

1 Introduction

1.1 Background

The National Center for Science and Engineering Statistics (NCSES) is housed within the National Science Foundation (NSF), an independent federal agency focused on supporting basic research across the S&E disciplines. NCSES' primary role originated in the National Science Foundation Act of 1950 (42 U.S.C. 1862 (a) (6): To provide a central clearinghouse for the collection, interpretation, and analysis of data on scientific and engineering resources and to provide a source of information for policy formulation by other agencies of the Federal Government.

NCSES is one of thirteen principal statistical agencies within the U.S. federal government. NCSES provides objective information on the U.S. science and engineering enterprise in a global context. It serves a vital role in the collection, interpretation, and analysis of scientific and engineering (S&E) data with respect to research and development (R&D), the workforce, U.S. competitiveness in science and technology (S&T), and educational attainment in the STEM fields.

1.2 Purpose

This Broad Agency Announcement (BAA) provides research opportunities to U.S. universities and other institutions of higher education, their partners, as well as contractors and for-profit vendors to conduct a variety of research projects that will support the strategic objectives of the National Center for Science and Engineering Statistics (NCSES). NCSES would like to collaborate with organizations, universities, and teams of researchers to address the following methodological projects particular to our survey data collections:

- Longitudinal and condensed survey design for ongoing surveys
- Split questionnaire design with matrix sampling
- Visualizing research networks
- The incidence and impact of sexual harassment and discrimination in the science and engineering enterprise

2 Research Priorities Areas

A. Moving towards a longitudinal and condensed survey design for ongoing surveys

A goal for NCSES is to examine efficiencies that could be implemented across the data collections, particularly those in the Human Resources Statistics (HRS) Program. The areas of particular interest are:

1. creating an intentionally longitudinal panel and questionnaire design aligned with the survey's stated research objectives,
2. collapsing surveys in a way that allows one data collection to capture the data for what was two or more surveys,
3. integrating alternative data sources already available and at an acceptable level of quality.

The HRS surveys appropriate for redesign are the: Survey of Doctorate Recipients (SDR), Early Career Doctorates Survey (ECDS), and the National Survey of College Graduates (NSCG).

Information on these surveys can be found here: <https://www.nsf.gov/statistics/surveys.cfm>. In addition, a survey under development and likely to be fielded in 2021, designed to characterize the Skilled Technical Workforce (STW), is also a candidate for redesign in these ways:

<https://www.nsf.gov/nsb/NSBActivities/skilled-technical-workforce.jsp>

Regarding the longitudinal design, currently all the HRS surveys mentioned collect data at regular

intervals, in a cross-sectional fashion. Even though these surveys explicitly recontact the same respondents, they do not intentionally implement a longitudinal panel or longitudinally designed questionnaire. One exception is the SDR, which recently underwent a redesign to designate sample as: those in the longitudinal panel, new doctoral recipients, and those who have participated previously but are not part of the longitudinal panel. In addition, small adjustments to the questionnaire are being tested to allow for dependent interviewing and move towards a more complete data history.

The NSCG is an example of an NCSES survey where additional consideration of longitudinal design modifications could improve the quality and utility of the NSCG data. When considering the NSCG sample design, a 2018 CNSTAT consensus report, *Measuring the 21st Century Science and Engineering Workforce Population: Evolving Needs*, provided the following recommendation for NCSES: “To enhance understanding of the movements in and out of the U.S. workforce of those who obtained their doctorate degree abroad, NCSES should consider increasing the number of follow-up waves for this subgroup in the NSCG.” This assessment of the alignment between the research objectives of the NCSES surveys and the corresponding survey design, along with the identification of longitudinal design modifications to improve the alignment, is a research task that could prove beneficial to all the NCSES surveys.

On the topic of collapsing surveys, CNSTAT (2018) recommended that NCSES “evaluate the feasibility of merging the ECDS into the SDR.” Through this recommendation, NCSES was encouraged to consider whether the SDR and ECDS samples could be integrated in a way that would treat the ECDS population as a subsample of the SDR. In this scenario, some questions could be administered to all sample members, and early career–focused questions could be treated as a module administered only to a subset of the respondents (see Project B on questionnaire modules).

Another collapsing option that could be considered is the introduction of data collection efficiencies across the NCSES surveys in response to the surveys’ overlapping target populations. For example, the SDR, NSCG, and ECDS all provide coverage of U.S.-trained doctorate recipients, and the NSCG and the proposed STW survey will both provide coverage of the U.S. residing college-educated population. Given the overlapping populations and the similar content across surveys, we encourage the exploration of whether operational efficiencies could be introduced that would allow a single data collection operation to meet the needs of two independent surveys.

Finally, this project should encompass a review of the applicable (or subset of) HRS surveys to determine where efficiencies are possible and assessment of possible high-quality auxiliary data sources that could be integrated into the data collection. CNSTAT (2018) recommended that NCSES should “explore mechanisms for accelerating research on the use of alternative data sources to expand and supplement the information obtained from the science and engineering workforce surveys.” A proposal(s) should be presented of the findings. Additional components of the project could include conducting data analysis using the survey data or simulations to further refine the proposals. Mock-ups of what revised questionnaires or other survey outputs may look like are also possible deliverables. NCSES would also be interested in suggestions of experiments that could be incorporated during the implementation of the proposed redesign, and the goals of those experiments.

In summary, areas of interest for development in this project include but are not limited to:

questionnaire redesign considerations like dependent interviewing; panel and sample construction; mode choice, operational improvements, and data collection redesign; locating techniques, contact strategies, panel motivation, and panel maintenance for longitudinal surveys; adaptive and responsive designs; efficiencies from integrating alternative data sources; specific concerns and solutions for privacy and disclosure protection in longitudinal and blended data.

NCSES, particularly those representing the Human Resources Statistics (HRS) and the Statistics and Methods Programs (SMP), will be an active partner in this effort. Contact people from these Programs will meet regularly with the contracted organization to stay informed of progress, provide relevant agency-specific information and guide next steps to aid the progress of the project. NCSES will provide data (under particular privacy protections), methodological reports, and operational and technical information. Some paradata can be made available and proposals should specify what is being requested. NCSES would look favorably on working with a team that includes a postdoctoral fellow or PhD student.

B. Split questionnaire design (SQD) with matrix sampling

Similar to the motivation for Project A (above), NCSES is interested in creating more efficiency in our data collections and either reducing burden or collecting more data from respondents without increasing burden. CNSTAT (2018) recommended that NCSES “explore and evaluate adding to its surveys topic modules that would vary from round to round or be asked only of subsets of the samples” and “evaluate whether the challenges associated with implementing topic modules might be reduced and the benefits increased as a result of the recent increased reliance on the web mode, as well as potential integration with data from administrative records and the development of tailored field procedures to reduce respondent burden.” We would like to investigate split questionnaire design with matrix sampling as a possible technique to reach this goal. By allocating different questionnaire modules to random subsamples, the survey could either be shortened or more data could be gathered across all respondents without increasing burden. Before conducting a field test of SQD, NCSES would like to conduct simulations with existing data, selectively deleting data as if the data were collected using SQD, and then imputing the responses to compare to the original response.

This project has two parts:

1. background literature review
2. simulation analyses.

For the background portion, the emphasis of the review is on the technical aspects of imputing data from an SQD and complications that arise from complex survey sample designs. To a lesser degree, the questionnaire methodology to design and implement this technique should be reviewed, paying particular attention to design considerations that could improve the effectiveness of the imputation strategy. The contracting institution should review academic literature, conference papers, and technical papers, as well as gather information from those who have experimented with split questionnaire design within federal statistical system (e.g., work has been conducted at the Bureau of Labor Statistics and the Census Bureau; see The National Academies publication, “Reducing Response Burden in the American Community Survey: Proceedings of a Workshop” (2016)). The contracting institution should produce a report summarizing the findings and frame them in the context of the types of data collections in the NCSES suite of surveys.

Using the findings in the background review, the second part of the project is to design and

conduct simulation projects on NCSSES data to study the imputation process and effort–error tradeoff. The contracting institution should propose several designs to test different options for modularizing the survey and understanding the success of SQD in more than one NCSSES survey. Simulations should be conducted on at least one survey of individuals (see descriptions of the HRS surveys in the other projects in this section) and one of institutions. Examples of NCSSES surveys that could be modularized for such a simulation are the Annual Business Survey (institutions) and the Early Career Doctorate Survey (individuals). The contracting institution may choose to include auxiliary data sources (either supplied by NCSSES or from other sources) in the imputation.

The contracting institution should deliver a report of the success and complications encountered, analysis and results of the imputation, conclusions as to the usefulness of SQD for NCSSES surveys, guidelines for implementing the technique on NCSSES surveys, and recommendations for further work. Additional deliverables include the syntax used for imputation and analysis as well as institution-NCSSES co-authored presentations and publications for public dissemination.

Specific questions that could be part of the imputation analysis include:

- Comparing the individual imputed values to the original responses (1:1)
- Comparing the estimates from the imputed data to estimates from the (unimputed) weighted data
- Evaluate the estimates from the imputed data over fine and broad domains (time, geography, disciplines, etc.)

NCSSES, particularly those representing the Statistics and Methods Program (SMP), will be an active partner in this effort. NCSSES representatives will meet regularly with the contracted organization to stay informed of progress, provide relevant agency-specific data and information, and guide next steps to aid the progress of the project. NCSSES would look favorably on working with a team that includes a postdoctoral fellow or PhD student interested in building a career in this topic area.

C. **Visualizing research networks of US-trained doctorate recipients**

In recent years, NCSSES conducted projects to link the survey respondents of the Survey of Doctorate Recipients (SDR) data to publications indexed by the Web of Science and Scopus. These projects have delivered novel and powerful datasets containing rich demographic and employment information coupled with comprehensive bibliometrics data at the individual researcher level.

The SDR provides demographic, education, and career history information from individuals who earned a U.S. research doctorate degree in a science, engineering, or health field (SEH). The survey interviews sample members residing in the U.S. as well as those residing abroad, and therefore, has been a unique source of information about the educational and occupational achievements and career movements.

The NCSSES is seeking a partnership with a research institution or research teams to collaborate with designated NCSSES staff in conducting network analysis on the SDR-bibliometric data. The main project objectives include developing methods and data to promote network research using the SDR-bibliometric data and visualizing the research network of the U.S.-trained SEH PhDs. More specifically, the institution shall (i) co-develop with NCSSES well-designed dynamic visualizations of the network of U.S. SEH doctorate holders to address policy relevant research (ii) provide technical support that enables the developed visualizations to be hosted at the NCSSES website; (iii) advise

NCSES in future data development and outreach to broaden the research access; (iv) deliver methodological reports and applicable syntax to allow NCSES to continue to analyze networks in our data; (v) co-author presentations and/or peer reviewed manuscripts with NCSES staff for public dissemination.

Some examples of policy relevant research topics that could be explored in this project include:

- international scientific collaborations
- research area-specific collaborations
- co-authorship networks
- social network analysis in science and engineering research output.

NCSES, particularly those representing the Statistics and Methods Program (SMP) and the Human Resources Statistics Program (HRS), will be an active partner in this effort. NCSES representatives will meet regularly with the contracted organization to stay informed of progress, provide relevant agency-specific information and guide next steps to aid the progress of the project. NCSES would look favorably on working with a team that includes a postdoctoral fellow or PhD student interested in building a career in this topic area.

D. Developing a strategy for studying the incidence and impact of sexual harassment and discrimination in the science and engineering enterprise

CNSTAT (2018) recommended that NCSES “develop for the surveys core questions and a more in-depth module on harassment and discrimination.” NCSES is interested in pursuing this suggestion to collect data on harassment and discrimination as part of its workforce surveys.

Currently, NCSES has several surveys housed within the Human Resources Statistics (HRS) Program that could include modules to better understand the incidence and impact of harassment, discrimination, bullying, misconduct, aggression, violence, a sexually-charged climate, favoritism, inequity, and the like, not only related to sex but gender identity. Henceforth, these topics combined will be labeled *sexual harassment* for brevity.

The main HRS surveys that survey individuals educated or working in a STEM area are the: Survey of Doctorate Recipients (SDR), Early Career Doctorates Survey (ECDS), and the National Survey of College Graduates (NSCG). NCSES also conducts surveys of educational institutions and employers of STEM professionals. Information on these surveys can be found here: <https://www.nsf.gov/statistics/surveys.cfm>. The investigation into how to best implement this data collection (especially due to the sensitivity of the topic) may recommend a separate NCSES survey on this topic, or to partner with another federal agency to collect the data.

The work proposed by NCSES would be strengthened by including data and findings from NSF’s efforts to quantify reported incidents of Title 9 violations at institutions receiving NSF funding and understand the effectiveness of its term and condition on this topic¹. Eventually NCSES would like to link our efforts with NSF’s to provide a broader scope to this initiative.

The project as proposed in this BAA is to get a thorough understanding of the background in this expansive topic as it relates to studying the science and engineering enterprise, specifically with

¹To reinforce its commitment to foster safe research and learning environments, on September 21, 2018, NSF published the final version of a new term and condition entitled "Notification Requirements Regarding Findings of Sexual Harassment, Other Forms of Harassment, or Sexual Assault" in the Federal Register. Awardee organizations are required to notify NSF of any incidences of sexual harassment.

regard to STEM: 1) educational and mentorship systems and 2) workplaces. This background reading and meta-analysis would include but is not limited to the following investigations:

- literature review of theory
- defining the various components of sexual harassment (adding to the elements listed earlier of bullying, discrimination, etc.)
- inventory of the different modes and ways someone can experience sexual harassment (e.g. online bullying versus sexual assault)
- identification of subpopulations most at risk
- literature review of the methods used to study the topic
- review of the known errors in the data (e.g., measurement error, nonresponse)
- compiling a portfolio of relevant surveys and data collection instruments on the topic
- indications of the prevalence of the problem within specific subpopulations
- understanding the impacts of sexual harassment on the victim, particularly in terms of changes to career and educational pathways, including dropping out, mental health, and satisfaction outcomes.

All of the topics in the preceding list should be specific to: higher educational institutions that conduct research and/or offer degree programs in STEM and technical fields, and workplaces that employ professionals working in STEM areas.

Following this thorough review of the topic and methods, the contracted organization should evaluate the current state of NCSES's surveys and data collections. With this information, the organization should consider the feasibility of adding modules and the changes that would be required. The contracted organization should propose a plan or plans for implementing a data collection within NCSES to study this topic or combining our efforts with another federal survey. This segment of the project should also designate the phases of the project and draft a timeline to full implementation. Considerations that may affect these decisions could be:

- Studying the education systems for scientists and engineers will likely require a different approach than studying professionals in STEM workplaces.
- The scope of the data collections may need to be limited (at least initially) due to the number of topic areas that fall under the umbrella of fully understanding the incidence and effects of sexual harassment. Creative proposals for gathering as much data as feasible on the topic (e.g. split questionnaire, rotating modules, combining auxiliary data sources) are welcome.
- Within the education systems, there are several subpopulations that could be targeted for data collection (e.g., students, mentors, professors, administrators). There may be differences between different degree levels (undergraduates versus graduates and postdoctoral fellows) and categories of institutions (Carnegie classifications, Minority Serving Institutions, etc)
- Likewise, within the workplace, there are several subpopulations that could be targeted for data collection (e.g., employees, supervisors and executives, human resources).
- Some fields (either within education institutions or industry sectors) may be more of a concern than others.
- Likewise, worksite factors (laboratory, field site, office) may also be targeted.
- The most effective methods for gathering relevant information on certain topics or from certain populations may vary (e.g., considering measurement and nonresponse errors).

These points and other nuances of studying this broad topic should be considered when proposing the final plan(s). If applicable, the contracted organization may want to conduct some preliminary data collection, either qualitative or quantitative, to further refine the plan(s).

NCSES, particularly those representing the Human Resources Statistics (HRS), Research and Development Statistics (RDS), and the Statistics and Methods Programs (SMP), will be an active partner in this effort. Contact people from these Programs will meet regularly with the contracted organization to stay informed of progress, provide relevant agency-specific information and guide next steps to aid the progress of the project. NCSES would look favorably on a working with a team that includes a postdoctoral fellow or PhD student interested in building a career in this topic area.

3 Program Guidelines

This BAA, due to its broad research focus, does not lend itself to the use of a common work statement. As such, no single North American Industry Classification System (NAICS) code will be issued for the BAA. NAICS codes will be specific to each individual contract award, as determined by the type of activity in which the offeror will be engaged.

The Government reserves the right to select for award any, all, part, or none of the proposals received in response to this announcement. This BAA is an expression of interest only and does not commit the Government to pay any concept paper or proposal preparation costs.

3.1 Schedule

The open period for BAA concept papers is 45 calendar days after the BAA is posted in the Federal Business Opportunities (beta.sam) announcement. This BAA and amendments issued thereto will be posted to the beta.sam website. It is the responsibility of the offeror and interested parties to be aware of BAA amendments by regularly checking the beta.sam website by registering at beta.sam.gov to receive notifications and updates to this specific solicitation. Following the submission of the concept paper, NSF may invite offerors to submit a detailed technical and cost/price proposal for award evaluation (see Project Proposals, section 3.8.2).

3.2 Communications Protocol

Those parties interested in responding to this BAA are invited to contact the Director of the Statistics and Methods Program at NCSES via e-mail (see section 3.3) to discuss the prospective project prior to devoting resources towards completing the project concept paper. NCSES welcomes proposals that expand the focus of the methodological projects listed in section 2. All non-technical inquiries should be directed to the Contracting Officer.

Any exchanges of information must be consistent with procurement integrity requirements of section 27 of the Office of Federal Procurement Policy Act (41 U.S.C. 423, as amended) (see FAR 3.104).

Prior to and throughout the submission process, all information exchanges of a technical nature will be conducted through the BAA Program Manager, and exchanges of a non-technical nature through the

BAA Contracting Officer. There shall be no discussion of proposals submitted by other offerors or proposal evaluation data.

Offerors are advised that any indication of interest, in the affirmative, is not meant to imply nor in any way impart an obligation on the part of the Government that an award will be forthcoming for the offered work or project.

3.3 Data Sources and Points of Contact

All submissions shall be delivered in electronic format (Adobe PDF) to the BAA Program Manager with a copy to the BAA Contracting Officer, via the e-mail addresses listed below.

| | |
|---|--|
| BAA Program Manager, Jennifer Sinibaldi | jsinibal@nsf.gov |
| BAA Contracting Officer, Keith Boyea | kboyea@nsf.gov |

3.4 Offeror Eligibility

This solicitation is unrestricted. All qualified offerors, including universities, may submit project concept paper(s). All offerors must be registered in the Federal Government's System for Award Management (SAM) systems prior to project award.

3.5 Project Qualification Requirements

This BAA solicits research projects in response to the specific research themes listed in the Section 1.2 and corresponding to the research priorities in Section 2.

3.6 Program and Project Funding Limits

Funding for this program as appropriated in the Federal budget for NSF will make available approximately \$ 2 million for projects determined by the NSF to be technically consistent with the objectives of this BAA and of interest to the Government. Awards are subject to the availability of funds. NSF reserves the right to expand the award amount to allow for projects with exceptional merit.

No funding provision or commitment can be made at the time of award for phased or expanded work or projects beyond the initial or base phase funded at the time of award that the applicant may propose in its submissions. If appropriated funds are authorized, NSF may, at its discretion, provide additional funding for phased or expended effort under existing awards.

Awards may be of any dollar value, but it is anticipated that most individual awards (or that part of the Government's portion in a cost sharing arrangement) will have dollar values ranging between \$50,000 and \$500,000, over one to two years.

Awards resulting from this BAA will be made based on the evaluation results of a two-phase process. The Government reserves the right to fund all, some, one, or none of the proposals submitted; may elect to fund only part of a submitted proposal; and may incrementally fund any or all awards under this BAA. In either case, the Contracting Officer will have the ultimate authority and responsibility to make final scope determinations for selections of proposals that will not be totally funded to ensure the portion selected meets the solicited requirements. In addition, the Government reserves the right to create and maintain a reserve list of proposals for potential funding, if additional funding becomes available.

Offers considered unresponsive to the Government's requests for information in a timely manner, defined as meeting government deadlines established and communicated with the request, may be removed from further consideration.

3.7 Cost Sharing

For the purposes of this BAA, cost sharing is a generic term denoting any situation where the contractor or institution bears some burden of the reasonable, allocable, and allowable contract cost. The term encompasses cost matching, participation in-kind, or other investment of resources as a means of venture sharing in lieu of a formal cost sharing arrangement, third-party in-kind contributions, cost limitations (direct or indirect) and similar concepts. Generally, many forms of cost participation, by their very nature and definition, minimize or negate the opportunity for profit or fee.

Cost sharing by awardees is not mandatory under this BAA, but because of the potential for long-term benefits to those firms or institutions involved in these research, development and demonstration activities, NSF prefers to share costs.

3.8 Project Selection Process

This BAA selection process is structured as a two-step process.

3.8.1 Project Concept Papers

The first step of the process is the submission and evaluation of project concept papers. As detailed in Section 4, the concept paper provides a brief overview of the research effort, including the current state of research in the field, the proposed technical approach for furthering this research according to NCSES' goals and interests, and rough order magnitude cost and schedule data. Concept papers will be used to gauge applicability of and the Government's interest in the proposed approach to the research. All offerors must first submit a project concept paper to be considered for an award.

Discussions between the offeror and NSF may be required at this point in the process to develop or refine project concepts and to avoid unnecessary work efforts, by either party, on project concepts that the Government does not value, or cannot fund.

Concept papers shall be submitted in electronic form via e-mail to the contracting officer. NSF will work to complete concept paper evaluations within 30 days of receipt and will notify the offeror of final disposition. Actual timelines will depend on the volume of concept papers received.

3.8.2 Project Proposals

Following concept paper evaluation and discussion, NSF may invite the offeror to submit a detailed technical and cost/price proposal for award evaluation. Proposals shall be prepared in accordance with the requirements of Section 5. Submissions that are incomplete, materially lacking, or not responsive to the technical requirements of this BAA, may be returned unevaluated, or evaluated as is, without further opportunity for revision, at the discretion of the NSF's evaluation committee.

Project proposals shall be submitted in electronic form via e-mail. Deadlines for submission of the project proposals will generally be 60 days from date of NSF's invitation to the offeror to submit the project proposal.

3.9 Intellectual Property Rights

Awards will generally contain detailed provisions concerning patent rights, rights in technical data and computer software, data reporting requirements, and other terms and conditions which may be negotiated as part of the award process.

Offerors must describe any limitations on any intellectual property (patents, inventions, trade secrets, copyrights, or trademarks) that will impact the Offeror's performance of the contract or impact the Government's subsequent use of any deliverable under the contract. The Offeror must describe the intellectual property in sufficient detail to describe the limitations (Data assertions of the Offeror or any

subcontractor, potential patent licenses required by the Government, etc.), and to describe why or how the Government can accomplish the stated objectives of this BAA with the limitations described or proposed by the Offeror. This information must be included in Volume III, Supplemental Information, of the proposal.

3.9.1 Proprietary Data Restrictions

Offerors are advised that the proposal concept papers and/or proposals may contain data the offeror does not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes. If the offeror wishes to restrict such data, the cover page of all submittal documents must be marked with the following legend, and relevant sheets marked as instructed.

This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed – in whole or in part – for any purpose other than to evaluate this proposal. However, if a contract is awarded to this offeror as a result of – or in connection with – the submission of these data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government’s right to use information contained in these data if they are obtained from another source without restriction. The data subject to this restriction are contained in Sheets [insert numbers or other identification of sheets].

Each restricted data sheet shall be marked as follows:

Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this document.

To the extent that such restrictions on proprietary data or information would not interfere with the intent of the Government to make the results of the work and projects awarded under the BAA available to all interested parties, and if in conformance with the Freedom of Information Act (5 U.S.C. 552, as amended), the Government will honor those desires.

3.9.2 Other Award Information

Awards under this BAA may be subject to the requirements of Section 508 of the Rehabilitation Act, depending on the type of final products or reports to be delivered under each award. The Act requires that all electronic products prepared for the Federal Government be accessible to person with disabilities, including those with vision, hearing, cognitive, and mobility impairments. Proposers can view Section 508 of the Rehabilitation Act (<http://www.access-board.gov/508.htm>) and the Federal IT Accessibility Initiative (Home Page) (<http://section508.gov/>) for detailed information.

The Paperwork Reduction Act of 1995 (PRA): Offerors are advised that any activities involving information collection (i.e., surveys, questionnaires, etc.) from 10 or more non- Federal entities, including States, are subject to PRA requirements and may require the NSF to coordinate an OMB Information Collection Clearance, a process that generally takes six months or more.

4 Project Concept Papers

No project will be considered for an award without an approved project concept paper. All project concept papers must respond to the specific research themes in Section 1.2. The NSF will not evaluate concept papers that do not correspond to a research priority in Section 1.2. In the case of multiple project proposals from a single offeror, a separate concept paper is required for each project. Project concept papers can cover multiple research priority areas, but the concept paper must explicitly identify all priority areas covered by the concept paper.

Project concept papers shall be prepared simply and economically and shall provide a concise description of the proposed research project, organized as defined in the following sections. Concept

papers shall: be no more than 4 pages in length (excluding cover page); no less than 11- point font, 1" margins, and 1.15-spacing; single-sided US-letter size pages. Project concept paper submissions should not include promotional brochures, advertisements, recordings, or other extraneous material.

4.1 Cover page

Project concept papers shall include a cover page containing the following information:

- Working title of the proposed project
- BAA Research Priority Title (Section 1.2)
- Names, phone numbers, mailing and e-mail addresses for the principal technical and contractual points of contact (person or persons authorized to negotiate on the behalf of the offeror and who can contractually obligate the offeror organization)
- Secondary offeror organization addresses (project partners), if any
- Date of submission
- Proprietary data restrictions, if any (See Section 3.9.2)

4.2 Technical Approach

The Technical Approach shall contain the Background, Scope of Work, and Expected Outcomes and Dissemination Plan.

4.2.1 Background

In this section, the offeror shall describe the following:

Aim - Provide a statement(s) that conveys the offeror's vision of the conclusion of the project and its impact on the NCSES's research theme.

Context – Briefly describe the current state of research in the area and the specific issue intended to be solved or improved.

Summary – Briefly summarize the proposed research.

4.2.2 Scope of Work

The offeror shall describe the general scope of work planned for this research activity. This section shall describe (as applicable) the methods, testing, field work, and analysis activities, as well as the data used and generated, in sufficient detail to communicate the breadth of activities proposed. A detailed work breakdown structure is not required. The offeror shall indicate major progress milestones and associated deliverables as part of this section.

4.2.3 Expected Outcomes and Dissemination Plan

Identify the significant outcomes expected from the project and potential papers, presentations, and other publicly disseminated materials. Proposals designating NCSES-institution co-authored presentations and manuscripts for peer review is important to this BAA program.

4.3 Qualifications

The Qualifications section of the Concept Paper shall introduce the project team, the team's experience, and any unique capabilities.

4.3.1 Project Team

List all key offerors proposed for the project, including offerors from outside the prime offeror's institution. Organize the team by institution name and briefly describe each person's roles and

responsibilities on the project. Provide a short synopsis of each key person's education, experience, and other qualifications applicable to the proposed project, as well as any supervisory relationships. If applicable, provide information on the business type (small, large, non-profit, or disadvantaged) for each offeror organization. Designate who will be the main point of contact for regular check-ins with the NCSES methodological team during the project. Proposals including funding for graduate students and postdoctoral fellows is important to this BAA program.

4.3.2 Unique Capabilities

Briefly describe any unique capabilities that the offeror team possesses that may reduce project risk or duration or may improve project financial performance. Describe these capabilities within the context of the research topic BAA and the proposed project's scope of work.

4.4 Schedule and Cost Estimate

Provide milestones for the proposed project that include start, finish, and major activity completion times. Express milestone dates as the number of weeks from project start.

Provide a rough order magnitude cost estimate. Provide a breakdown of these costs (percentage) for each institution in the project team.

Provide a funding plan for the project. Identify each funding source and their contribution to the whole, expressed as a percentage. Include all anticipated sources, including offeror internal sources, government funds, and other offeror institution.

5 Project Proposals

Following review, evaluation and discussion of the concept paper, NSF may invite the offeror to submit a formal proposal for the project. The project proposal builds upon the contents of the concept paper, as modified through discussions between the offeror and NSF. Additional content and more detailed information is required in the proposal document, as described in the sections that follow.

Proposal documents are produced to the same formatting requirements as the concept papers, except for a 10-page limit. This 10-page limit is for Volume I only (not including the cover page).

Submissions that are incomplete, materially lacking, or not responsive to the technical requirements of this BAA, may be returned unevaluated, or evaluated as is, without further opportunity for revision, at the discretion of the NSF.

The proposal shall contain a Cover Page and relevant data organized into 3 Volumes:

Volume I: Technical Proposal

Volume II: Cost and Pricing Data

Volume III: Supplemental Information

Offerors are advised that the NSF's technical evaluation of a project for possible award is based solely on the contents of the offeror's project proposal document, and the offeror's answers to any technical clarification questions, as transmitted through the Contracting Officer.

It is the policy of NSF to treat all proposals as competitive source selection information.

Please note that prior to an award, the Government reserves the right to perform a review of past performance. Sources for past performance may include the Past Performance Information Retrieval System (PPIRS), the Federal Award Performance and Integrity System (FAPIS), and Government program managers and contracting officers who are familiar with the offeror's relevant past performance may also be contacted.

5.1 Cover Page

Project proposals shall include a cover page containing the following information:

- Working title of the proposed project
- BAA Research Priority Title (Section 2)
- “Project Proposal” written below the project title
- Names, phone numbers, mailing address and e-mail addresses for the principal technical and contractual points of contact (person or persons authorized to negotiate on the behalf of the offeror and who can contractually obligate the offeror organization)
- Secondary offeror organization addresses (project partners), if any
- Date of submittal
- Proprietary data restrictions, if any (See Section 3.9.2)

5.2 Volume 1: Technical Proposal

The Technical Proposal shall contain the following sections, subject to the 10-page limit:

1. Background
2. Statement of Work
3. Technical Approach
4. Project Management Plan
5. Capabilities and Experience

5.2.1 Background

Aim – Provide a statement(s) that conveys the offeror’s vision for the research project and its impact on the NCSES’s research theme.

Context – Describe the current state of research in the field. Proposals shall include references to relevant research and significant accomplishments in the area. A selective bibliography of (no more than 10) relevant peer reviewed and working papers that support the technical concepts and innovative ideas described in this proposal, shall be included in an appendix for technical reference. This appendix does not count towards the 10-page limit.

Impact -- Summarize the proposed research. Describe the specific issue intended to be solved or improved. Offerors shall explain how the proposed methodological plan enhances the ability to meet the research topic goals; how it could be incorporated into existing NCSES data collections or the operations of federal statistical agencies in general; how the application of the results will bring about an improvement to NCSES’ work, the federal data system, or the field of survey methodology and data analytics. For some projects, it may be relevant to explain the impact on the science and engineering enterprise as a whole.

5.2.2 Statement of Work

There shall be no company-sensitive or proprietary data included in the Statement of Work.

This statement of work shall contain the following information:

Work Scope: Describe the work to be accomplished as part of the research project, organized as it is expected to be performed. Separate the work effort into major tasks and subtasks as numbered paragraphs, or in a table. Include the objectives and goals of the task, methodology and techniques that will be used and developed, analysis plan, field work, requirements in order to move to the next task,

major milestones, and the expected outcomes.

Deliverables: All project deliverables should be clearly listed and described. Proposals designating NCSES-institution co-authored presentations and manuscripts for peer review is important to this BAA program.

Future phases: Proposals may include a discussion of optional, future phases of work. The original phase or work shall in no way depend on work described under future phases to meet the program criteria.

5.2.3 Technical Approach

The technical approach section shall describe how the offeror intends to carry out the work described in the statement of work. The technical approach shall be sufficiently detailed that the NSF review team will understand the approach and process of the proposed work.

5.2.4 Project Management Plan

The proposal shall contain a detailed management plan for the project based upon the following minimum requirements.

Tasks and Resources – Using the tasks (and relevant subtasks) in the Work Scope, in the same chronological order listed in the Work Scope, specify the following:

- Task or subtask title
- resources, facilities and equipment required
- data used or generated
- the expected completion date
- any deliverables or output associated with the task to signal its completion

In this section, designate a kick-off meeting and periods of: development, field work, testing, and preparation of deliverables and manuscripts. If these items are integrated as part of a task that was listed in the Scope of Work, please separate them and note the specifications requested (e.g., resources, data, etc.). We request bi-weekly check-ins between the institution's point of contact and the collaborators at NCSES throughout the project but these do not need to be explicitly represented in the Work Scope or Task and Resources sections.

Organizations– Deliver a list of institutions and organizations involved in the project, illustrating resource roles and reporting relationships. Include all offeror organizations. Clearly highlight organizations that are participating in cost sharing activities. Identify the type of business (large, small, disadvantaged, or educational) for each offeror organization.

Subcontracts/Teaming/Cost Sharing Management Plan – Identify and describe the offeror's plans for subcontracting, teaming, and cost sharing. Clearly identify the roles and responsibilities of all organizations working within the project team, including technical and financial elements.

5.2.5 Capabilities and Experience

List all key personnel, including those from outside the prime offeror's institution. Organize the team by institution name and briefly describe each person's roles and responsibilities on the project. Identify and describe the capabilities and experience of key personnel and organizations as these elements relate to the proposed project. Descriptions of experience should serve to demonstrate the key personnel's ability to successfully conduct the proposed research or project, including access to critical resources for the project. Designate any supervisory relationships and who will be the main point of contact for regular check-ins with the NCSES methodological team during the project. Provide condensed resumes (2-page maximum) for all key personnel on the project. Resumes shall be organized in an appendix to the

proposal. Resumes do not count toward the 10-page limit for the proposal.

In addition to key personnel, designate any graduate students or postdoctoral fellows who will be supported with no more than a half page biographical sketch of their background and research interests. The biographical sketch should be included as an appendices with the resumes and does not count against the page limit.

Describe any unique capabilities that the offeror team possesses that may reduce project risk, reduce project duration, and/or improve project financial performance. Describe these capabilities within the context of the objectives of the BAA and the proposed project's scope of work.

5.3 Volume II: Cost and Pricing Proposal

See Appendix A for specific requirements for cost and pricing information content and formatting requirements. Cost and pricing proposals must conform to the requirements in Appendix A and below.

5.3.1 General Requirements

Identify each funding source and their contribution to the whole, expressed as a percentage. Include all anticipated sources, including offeror internal sources, government funds, and other offeror organizations.

The cost or pricing portion of the project proposal should contain a cost estimate for the proposed effort to allow for meaningful evaluation and determination of price reasonableness and cost realism. The cost estimate shall account for the entire cost of the project, inclusive of that portion of cost the applicant or other offerors would bear in any proposed cost sharing arrangement or other investment of resources, as a means of venture sharing, in lieu of a formal cost sharing arrangement. The cost estimate shall be broken down for each year of the proposed work, and by all years combined. At a minimum, the cost estimate shall include the following information:

Labor - A breakdown of direct labor and hourly rate, by WBS index number, identifying the labor categories or individuals and projected hours, and their associated subtotals.

Overhead and/or fringe - Labor overhead and/or fringe rate(s) and base(s), and cumulative effect on labor costs.

Materials, supplies, and equipment - Description and cost of materials, supplies, and equipment, to include the basis of the cost estimate (e.g., historical data, competitive market quotes, and in-house transfers). Specific mention should be made of any highly specialized or costly test equipment or supplies needed to accomplish the project.

Travel and transportation - Breakdown of travel and transportation costs.

Subcontracts - Breakdown of individual subcontracts. State the amounts of time of subcontractor/consulting services to be devoted to the project, including the cost to be charged to the proposed contract/agreement.

ODC - Breakdown of other direct costs (reproduction, computer time, and consultants).

Misc. - Identification of any other direct or indirect cost elements not identified elsewhere. For each indirect rate (identified here or elsewhere), indicate if the proposed indirect rate and allocation base have been approved by a government audit or cognizant agency for use in proposals and when the rate(s) was approved and the name of and telephone number of the cognizant auditor or approving official.

General and Administrative - G&A rate and base.

Profit or fee - Profit or fee may be proposed, and if proposed, is subject to negotiations and applicable statutory limits.

Cost Sharing/Cost Participation - Identify extent of cost sharing/cost participation, if any (exclusive of the offeror's prior investment), to include the actual dollars or the percentage of the cost share of the proposed research or technology project, to be provided by the applicant, or third party contributors or other Federal funding sources, if allowable; the type and extent of cost limitations (direct or indirect); or the specifics for and extent of similar concepts indicative of cost participation. (Note: The applicant may be required to certify that it has secured the appropriate cost share funding levels, and identify the source of funding.

5.3.2 Recommended Procurement Instrument and Pricing Arrangement

Offerors shall include a summary of the recommended procurement instrument (e.g., contract or "other agreement") and pricing arrangements (e.g., firm-fixed-price, cost, cost-plus-fixed-fee, etc.) and include the rationale for their use. However, the NSF reserves the right to negotiate and award the types of instruments determined most appropriate under the circumstances. If warranted, portions of resulting awards may be segregated into pre-priced options. It should be noted that cost reimbursable type contractual arrangements are not permissible unless the awardee has an accounting system that has been approved by the Government as adequate to support the determination of costs applicable to the contract.

If the offeror is seeking an "other agreement," it must explain to NSF the basis for seeking the other agreement and the areas of regulatory relief requested by the offeror. The NSF will consider awarding an other arrangement only if it is in the best interests of NSF and the agreement cannot be made with a FAR based contract. NSF will not award grants or other types of financial assistance as a result of this BAA.

5.3.3 Small Business Participation

NSF encourages small business participation at both the prime and subcontract levels. The NSF has set a goal to award at least 10% of the prime contract dollars resulting from this BAA to small businesses.

5.4 Volume III: Supplemental information

All proposals must respond to the following items.

5.4.1 System for Award Management (SAM) Registration

To be eligible for award of a contract resulting from this solicitation, offerors must be registered in the Federal Government's SAM system. The registration can be accomplished by accessing the following website: <https://www.sam.gov/SAM/pages/public/index.jsf>

NOTE: Contractor must ensure that the registration process has been completed in SAM as award may not be made until the contractor is registered in the system.

5.4.2 Administrative and Audit Offices

Offerors shall indicate which audit offices will represent them. For DCAA offices, offerors can identify their DCAA office by going to the following website: <https://www.dcaa.mil/> and entering their ZIP code.

Cost reimbursable type contractual arrangements are not permissible unless the awardee has an accounting system that is adequate to permit timely development of all necessary cost data in the form required by the proposed contract type. Additionally, the accounting system will be subject to audit and surveillance during the awardee's performance to provide reasonable assurance that efficient methods

and effective cost controls are being used.

5.4.3 Subcontracting Plan

Any offeror, other than small businesses, submitting a proposal for an award anticipated in excess of \$700,000 must submit a subcontracting plan in accordance with FAR 19.704(a) (1) and (2) or if no subcontracting opportunities exist, a statement to that effect. This information, if applicable, must be included in Volume III, Supplemental Information, of the Phase II full proposal. The plan format is outlined in FAR 19.7. Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. § 637(d)), it is the policy of the Government to enable small business and small disadvantaged business concerns to be considered fairly as subcontractors to contractors performing work or rendering services as prime contractors or subcontractors under Government contracts, and to assure that prime contractors and subcontractors carry out this policy.

A subcontracting plan identifies the offeror's approach to awarding subcontracts to small business, small disadvantaged business, women-owned small business, service-disabled veteran owned small business, and Historically Underutilized Business Zone (HUBZone) small business concerns, and Historically Black Colleges and Universities/Minority Institutions (HBCU/MI) on this effort. An approved master subcontracting plan may be submitted in lieu of an individual subcontracting plan. The offeror must demonstrate how small business concerns will be used in the performance of the contract. The plan must also specify how the offeror will identify small business concerns throughout contract performance that can be added to the contract team. The emphasis of the plan must be to maximize small business participation to the maximum extent practicable. The current NSF subcontracting goals are as follows:

Percentage of subcontracted dollars

| Small Business Type | |
|--|---------------|
| Small Business | 31.70% |
| Small Disadvantaged Business Participation Program | 5.00% |
| Historically Underutilized Business Sone (Hubzone) Program | 3.00% |
| Service-Disabled Veteran Owned Small Business Procurement Program | 3.00% |
| Woman-Owned Small Business (WOSB) Program | 5.00% |

Note: Provide rationale if these goals cannot be achieved.

6 Past Performance

Prior to award, the Government reserves the right to perform a review of past performance. Sources for past performance may include the Past Performance Information Retrieval System (PPIRS), the Federal Award Performance and Integrity System (FAPIIS), and Government program managers and contracting officers who are familiar with the offeror's relevant past performance may also be contacted.

7 Evaluation and Award

The BAA evaluation process shall be conducted in accordance with FAR Subpart 35.016 (d) and (e). Offerors will be notified of evaluation results via electronic letter.

7.1 Project Concept Papers

Project concept papers will be evaluated for overall technical value to the NSF's area of interest, within the context of available funding. NSF will consider the degree of the potential impact on the realization of research topic goals and the reasonableness of estimated costs for each concept paper submitted. NSF will also consider the offeror's capability to perform the work based on the technical approach, background, and referenced resources provided in the concept paper.

NSF may request formal proposals for project concepts that are deemed to have value to the NSF's objectives and are found to fit within funding constraints. Project concept papers are not evaluated, or considered, as part of the project proposal evaluation process. NSF will notify each offeror of the disposition of their project concept paper.

7.2 Project Proposals

Proposals will be evaluated solely on the criteria published in this announcement.

The criteria provided below are listed in order of relative importance:

7.2.1 Technical Factors

Responsiveness to BAA Objectives and Requirements

The degree to which the proposed project meets the program objectives of the BAA and conforms to the funding limitations detailed herein. The degree to which the proposal is responsive to the requirements published in this announcement.

Technical Approach

The degree to which the project approach impacts the realization of research priority goals.

7.2.2 Cost and Pricing Factors

Project proposals that are evaluated favorably from a technical perspective, have no outstanding issues or areas for clarification, and are determined to be consistent with the objectives of the BAA and of interest to the Government, will be subject to a cost/price evaluation.

In accordance with FAR 35.016(e), NSF will consider cost realism and reasonable to the extent appropriate.

7.2.3 Past Performance Factors

Technically acceptable proposals that are considered realistic and reasonable in terms of proposed cost, and fee, if applicable, may be subject to a review of past performance information provided by the offeror or obtained from sources other than those identified by the offeror.

8.1 Awards

Proposal received as a result of this BAA will be evaluated in accordance with the evaluation criteria specified above through a peer review process. The primary basis for selecting proposals for acceptance shall be technical, importance to agency programs, and fund availability.

8.2 Notifications and Negotiations

All offerors will receive written notification of the final disposition of their proposal. If selected for award, the Contracting Officer will contact the offeror with further instructions, including negotiation procedures, if needed.

Appendix A – Cost Proposal Format and Preparation Instructions

The cost proposal must include, at a minimum, two separate sections (provided in one submission): a cost summary, not to exceed two-pages (see ‘A’, below), must precede the detailed cost portion (see ‘B’ below) of the cost proposal. Additionally, include detailed cost submissions for all subcontractors and consultants.

A. Cost Summary

A summary cost proposal must be prepared that includes the cost elements presented in the following table based on 12-month increments. Add as many years to the summary as will be included in the full proposed period of performance. Note: The periods of performance must match the information presented in the Statement of Work.

| Cost Element | Year 1 | Year 1 | Year 1 | Year 2 | Year 2 | Year 2 | Year 3 | Year 3 | Year 3 |
|--|-------------------|---|--------------|-------------------|---|--------------|-------------------|---|--------------|
| | Rate | Quantity | Total | Rate | Quantity | Total | Rate | Quantity | Total |
| | Hrly, Mthly | No. Hrs, No. Months | Amount | Hrly, Mthly | No Hrs, No. Months | Amount | Hrly, Mthly | No Hrs, No. Months | Amount |
| Direct Labor (List each direct labor category or individual separately) | | | | | | | | | |
| ABC Category | \$ | XX | \$ | \$ | XX | \$ | \$ | XX | \$ |
| Dr XYZ | \$ | XX | \$ | \$ | XX | \$ | \$ | XX | \$ |
| TOTAL DIRECT LABOR | | XX | \$ | | XX | \$ | | XX | \$ |
| Labor Burden | Labor Burden Rate | Lbr Burden Applied To: (direct labor \$\$...) | Total Amount | Labor Burden Rate | Lbr Burden Applied To: (direct labor \$\$...) | Total Amount | Labor Burden Rate | Lbr Burden Applied To: (direct labor \$\$...) | Total Amount |
| Fringe Benefits | % | \$ | \$ | % | \$ | \$ | % | \$ | \$ |
| Overhead | % | \$ | \$ | % | \$ | \$ | % | \$ | \$ |
| TOTAL LABOR BURDEN | | | \$ | | | \$ | | | \$ |
| Material/Equipment | Matl O/H Rate | Matl O/H Applied To: (direct matl \$\$...) | Total Amount | Matl O/H Rate | Matl O/H Applied To: (direct matl \$\$...) | Total Amount | Matl O/H Rate | Matl O/H Applied To: (direct matl \$\$...) | Total Amount |
| TOTAL MATL/EQUIPMENT | % | \$ | \$ | % | \$ | \$ | % | \$\$ | |
| TOTAL TRAVEL COSTS | | | \$ | | | \$ | | | \$ |
| TOTAL ALL OTHER DIRECT COSTS | | | \$ | | | \$ | | | \$ |
| TOTAL SUBCONTRACTOR COSTS | | | \$ | | | \$ | | | \$ |
| TOTAL DIRECT COSTS | | | \$ | | | \$ | | | \$ |

| G&A OR F&A | G&A or F&A Rate | G&A/F&A Rate Appliedto: (total cost \$\$...) | Total Amount | G&A or F&A Rate | G&A/F&A Rate Appliedto: (total cost \$\$...) | Total Amount | G&A or F&A Rate | G&A/F&A Rate Appliedto: (total cost \$\$...) | Total Amount |
|---|-----------------|---|--------------|-----------------|---|--------------|-----------------|---|--------------|
| TOTAL G&A OR F&A | % | \$ | \$ | % | \$ | \$ | % | \$ | \$ |
| TOTAL FACILITIES CAPITALCOST OF MONEY (COM) | | | \$ | | | \$ | | | \$ |
| TOTAL COSTS | | | \$ | | | \$ | | | \$ |
| Fee or Profit | Fee Rate | Fee Rate Applied to: (total cost, excluding COM...) | Total Amount | Fee Rate | Fee Rate Applied to: (total cost, excluding COM...) | Total Amount | Fee Rate | Fee Rate Applied to: (total cost, excluding COM...) | Total Amount |
| FEE OR PROFIT | % | \$ | \$ | % | \$ | \$ | % | \$ | \$ |
| TOTAL COST PLUS FEE | | | \$ | | | \$ | | | \$ |

* Note: Itemize any planned items costing greater than \$5,000 (unit cost) immediately following the table; include all equipment/material (greater than \$5000 unit cost) in Total Direct Material/Equipment in table. See Equipment/Government Property - Section 'C' herein.

B. Detailed Cost (no page limit) Offeror format acceptable provided it includes a detailed cost breakdown of all costs by cost element and SOW tasks based on 12-month increments. The offeror must also provide a narrative to support the requirements in each cost element. In addition, the detailed cost proposal must provide separate cost proposals for each subcontractor or consultant, which includes the same level of details required of the prime offeror. **The detailed cost proposal will include the following three sections: (1) Tabular cost breakdown by cost element and SOW tasks based on 12- month increments; (2) Narrative to support the requirements in each cost element; and (3) Subcontractor cost breakdown, as appropriate.**

Budgeted cost elements should reflect the following:

- a) Individual labor categories or persons (principal investigator, graduate students, etc.), with associated labor hours and unburdened labor rates. Allowable charges for graduate students include salary, appropriate research costs, and tuition. Allowable charges for undergraduate students include salary and research training costs, but not tuition.
- b) Cost of equipment, based on most recent quotations and itemized in sufficient detail for evaluation (see Section 'C' below).
- c) Estimate of material and operating costs.
- d) Travel costs and the relevance to stated objectives; number of trips, destinations, duration, if known, and number of travelers per trip. Travel cost estimations should be based on rates referenced on the General Services Administration's (GSA) per diem web page (<http://gsa.gov/perdiem>).
- e) Publication and report costs.

- f) Consultant fees (indicating daily or hourly rate) and travel expenses and the nature and relevance of such costs.
- g) Computer services.
- h) Subcontract costs and type (the portion of work to be subcontracted and rationale).
Include detailed cost summary.
- i) Communications costs not included in overhead.
- j) Other Direct Costs.
- k) Indirect costs.
- l) Fee/Profit, if any.

C. Equipment/Government Property.

Contractors generally are expected to provide the equipment needed to support proposed research. Where specific additional equipment is approved for commercial and non-profit organizations, such approved cost elements shall be separately negotiated.

Offerors desiring that the Government purchase the equipment under the proposed effort shall provide a justification of need for the equipment and rationale for why the offeror is unable or unwilling to furnish the equipment. Government purchase of equipment that is not included in a deliverable item will be approved on a case-by-case basis.

Proposals that include Equipment must itemize each item and its respective cost in Volume II – Cost Proposal. “Equipment” is a tangible item that is functionally complete for its intended purpose, durable, nonexpendable, and needed for the performance of a contract. Equipment is not intended for sale, and does not ordinarily lose its identity or become a component part of another article when put into use.

Equipment does not include material, real property, special test equipment or special tooling. Further, it is tangible property having a useful life of more than two years and an acquisition cost of \$5,000 or more per unit. The justification for this type of equipment and its cost must be disclosed in the cost proposal to include as applicable:

- Vendor Quote: Show name of vendor and number of quotes received and justification of intended award (i.e. lowest price, best value, etc...).
- Historical Cost: Identify vendor, date of purchase and whether or not cost represented the lowest bid. Include release(s) for not soliciting current quotes.
- Estimate: Include rationale for estimate and reasons for not soliciting current quotes.
- Special Test Equipment to be fabricated by the contractor for research purposes and its cost.
- Standard equipment to be acquired and modified to meet specific requirements including acquisition and modification costs, listed separately.
- Existing equipment to be modified to meet specific research requirements and modification costs. Do not include as special test equipment those items of equipment that, if purchased by the contractor with contractor funds, would be capitalized for Federal income tax purposes.

- Specification as to whether or not each item of equipment will be included as part of a deliverable under a resulting award.

In accordance with FAR 35.014, title of equipment or other tangible property purchased with government funds may be vested in institutions of higher education or with non-profit organizations, whose primary purpose is the conduct of scientific research.