues apply both to the technical aspects of the proposal and the way in which the project may make broader contributions. To that end, reviewers will be asked to evaluate all proposals against two criteria:

- **Intellectual Merit:** The Intellectual Merit criterion encompasses the potential to advance knowledge; and
- **Broader Impacts:** The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

The following elements should be considered in the review for both criteria:

1. What is the potential for the proposed activity to
    a. Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
    b. Benefit society or advance desired societal outcomes (Broader Impacts)?
2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?
4. How well qualified is the individual, team, or organization to conduct the proposed activities?
5. Are there adequate resources available to the PI (either at the home organization or through collaborations) to carry out the proposed activities?

Broader impacts may be accomplished through the research itself, through the activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to, the project. NSF values the advancement of scientific knowledge and activities that contribute to achievement of societally relevant outcomes. Such outcomes include, but are not limited to: full participation of women, persons with disabilities, and underrepresented minorities in science, technology, engineering, and mathematics (STEM); improved STEM education and educator development at any level; increased public scientific literacy and public engagement with science and technology; improved well-being of individuals in society; development of a diverse, globally competitive STEM workforce; increased partnerships between academia, industry, and others; improved national security; increased economic competitiveness of the United States; and enhanced infrastructure for research and education.

Proposers are reminded that reviewers will also be asked to review the Data Management Plan and the Postdoctoral Researcher Mentoring Plan, as appropriate.

Additional Solicitation Specific Review Criteria

For Stage 1 and Stage 2: how effectively does the collaborative approach described in the proposal break down barriers between academia, civic organizations, and local and state governments to achieve the desired impact?

B. Review and Selection Process

Proposals submitted in response to this program solicitation will be reviewed by Ad hoc Review and/or Panel Review, or Site Visit Review.

NSF will manage and conduct the review process of proposals submitted in accordance with NSF standards and procedures, as described in further detail below. The review and award recommendations will be coordinated by a CIVIC Interagency Working Group comprising program officers from the S&CC program in CISE, ENG, and SBE, and program officers from DHS and DOE. Relevant information about proposals and reviews of proposals will be shared between the participating funding organizations as appropriate. This Working Group will make joint decisions. For projects to be funded by DHS

and DOE, those agencies will transfer funds to NSF, and NSF will make the awards.

Reviewers will be asked to evaluate proposals using two National Science Board approved merit review criteria and, if applicable, additional program specific criteria. A summary rating and accompanying narrative will generally be completed and submitted by each reviewer and/or panel. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

After scientific, technical and programmatic review and consideration of appropriate factors, the NSF Program Officer recommends to the cognizant Division Director whether the proposal should be declined or recommended for award. NSF strives to be able to tell applicants whether their proposals have been declined or recommended for funding within six months. Large or particularly complex proposals or proposals from new awardees may require additional review and processing time. The time interval begins on the deadline or target date, or receipt date, whichever is later. The interval ends when the Division Director acts upon the Program Officer's recommendation.

After programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements for review of business, financial, and policy implications. After an administrative review has occurred, Grants and Agreements Officers perform the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at their own risk.

Once an award or declination decision has been made, Principal Investigators are provided feedback about their proposals. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers or any reviewer-identifying information, are sent to the Principal Investigator/Project Director by the Program Officer. In addition, the proposer will receive an explanation of the decision to award or decline funding.

VII. AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

Notification of the award is made to *the submitting organization* by a Grants Officer in the Division of Grants and Agreements. Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator. (See Section VI.B. for additional information on the review process.)

B. Award Conditions

An NSF award consists of: (1) the award notice, which includes any special provisions applicable to the award and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award notice; (4) the applicable award conditions, such as Grant General Conditions (GC-1)*; or Research Terms and Conditions* and (5) any announcement or other NSF issuance that may be incorporated by reference in the award notice. Cooperative agreements also are administered in accordance with NSF Cooperative Agreement Financial and Administrative Terms and Conditions (CA-FATC) and the applicable Programmatic Terms and Conditions. NSF awards are electronically signed by an NSF Grants and Agreements Officer and transmitted electronically to the organization via e-mail.

*These documents may be accessed electronically on NSF's Website at https://www.nsf.gov/awards/managing/award_conditions.jsp?org=NSF. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-8134 or by e-mail from nsfpubs@nsf.gov.

More comprehensive information on NSF Award Conditions and other important information on the administration of NSF awards is contained in the NSF *Proposal & Award Policies & Procedures Guide* (PAPPG) Chapter VII, available electronically on the NSF Website at https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg.

C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the Principal Investigator must submit an annual project report to the cognizant Program Officer no later than 90 days prior to the end of the current budget period. (Some programs or awards require submission of more frequent project reports). No later than 120 days following expiration of a grant, the PI also is required to submit a final project report, and a project outcomes report for the general public.

Failure to provide the required annual or final project reports, or the project outcomes report, will delay NSF review and processing of any future funding increments as well as any pending proposals for all identified PIs and co-PIs on a given award. PIs should examine the formats of the required reports in advance to assure availability of required data.

PIs are required to use NSF's electronic project-reporting system, available through Research.gov, for preparation and submission of annual and final project reports. Such reports provide information on accomplishments, project participants (individual and organizational), publications, and other specific products and impacts of the project. Submission of the report via Research.gov constitutes certification by the PI that the contents of the report are accurate and complete. The project outcomes report also must be prepared and submitted using Research.gov. This report serves as a brief summary, prepared specifically for the public, of the nature and outcomes of the project. This report will be posted on the NSF website exactly as it is submitted by the PI.

More comprehensive information on NSF Reporting Requirements and other important information on the administration of NSF awards is contained in the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) Chapter VII, available electronically on the NSF Website at

https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg.

VIII. AGENCY CONTACTS

Please note that the program contact information is current at the time of publishing. See program website for any updates to the points of contact.

General inquiries regarding this program should be made to:

- David Corman, Program Director, CISE/CNS, telephone: (703) 292-8754, email: dcorman@nsf.gov
- Linda Bushnell, Program Director, CISE/CNS, telephone: (703) 292-8950, email: lbushnel@nsf.gov
- Sandip Roy, Program Director, CISE/CNS, telephone: (703) 292-7096, email: saroy@nsf.gov
- Michal Ziv-El, Associate Program Director, CISE/CNS, telephone: (703) 292-4926, email: mzivel@nsf.gov
- Sara Kiesler, Program Director, SBE/SES, telephone: (703) 292-8643, email: skiesler@nsf.gov
- Yueyue Fan, Program Director, ENG/CMMI, telephone: (703) 292-4453, email: yfan@nsf.gov
- Walter G. Peacock, Program Director, ENG/CMMI, telephone: (703) 292-2634, email: wpeacock@nsf.gov

For questions related to the use of FastLane or Research.gov, contact:

- FastLane and Research.gov Help Desk: 1-800-673-6188

  FastLane Help Desk e-mail: fastlane@nsf.gov.

  Research.gov Help Desk e-mail: rgov@nsf.gov

For questions relating to Grants.gov contact:

- Grants.gov Contact Center: If the Authorized Organizational Representatives (AOR) has not received a confirmation message from Grants.gov within 48 hours of submission of application, please contact via telephone: 1-800-518-4726; e-mail: support@grants.gov.

IX. OTHER INFORMATION

The NSF website provides the most comprehensive source of information on NSF Directorates (including contact information), programs and funding opportunities. Use of this website by potential proposers is strongly encouraged. In addition, "NSF Update" is an information-delivery system designed to keep potential proposers and other interested parties apprised of new NSF funding opportunities and publications, important changes in proposal and award policies and procedures, and upcoming NSF Grants Conferences. Subscribers are informed through e-mail or the user's Web browser each time new publications are issued that match their identified interests. "NSF Update" also is available on NSF's website.

Grants.gov provides an additional electronic capability to search for Federal government-wide grant opportunities. NSF funding opportunities may be accessed via this mechanism. Further information on Grants.gov may be obtained at https://www.grants.gov.

ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) is an independent Federal agency created by the National Science Foundation Act of 1950, as amended (42 USC 1861-75). The Act states the purpose of the NSF is "to promote the progress of science; [and] to advance the national health, prosperity, and welfare by supporting research and education in all fields of science and engineering."

NSF funds research and education in most fields of science and engineering. It does this through grants and cooperative agreements to more than 2,000 colleges, universities, K-12 school systems, businesses, informal science organizations and other research organizations throughout the US. The Foundation accounts for about one-fourth of Federal support to academic institutions for basic research.

NSF receives approximately 55,000 proposals each year for research, education and training projects, of which approximately 11,000 are funded. In addition, the Foundation receives several thousand applications for graduate and postdoctoral fellowships. The agency operates no laboratories itself but does support National Research Centers, user facilities, certain oceanographic vessels and Arctic and Antarctic research stations. The Foundation also supports cooperative research between universities and industry, US participation in international scientific and engineering efforts, and educational activities at every academic level.

Facilitation Awards for Scientists and Engineers with Disabilities (FASED) provide funding for special assistance or equipment to enable persons with disabilities to work on NSF-supported projects. See the *NSF Proposal & Award Policies & Procedures Guide* Chapter II.E.6 for instructions regarding preparation of these types of proposals.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be

accessed at (703) 292-5090 and (800) 281-8749, FIRS at (800) 877-8339.

The National Science Foundation Information Center may be reached at (703) 292-5111.

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