Historically Black Colleges and Universities Undergraduate Program (HBCU-UP)

Program Solicitation

NSF 06-606

Replaces Document(s):

NSF 06-508

National Science Foundation

Directorate for Education & Human Resources
Division of Human Resource Development

Letter of Intent Due Date(s) ***(optional):***

November 14, 2006

Implementation Projects, Planning Grants, Education Research Projects and Targeted Infusion Projects

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

December 15, 2006

Implementation Projects, Planning Grants, Education Research Projects and Targeted Infusion Projects

REVISION NOTES

In furtherance of the President's Management Agenda, NSF has identified programs that will offer proposers the option to utilize Grants.gov to prepare and submit proposals, or will require that proposers utilize Grants.gov to prepare and submit proposals. Grants.gov provides a single Government-wide portal for finding and applying for Federal grants online.

In response to this program solicitation, proposers may opt to submit proposals via Grants.gov or via the NSF FastLane system. In determining which method to utilize in the electronic preparation and submission of the proposal, please note the following:

Collaborative Proposals. All collaborative proposals submitted as separate submissions from multiple organizations must be submitted via the NSF FastLane system. Chapter II, Section D.3 of the Grant Proposal Guide provides additional information on collaborative proposals.

The organizational eligibility has been broadened to include accredited two-year HBCUs that do not currently have undergraduate science, technology, engineering and mathematics (STEM) degree programs. These HBCUs are encouraged to apply for funding to enhance the quality of their general STEM courses and programs and/or to establish new undergraduate STEM degree programs.

The Implementation Projects and Planning Grants remain the main components of the Historically Black Colleges and Universities-Undergraduate Program (HBCU-UP). Instructional clarifications have been made for these components in this solicitation. Although these components remain essentially unchanged, proposers are encouraged to consider including innovative models for STEM undergraduate education that build on the unique strengths of the HBCU. For example,

incorporating interactive discovery based experiences for students in the freshman and sophomore years, and using cyberinfrastructure resources, such as the Protein Data Bank, the National STEM Digital Library, and the Digital Library for Earth Science Education, to enhance STEM education programs. In addition, proposers are encouraged to establish collaborations between STEM departments and STEM teacher education programs to enhance the quality of STEM teacher education.

The current solicitation is the second year that two additional opportunities for HBCUs are included: Education Research Projects (ERP), and Targeted Infusion Projects (TIP). These are not supplemental programs - HBCUs do not need to have an Implementation Project in order to submit ERP and TIP proposals. Individuals with education research experience from HBCUs are encouraged to submit proposals for three-year Education Research Projects that will contribute knowledge that can lead to the enhancement of STEM education at HBCUs. In addition, HBCUs are invited to submit a Targeted Infusion Project proposal to meet a specific and measurable short-term goal to improve the quality of undergraduate STEM education.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Historically Black Colleges and Universities Undergraduate Program (HBCU-UP)

Synopsis of Program:

This program provides awards to enhance the quality of undergraduate science, technology, engineering, and mathematics (STEM) education and research at Historically Black Colleges and Universities (HBCUs) as a means to broaden participation in the Nation's STEM workforce. Support is available for Implementation Projects, Planning Grants, Education Research Projects, and Targeted Infusion Projects.

Implementation Projects provide support to implement a comprehensive institutional project to strengthen STEM education and research. Proposed activities and strategies should: be the result of an institutional STEM self-analysis; address institutional and NSF goals; and have the potential to result in significant and sustainable improvements in STEM program offerings. Typical project implementation strategies include: curriculum enhancement, faculty professional development, undergraduate research, academic enrichment, student support services, infusion of technology to enhance STEM instruction, collaborations with research institutions and industry, and other activities that enhance the quality of the undergraduate STEM education program. Proposers are encouraged to analyze the strengths of the institution and design innovative educational strategies, based on proven best practices, to place the institution at the forefront of undergraduate STEM education.

Planning Grants provide support to undertake self-analysis of the institution's undergraduate STEM programs to identify components that need improvement or enhancement in order to provide a high quality undergraduate STEM education. Planning grants should also research existing activities and strategies that could be implemented to improve the quality of undergraduate STEM education at the institution. Typical activities include: data collection and analysis, stakeholder consultation, research of potential activities and strategies, and writing an Implementation Project proposal.

Education Research Projects provide support to undertake a three-year education research project that has the potential to strengthen the STEM education and research programs at HBCUs. Education Research Projects must be based on sound education research methodologies and theories. Potential education research topics include: retention, diffusion of innovations, curricula enhancements, technology in education, STEM teacher education, and the identification of successful models. This is not a supplemental program - HBCUs do not need to have an Implementation Project in order to submit ERP proposals.

Targeted Infusion Projects provide support to achieve a short-term, well-defined goal to improve the quality of undergraduate STEM education. Typically, projects are focused on one activity within a single STEM department however interdisciplinary and cross disciplinary projects are encouraged. Potential goals include: specialized accreditation or certifications, establishing new programs or concentrations, establishing collaborations between STEM disciplines and teacher education programs, and updating programs to reflect advances in the field and workforce requirements. This is not a supplemental program - HBCUs do not

need to have an Implementation Project in order to submit a TIP proposal.

Cognizant Program Officer(s):

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- Camille McKayle, Program Director, 815 N, telephone: (703) 292-4671, fax: (703) 292-9018, email: cmckayle@nsf.gov

Applicable Catalog of Federal Domestic Assistance (CFDA) Number(s):

- 47.076 --- Education and Human Resources

Award Information

Anticipated Type of Award: Standard Grant or Continuing Grant

Estimated Number of Awards: 17 in FY 2007 - approximately 6 Implementation Projects, 2 Planning Grants, 3 Education Research Projects, and 6 Targeted Infusion Projects

Anticipated Funding Amount: $7,000,000 - Approximately $7 million in FY 2007 pending the availability of funds

Eligibility Information

Organization Limit:

Proposals may only be submitted by the following:

- Historically Black Colleges and Universities (HBCUs) that are accredited and offer undergraduate educational programs in science, technology, engineering and mathematics (STEM).

PI Limit:

- The Principal Investigator for Implementation Project and Planning Grant proposals should be the chief academic officer of the institution or other senior academic official. Potential co-Principal Investigators include the key personnel that will be involved in the implementation of the project activities.
- The Principal Investigator for Targeted Infusion Projects should be a STEM department head or equivalent. Potential co-Principal Investigators include the key personnel that will be involved in the implementation of the project activities.
- The Principal Investigator for Education Research Projects should be the individual who will perform the research project. Other potential co-Principal Investigators include collaborators on the research project. At least one of the Principal Investigators must have formal training in education research or significant professional experience doing education research.

Limit on Number of Proposals per Organization:

- Eligible institutions can submit either an Implementation Project proposal or a Planning Grant proposal in any year. Please note that an eligible institution can only have one active Implementation Project or Planning Grant.
- Eligible institutions can submit one Targeted Infusion Project in any year. This is in addition to either an Implementation Project or Planning Grant proposal if applicable.
- There is no limit to the number of Education Research Project proposals that can be submitted from an eligible institution.

Limit on Number of Proposals per PI:

None Specified

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Submission of Letters of Intent is optional. Please see the full text of this solicitation for further information.
- **Full Proposals:**
  - Full Proposals submitted via FastLane: Grant Proposal Guide (GPG) Guidelines apply. The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg.
  - 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: http://www.nsf.gov/bfa/dias/policy/docs/grantsgovguide.pdf/)

B. Budgetary Information

- **Cost Sharing Requirements:** Cost Sharing is not required by NSF.
- **Indirect Cost (F&A) Limitations:** Not Applicable
- **Other Budgetary Limitations:** Other budgetary limitations apply. Please see the full text of this solicitation for further information.

C. Due Dates

- **Letter of Intent Due Date(s) *(optional):***

  November 14, 2006

  Implementation Projects, Planning Grants, Education Research Projects and Targeted Infusion Projects

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

  December 15, 2006

  Implementation Projects, Planning Grants, Education Research Projects and Targeted Infusion Projects

Proposal Review Information Criteria

Merit Review Criteria: National Science Board approved criteria apply.

Award Administration Information

Award Conditions: Additional award conditions apply. Please see the full text of this solicitation for further information.

Reporting Requirements: Additional reporting requirements apply. Please see the full text of this solicitation for further information.

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I. INTRODUCTION

The Historically Black Colleges and Universities Undergraduate Program (HBCU-UP) is committed to enhancing the quality of undergraduate science, technology, engineering, and mathematics (STEM) education and research at HBCUs. HBCU-UP recognizes and supports the important role that HBCUs play in increasing the numbers of underrepresented ethnic minorities that are well prepared for participation and leadership at every level of education and research in STEM.

HBCU-UP is one of the National Science Foundation's programs designed to make progress toward a diverse, competitive and globally engaged U.S. workforce of scientists, engineers, technologists and well prepared citizens. HBCU-UP is managed by the Division of Human Resource Development (HRD), located in the Directorate for Education and Human Resources. For Fiscal Year (FY) 2007, HBCU-UP will support awards for Implementation Projects, Planning Grants, Education Research Projects, and Targeted Infusion Projects.

II. PROGRAM DESCRIPTION

1. **IMPLEMENTATION PROJECTS**: Five-year, institution-wide, undergraduate STEM education and research capacity building projects.

   NSF expects that the activities and strategies included in Implementation Project proposals will be designed specifically to address the HBCU's institutional STEM needs, long-term goals, and mission. Therefore NSF allows maximum flexibility in the design of Implementation Projects under HBCU-UP. The activities should be designed to produce significant improvements in undergraduate STEM education and research programs that have the potential to become sustainable by the end of the five years. HBCUs that do not have STEM research activities can submit proposals focusing on enhancing the quality of their STEM education programs and/or establishing new undergraduate STEM degree programs.

Projects that propose to develop and implement innovative, non-traditional, models for undergraduate education are highly encouraged. For example, some HBCUs may be well positioned to establish novel interdisciplinary degree programs and to implement alternative models to the typical departmental structure of STEM programs. Other innovative models might incorporate interactive discovery based experiences for freshman and sophomore students, and use cyberinfrastructure resources to enhance STEM education curriculum. Creative undergraduate education models designed for HBCUs with small undergraduate STEM major enrollment and small numbers of STEM faculty are particularly encouraged.

Institutions that have not already identified activities and strategies for a Implementation Project are encouraged to consider applying for a Planning Grant to perform an institutional STEM program self-analysis before submitting an Implementation Project proposal.

If an institution has previously received an HBCU-UP Implementation Project grant, it is critical that the proposal provide complete information on the outcomes of that HBCU-UP project. Include a description of how successful activities are being sustained by the institution and what was learned from the previous activities. *Second HBCU-UP awards must not simply continue previous HBCU-UP activities.* The activities in the new proposal should be based an a thorough evaluation of the previous HBCU-UP project and move the institution to the next level of STEM program quality.

Competitive HBCU-UP implementation proposals will:

- Support **new** STEM activities or enhancements - not support existing activities.
- Coordinate all institutional STEM strengthening activities (new and existing) in order to create a **comprehensive STEM program** that will result in **significant and sustainable** improvements.
- Raise the **quality** of STEM education and student learning, including increasing opportunities for high quality research experiences for students and faculty.
- **Establish and develop partnerships** with other minority-serving institutions, other institutions of higher education, other NSF projects such as the Integrative Graduate Education and Research Traineeship Program (IGERT), Centers of Research Excellence in Science and Technology (CREST) and Alliances for Graduate Education and the Professoriate (AGEP), industrial laboratories, national laboratories, and other research centers to enhance and support HBCU-UP activities.

Project Scope: The scope will depend on the size and number of STEM programs and the complexity of the current and proposed project activities - ideally all STEM programs and STEM students and faculty would be affected by the HBCU-UP activities. The scope of the project should be clearly defined numerically, outlining the impact on students and faculty of the proposed HBCU-UP activities. If the proposed scope will be limited the reasons should be clearly outlined. Please note that the social, behavioral and economic sciences are eligible to be included in an Implementation Project proposal.

Activities may include, but are not limited to:

Course and curriculum development, revision, and enhancement:

- Integrate student research and interactive discovery based experiences into the STEM curriculum
- Integrate technology and cyberinfrastructure resource into STEM curricula and instruction
- Revise STEM gate-keeping and bottleneck courses
- Develop, adapt, and/or implement new instructional materials
- Develop and introduce new STEM program offerings
- Incorporate advances in science and engineering knowledge into courses and laboratories
- Implement research-based teaching and learning techniques and practices
- Enhance STEM equipment available for undergraduate education
- Revise and enhance STEM teacher education curricula and programs including active learning opportunities for future STEM teachers

Undergraduate student support services, academic success, and educational enrichment:

- Coordinate and support research opportunities for undergraduate students on-campus or off-site including international research opportunities
- Coordinate and support internships or cooperative education opportunities
- Provide undergraduate STEM scholarships and awards (note that HBCU-UP projects should not primarily be scholarship programs since sustainability of such a project is questionable)
- Develop and enhance tutoring services and mentoring programs

- Enhance student access to computer labs and STEM scientific equipment
- Provide travel for students for professional development
- Develop and enhance advising, counseling, and career services
- Address critical transition points such as the transition between high school and college, between two- and four-year colleges, from undergraduate to graduate studies, and from college to the workplace
- Develop links with other NSF funded projects such as IGERT, AGEP, CREST to facilitate undergraduate student research and graduate school transition
- Provide graduate school planning and preparation – test taking courses, application preparation, curriculum vitae development, funding opportunities and financial aid information

NOTES: *Student financial support may only be provided to students who are United States citizens, nationals, or permanent residents of the United States. Graduate student research is not supported under the HBCU-UP program.*

Faculty professional development:

- Develop and enhance professional development opportunities - pedagogy training, mentoring training, using cyberinfrastructure resources in classrooms, innovative teaching practices, grant writing skills, and student assessment techniques
- Build the institution's on-site research capacity (for example start up funds and other strategies to support faculty in the acquisition of preliminary data in order to pursue additional research funding)
- Coordinate and support research opportunities for faculty on-site or off-site including international research opportunities and research at other NSF funded sites (e.g. IGERT and CREST sites)
- Establish partnerships and collaborations in order to expand the research capacity of the institution
- Provide faculty release time to implement HBCU-UP activities
- Support sabbaticals and faculty exchange programs
- Bring visiting faculty and industry practitioners to the campus to teach and do research
- Provide STEM disciplinary and topical seminars

2. **PLANNING GRANTS**: Twelve to eighteen month projects to perform an institutional STEM program self-analysis.

The proposed activities should include an institutional STEM self-analysis and the development of an action plan with activities and strategies to enhance the institution's STEM programs. The activities should result in the institution's submission of a strong Implementation Project proposal to the HBCU-UP program.

Activities may include, but are not limited to:

- Faculty release time to manage and participate in planning activities
- Involving visiting faculty or consultants in the planning process
- Consultation of stakeholders (for example students, faculty, administrators, as well as industry and K-12 representatives)
- Data collection
- STEM Program assessment and evaluation
- Computer services to support the planning activities
- Review of STEM education research findings and effective implementation strategies
- Travel for site visits to exemplar institutions including existing HBCU-UP project sites
- Professional travel and professional development related to improving the planning activities

3. **EDUCATION RESEARCH PROJECTS**: Three-year projects to perform an educational research project.

We encourage proposals for research that can serve as a basis for strengthening the STEM programs of HBCUs. Research proposals that are linked to past or ongoing HBCU-UP Implementation Projects are strongly encouraged. Competitive proposals will include PIs with expertise in education research and/or social science research methods in addition to PIs with knowledge about STEM programs at HBCUs. Proposers are encouraged to establish collaborations to strengthen the education research proposal. The proposal should describe the nature of the collaboration and the anticipated effects of the collaboration. The proposal should include letters of support from collaborators which outline the role and value of the collaboration.

Potential education research topics include, but are not limited to, the following:

- Factors contributing to enhanced retention of students, completion of their degrees, and successful

placement in STEM careers, particularly for students from groups underrepresented in STEM fields, including women and persons with disabilities
- Identification of successful education models in various STEM fields, definitions of what constitutes successful outcomes, and the factors associated with these outcomes
- Strategies for strengthening the capacity of HBCUs to provide academically excellent STEM undergraduate programs
- Investigations of the impact of HBCU-UP projects on the quality of STEM undergraduate education.
- Mechanisms to redesign STEM education in response to changes in traditional disciplines, efforts to enhance curricula and learning, and the incorporation of STEM research into teaching
- Impacts of and partnerships with industry, K-12 schools, and informal education settings
- Investigations of the causes, consequences, and performance of STEM-oriented intervention programs or public policies
- Research on teachers' implementation of culturally relevant strategies to improve student STEM achievement
- Investigations of effective STEM teacher preparation methods that address preparation for multi-cultural classrooms

Proposals should discuss how the work would contribute to productive public or scholarly debate. As appropriate, proposals should describe mechanisms to effectively and efficiently transfer findings into educational practice. Requests for the preparation of critical literature reviews, workshops to develop new research networks and collaborations, and other forums to communicate results among constituencies are appropriate. In addition, proposals that focus on the potential utility of research and evaluation findings and their transfer into practice or use by other researchers and policymakers are encouraged.

Proposals should reflect relevant advances in quantitative, qualitative, and mixed-methods research and evaluation methodologies and provide a compelling argument about how the methodologies proposed are appropriately matched with strategic research questions. Additionally, proposal should demonstrate how the methods chosen would result in rigorous, cumulative, reproducible, and usable findings.

Proposers are encouraged to contact the Division of Research, Evaluation and Communication (REC) education research program director listed in the Contacts for Additional Information section of this solicitation to discuss potential research questions and research methodologies. For general questions and proposal process questions please contact one of the Cognizant Program Officers listed at the beginning of this solicitation. This is not a supplemental program - HBCUs do not need to have an Implementation Project in order to submit Education Research proposals.

4. **TARGETED INFUSION PROJECTS**: One to two-year projects to meet a short term, well defined goal to improve the quality of undergraduate STEM education.

Project activities must be extremely focused in order to meet a very well defined short term goal to build the quality of undergraduate education. Typically, projects are focused on one activity within a single STEM department. However, interdisciplinary and cross disciplinary projects are also encouraged. Projects aligned with the NSF-wide investment areas are highly encouraged (http://www.nsf.gov/news/priority_areas/). NSF has designated eight areas as NSF-wide investments in its fiscal year 2007 budget request to Congress: Biocomplexity in the Environment, Climate Change Science Program, Cyberinfrastructure, Human and Social Dynamics, International Polar Year, Mathematical Sciences, National Nanotechnology Initiative and Networking Information Technology R&D.

Examples of Targeted Infusion Project goals include, but are not limited to, the following:

- Earn a new specialized accreditation or certification for a STEM degree program to improve the competitiveness of graduating students and recruit more students to the program.
- Establish a new STEM degree program or concentration to recruit more students into STEM.
- Build on-site teaching and research infrastructure to improve the preparedness and competitiveness of graduating students for graduate school and to recruit qualified STEM faculty.
- Enhance the quality of STEM teacher preparation by establishing a collaboration between the STEM faculty and STEM teacher education programs to provide active learning experiences for undergraduates studying to become STEM teachers.
- Revamp a STEM degree program in order to reflect advances in the discipline or changes in workforce requirements to improve the preparedness and competitiveness of graduating students for graduate school or the workforce.

Competitive projects will clearly outline how the activities will result in an overall enhancement of the current STEM programs. Appropriate short term goals are easily measurable and attainable within the project time

frame. Activities could include but are not limited to: curriculum enhancement, travel, training related to the project, new course development, new degree program development, and equipment acquisitions. The activities must clearly lead to the specific short term goal of the project. Proposals that include normal operating activities such as salaries to teach existing classes, and normal recruitment and outreach activities, will not be funded. HBCUs that currently have a five-year Implementation Project will need to explain how the Targeted Infusion Project is unique from the Implementation Project activities.

Proposers are encouraged to contact the discipline appropriate NSF program director listed in the Contacts for Additional Information section of this solicitation to discuss proposed project activities and goals of a potential Targeted Infusion Project. Proposers interested in establishing collaborations between STEM disciplines and STEM teacher education programs are encouraged to contact the Division of Research, Evaluation and Communication (REC) teacher education program director listed. For general questions and proposal process questions please contact one of the Cognizant Program Officers listed at the beginning of this solicitation. This is not a supplemental program - HBCUs do not need to have an Implementation Project in order to submit Targeted Infusion proposals.

III. AWARD INFORMATION

1. **Implementation Projects**

   - Number of awards: Approximately 6 in FY 2007
   - Average Award: $1 to $2.5 million ($200,000 to $500,000 per year)
   - Project Length: Up to five years
   - Cost Share Requirement: None
   - Restrictions: Equipment costs may not exceed 30% of the total budget request
   - Grant Administration: Implementation projects will be managed by NSF as continuing grants

2. **Planning Grants**

   - Number of awards: Approximately 2 in FY 2007
   - Average Award: Up to $50,000
   - Project Length: Twelve to eighteen months
   - Cost Share Requirement: None
   - Restrictions: Equipment costs are not normally allowed under planning grants
   - Grant Administration: Planning grants will be managed by NSF as standard grants

3. **Education Research Projects**

   - Number of awards: Approximately 3 in FY 2007
   - Average Award: $750,000 to $1,050,000 ($250,000 to $350,000 per year)
   - Project Length: Three years
   - Cost Share Requirement: None
   - Restrictions: Equipment costs are not normally allowed under Education Research Projects
   - Grant Administration: Education Research Projects will be managed by NSF as continuing grants

4. **Targeted Infusion Projects**

   - Number of awards: Approximately 6 in FY 2007
   - Award Range: $75,000 to $150,000
   - Project Length: Up to two years
   - Cost Share Requirement: None
   - Restrictions: There are no equipment cost restrictions
   - Grant Administration: Targeted Infusion Projects will be managed by NSF as continuing grants

IV. ELIGIBILITY INFORMATION

Organization Limit:

Proposals may only be submitted by the following:

- Historically Black Colleges and Universities (HBCUs) that are accredited and offer undergraduate educational programs in science, technology, engineering and mathematics (STEM).

PI Limit:

- The Principal Investigator for Implementation Project and Planning Grant proposals should be the chief academic officer of the institution or other senior academic official. Potential co-Principal Investigators include the key personnel that will be involved in the implementation of the project activities.
- The Principal Investigator for Targeted Infusion Projects should be a STEM department head or equivalent. Potential co-Principal Investigators include the key personnel that will be involved in the implementation of the project activities.
- The Principal Investigator for Education Research Projects should be the individual who will perform the research project. Other potential co-Principal Investigators include collaborators on the research project. At least one of the Principal Investigators must have formal training in education research or significant professional experience doing education research.

Limit on Number of Proposals per Organization:

- Eligible institutions can submit either an Implementation Project proposal or a Planning Grant proposal in any year. Please note that an eligible institution can only have one active Implementation Project or Planning Grant.
- Eligible institutions can submit one Targeted Infusion Project in any year. This is in addition to either an Implementation Project or Planning Grant proposal if applicable.
- There is no limit to the number of Education Research Project proposals that can be submitted from an eligible institution.

Limit on Number of Proposals per PI:

None Specified

Additional Eligibility Info:

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Letters of Intent*(optional):*

All letters of intent must be submitted via FastLane. A separate letter of intent is requested for each type of HBCU-UP proposal (Implementation, Planning Grant, Targeted Infusion, or Education Research) that will be submitted from an eligible institution.

Letters of intent must contain the following information:

- Project title
- PI name and Co-PI names, department, institution, phone, fax and email
- Point of contact if different than the PI (phone, fax, email)
- Submitting institution name
- Project synopsis: Provide a brief description of the proposed activities. Education Research Projects should also include the research questions to be addressed and the population to be examined.
- The type of proposal that will be submitted (Implementation, Planning, Targeted Infusion, or Education Research)

Letter of Intent Management Conditions:

When submitting a Letter of Intent through FastLane in response to this Program Solicitation please note the conditions outlined below:

- SPO Submission is Not Required when submitting Letters of Intent
- A Minimum of 1 and Maximum of 4 Other Senior Project Personnel are allowed
- Proposal Type (Implementation, Planning, Targeted Infusion, Education Research) is Required when submitting Letters of Intent
- Submission of multiple Letters of Intent are allowed

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

- 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 Grant Proposal Guide (GPG). The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from pubs@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 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: (http://www.nsf.gov/bfa/dias/policy/docs/grantsgovguide.pdf). 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) 292-7827 or by e-mail from pubs@nsf.gov.

In determining which method to utilize in the electronic preparation and submission of the proposal, please note the following:

Collaborative Proposals. All collaborative proposals submitted as separate submissions from multiple organizations must be submitted via the NSF FastLane system. Chapter II, Section D.3 of the Grant Proposal Guide provides additional information on collaborative proposals.

The GPG and the NSF Grants.gov Application Guide provide general instructions for each section required in the full proposal. Please note that proposers are required to address prior NSF support received within the last five years by any of the co-PIs on the current proposal. Additional program specific guidance is provided below.

- Cover Sheet -
  - For all HBCU-UP proposals under "NSF Unit Consideration" please select:
    - "HRD-Division of Human Resource Development" as the division
    - "Hist Black Colleges and Univ" as the program
  - Implementation proposals:
    - Please begin the project title with "Implementation Grant:"
    - The “proposal duration” should be 60 months
  - Planning Grant proposals:
    - Please begin the project title with "Planning Grant:"
    - The “proposal duration” should be between 12 and 18 months
  - Education Research proposals:
    - Please begin the project title with "Education Research Grant:"
    - The “proposal duration” should be 36 months
  - Targeted Infusion proposals:
    - Please begin the project title with "Targeted Infusion Grant:"
    - The “proposal duration” should be between 12 and 24 months
  - You must review the regulations regarding Human Subjects (45 CFR 690.101-124 http://www.nsf.gov/bfa/dga/policy/docs/45cfr690.pdf). This is particularly important for Education Research Projects. Please note that Human Subjects regulations also govern activities that have to do with safe guarding individually identifiable information such as student and faculty surveys and data, therefore many Implementation Projects, Planning Grants, and possibly Targeted Infusion Projects, may also need to be reviewed by your Human Subjects Internal Review Board (IRB). If your project will be reviewed by your IRB once the project

has been funded please check the box on the cover sheet and indicate that the review is pending. If the proposal has already been reviewed by your IRB and found to be exempt please cite the applicable subsection for the exemption on the cover sheet. If the IRB has already given approval of the activities include a letter from the IRB and indicate the expiration date of the IRB approval on the cover sheet.

- Project Summary - The Project Summary is a self-contained one-page description of the activities that would be implemented if the proposal were funded.
    - IMPORTANT NOTE: Both NSF merit selection review criteria must be addressed separately in the one-page project summary in all proposals submitted under this solicitation: What is the intellectual merit of the proposed activity? and What are the broader impacts of the proposed activity? Proposals will be returned, without review, if they do not address both merit selection review criteria separately.
- Project Description - 15 page limit. Refer to the "Project Description" section below for more information on each type of HBCU-UP proposal: 1) Implementation Projects, 2) Planning Grants, 3) Education Research Projects, and 4) Targeted Infusion Projects.
- References Cited - Provide the references cited in the proposal.
- Biographical Sketches - Outline the experiences of the PI and co-PIs (two-page limit each person). Include a two-page position description with minimum qualifications and percent time commitment for any project staff position that will be filled if the proposal is funded (for example a project coordinator or data manager).
- Budget -

    - Implementation Projects should budget for the PI and the co-PI who has the most day-to-day contact with the project, to attend a three-day grantee meeting in the Washington, DC area each year of the project. Implementation Projects should also budget for the institution's financial officer assigned to the HBCU-UP project to attend a one day workshop on financial management of NSF grants in the Washington, DC area each year of the project.
    - Education Research Projects should budget for the PI to attend a three-day grantee meeting in the Washington, DC area each year of the project.
    - Targeted Infusion Projects should budget for the PI with the most day-to-day contact with the project to attend a three-day grantee meeting in the Washington, DC area each year of the project.

1. **Implementation Projects -** The project description should include the following information:

    Background and Context

    - Provide information on the institution's current STEM education and research capability (your baseline data). Examples of information and data include: a description of your STEM degree programs, student enrollment, retention, graduation rates, graduate school going rates, gatekeeper course performance, STEM faculty demographics, and STEM infrastructure resources at the institution and collaborating organizations.
        - This information should help the reviewers understand your current STEM programs and provide context to determine reasonable goals and objectives for your proposed activities. The information should highlight some of the areas that need improvement and that will be addressed with the proposed project activities. In addition, the baseline data can be referenced in your evaluation plan to measure your project's outcomes.
        - Proposers are highly encouraged to review the Self Evaluation Indicator System (SEIS), which is part of the reporting requirements for HBCU-UP Implementation Project awardees, as a guide for the types of data that could be included in the proposal. You can download a copy of the SEIS questions at http://www.systemic.com/pdfs/Sample_Cohort_6_SEIS05.pdf.
    - Provide information on STEM related programs that have been implemented or are currently active. Include other NSF programs (for example LSAMP or CCLI), other Federal programs (for example MSEIP or MARC), State programs, and institution programs.
        - For institutions that have previously received an HBCU-UP Implementation Project award you must discuss the goals and outcomes of that project. You should at least address the following questions concerning your previous HBCU-UP project:
            - What were the objectives and goals of the project (numerical when possible)?
            - What activities were implemented?
            - What were the results of the activities (numerical when possible)?
            - Have the activities been institutionalized? If not, why not?
        - For institutions that have received an HBCU-UP Planning Grant, you must describe the planning grant activities and the findings of those activities.
    - Describe how the proposed Implementation Project goals and objectives fit the institution’s mission and reflect the institution's long-term STEM goals and plans.
    - Provide evidence of the commitment to the proposed Implementation Project activities of the institutional administration, partners and collaborators if applicable, and the STEM faculty and leadership. Letters of commitment to the proposed project activities can be included as supplementary documents. Do not include general letters of support from individuals not involved in

the implementation of project activities.

Proposed Implementation Activities

- Describe the proposed activities that will be implemented. Competitive proposals will provide answers to following questions for each proposed activity:
    - WHAT: What are the goals and objectives? Include the number of STEM students and faculty that will be impacted by the activity each year of the project. Describe whether the proposed activity addresses the needs of other underrepresented groups, such as women and persons with disabilities, in addition to minority populations .
    - HOW: Describe the activity that will be implemented in order to achieve these goals and objectives. Include enough details so that the scope of your proposed activity is clear. What are the strategies and methods that will be used? How will the activity be sustained after NSF funding ends?
    - WHY: Provide evidence that the proposed activity is based on research and/or other projects that have been shown to be effective in achieving similar goals and objectives. What are the expected outcomes and impacts of the activity at your institution?
    - WHEN and WHO: Outline the five-year timeline for the proposed activity with measurable milestones. Include the project staff, administrators, and/or partners that are responsible for the activity and milestones.
- Describe plans to disseminate the outcomes of the project to appropriate audiences.
- Institutions that have previously received an HBCU-UP implementation award will also need to explain:
    - How the proposed activities will build on the previous project and not just continue previous activities.
    - How the proposed activities will move the institution to the next level of STEM program quality.

Project Management and Evaluation

- Provide a management plan and timeline for the project that will ensure that the activities will be implemented on time, within budget, and the required reporting will be accurately completed and submitted. Include your plans for collecting and submitting Self Evaluation Indicator System (SEIS) data annually and at the end of the project. The timeline should include the project's major activities and milestones and identify who will be responsible for completing each activity.
    - You should review SEIS to determine whether your institution has the infrastructure and personnel to collect and submit the required data. If your institution does not currently have the infrastructure and personnel you can budget for data collection in your proposal. You can download a copy of the SEIS questions at http://www.systemic.com/pdfs/Sample_Cohort_6_SEIS05.pdf.
- The project staff and organization will depend on the design, scope, and disciplines involved. It is helpful to include a project organizational chart showing how the project fits into the institution's hierarchy
    - The Principal Investigator (PI) should be the chief academic officer of the institution since many proposed project activities will require this level of stewardship in order for them to be implemented.
    - The Project Manager should be the co-PI who will have the most day-to-day contact with the project.
    - Most projects should have an Internal Steering Committee or Internal Advisory Committee to help manage the project implementation, resolve project issues, and ensure that the project is on track for meeting project goals. The size and composition will depend on the design of the project - members could include STEM faculty, institutional staff who provide student and faculty services that are included in the project, and representatives from related STEM projects. This committee should meet frequently throughout the project. Include a description of the membership, schedule of meetings, and the responsibilities and duties of the committee.
    - HBCU-UP requires that Implementation projects have an External Advisory Committee that meets at least once a year, chaired by the chief executive officer of the institution. The External Advisory Committee should have representatives equivalent to the chief executive officer that can advise the project management team on the implementation of the project and progress toward project goals. Members could include leaders from other institutions of higher education, industry representatives, and representatives from feeder school districts and community colleges. The PI, co-PIs, and project staff involved in the implementation of the project activities should not serve on the External Advisory Committee. Include a description of the proposed membership, schedule of meetings, and the responsibilities and duties of the committee.

- Evaluation and assessment: It is expected that each project will include a formative and summative evaluation plan. The evaluation plan should refer to the objectives, goals, and baseline data already presented within the description of the proposed project activities. The formative evaluation should include benchmarks and indicators of progress that demonstrate the proposers' understanding of the essential quantitative and qualitative indicators for assessing the project's implementation processes. The summative evaluation should assess whether the project achieved the overall project goals as well as identify any unexpected results. The collection and reporting of SEIS data alone is not sufficient for project evaluation.

2. **Planning Grants -** The project description should include the following information:

Background and Context

- Provide information on the institution's current STEM education and research capability. Examples of information and data include: a description of your STEM degree programs, student enrollment, retention, graduation rates, graduate school going rates, gatekeeper course performance, STEM faculty demographics, and STEM infrastructure resources at the institution and collaborating organizations.
    - This background information and data should be designed to help the reviewers understand the potential impact of a full HBCU-UP Implementation Project on the quality of your STEM programs.
    - Proposers are encouraged to review the Self Evaluation Indicator System (SEIS), which is part of the reporting requirements for HBCU-UP Implementation Project awardees, as a guide for the types of data that could be included. You can download a copy of the SEIS questions at http://www.systemic.com/pdfs/Sample_Cohort_6_SEIS05.pdf.
- Describe how the proposed Planning Grant goals and objectives fit the institution's mission and reflect the institution's long-term STEM related goals and plans.
- Provide evidence of the commitment to the proposed Planning Grant activities of the institutional administration, partners and collaborators if applicable, and the STEM faculty and leadership. Letters of commitment to the proposed project activities can be included as supplementary documents. Do not include general letters of support from individuals not involved in the implementation of project activities.

Proposed Planning Activities

- Describe the proposed planning process:
    - How will the institution's STEM programs be comprehensively evaluated and assessed in order to identify the areas that need strengthening and that will improve the quality of undergraduate STEM education?
        - Who will be involved in the STEM program evaluation and assessment process?
        - What data still needs to be collected and analyzed? Who will do this additional data collection and analysis?
        - You should describe any previous work that has been done, such as surveys of students and faculty or previous accreditation activities, which will be used as part of the proposed Planning Grant assessment.
    - How will research on potential implementation strategies be carried out? How will existing implementation strategies be adopted at your institution or adapted to your institution?
    - How will a full Implementation Project be developed? How will priorities be set?
- In general, implementation activities are not allowed under planning grants. In some cases, pilot activities may be appropriate if an innovative strategy is proposed which needs to be tested before full implementation. If you are not sure, please call one of the Cognizant Program Officers before submitting your proposal.

Project Management and Evaluation

- Provide a management plan and timeline for the project that will ensure that the activities will be implemented on time, within budget, and the required reporting will be accurately completed and submitted. The timeline should include the Planning Grant's major activities and milestones and identify who will be responsible for completing each activity.
- Project staff organization - staffing requirements will depend on the design and scope of the Planning Grant.
    - The Principal Investigator (PI) is normally the chief academic officer of the institution.
    - The Project Manager should be the co-PI who will have the most day-to-day contact with the planning grant.
    - Most Planning Grants should have an Internal Steering Committee or Internal Advisory

Committee to advise on the Planning Grant implementation, resolve any issues, and ensure that the Planning Grant is on track. The size and composition can vary - members could include institutional leadership, STEM faculty not already involved in the planning activities, institutional staff who provide student and faculty services that are included in the project, and representatives from related STEM projects. This committee should meet frequently throughout the project. Include a description of the membership, schedule of meetings, and the responsibilities and duties of the committee.

- Evaluation and assessment: It is expected that each Planning Grant will include a evaluation plan. The evaluation plan should assess the planning process and whether the Planning Grant achieved the overall goals as well as identify any unexpected results. This requirement refers to the evaluation of the Planning Grant as opposed to an evaluation and assessment of your STEM programs that you may have done as an activity within your Planning Grant.

3. **Education Research Projects -** The project description should include the following information:

Background and Context

- Describe the education research question(s) to be investigated and explain the significance and importance of answering the proposed education research question(s).
- Explain how the research will contribute to the knowledge base of STEM education research and how it has the potential to improve STEM education at HBCUs.

Proposed Education Research Activities

- Describe the research plan that will be undertaken in order to answer the education research question(s).
- Provide the theoretical basis for the proposed research methods and strategies.
- Provide a timeline for the research plan - include measurable objectives and outcomes and identify who will be responsible for completing each task.
- Describe how the research results will be disseminated to the education research and HBCU communities.
- In general, implementation activities are not allowed under Education Research Projects. In some cases, implementation activities may be appropriate but these activities must clearly be required in order to answer the proposed education research question(s) and must be significantly different from other education research studies. If you are including implementation activities you will need to clearly explain why the activities are needed to answer the education research question(s).

Project Management and Evaluation

- Provide a management plan for the project that will ensure that the activities and the required reporting will be implemented on time and within budget.
    - At least one of the PIs on the project must have formal training in education research or significant professional experience doing education research.
- Evaluation and assessment: It is expected that each Education Research proposal will include an evaluation plan that includes benchmarks, and quantitative and qualitative indicators of progress of the education research project. The plan should address the assessment of project outcomes and contributions to the STEM knowledge base and/or educational practice.

4. **Targeted Infusion Projects -** The project description should include the following information:

Background and Context

- Describe the overall goal of the project. The goal must be clearly stated, measurable, and achievable within the proposed time line.
- Describe the benefits of achieving the goal to the STEM education and research enterprise at the institution. For example, implementing the project will make your graduates more competitive in the workforce and graduate school, or better prepare them for success in the workforce and graduate school, or recruit more students to STEM, or retain students in STEM, or meet a local workforce need.
- Baseline data should be included in order to provide context for the impact of the Targeted Infusion Project. For example, include the names of the courses and the student enrollment in those courses that will be impacted with the requested equipment.

Proposed Activities

- Describe the activities that will be undertaken in order to achieve the goal. The activities must clearly be related to achieving the goal. Proposals that include normal operating activities (salaries to teach existing courses, normal accrediting activities) or on-going costs (lab supplies for existing courses, undergraduate research support, tutoring, faculty travel and professional development not directly related to the project goal) will not be funded. Do not attempt to do a little bit of everything in your proposal - focused proposals are more competitive.
- Describe the plans to disseminate the outcomes of the project as appropriate. Dissemination is particularly important for innovative projects and projects that produce educational materials.
- Since all institution's have different policies and procedures, such as for new degree program approval, you should explain how your timeline reflects all institutional requirements. If appropriate, you should include evidence (such as letters of support or minutes from governance committees) that indicate that institutionally required procedures have been followed and preliminary approvals have been secured.
- Equipment and supplies:
    - Please explain how recurring costs, such as lab supplies for a newly created laboratory course, will be supported after the project ends.
    - Quotes or estimates for major equipment purchases should be included in the supplementary documents section.
    - Please explain how long-term maintenance of new equipment will be supported after the project ends.

Project Management and Evaluation

- Provide a management plan for the project that will ensure that the activities and the required reporting will be implemented on time and within budget.
- Provide a timeline for the activities to be implemented - include measurable objectives and outcomes and the staff that are responsible for doing the activities.
- Evaluation and assessment: It is expected that each Targeted Infusion proposal will include a formative and summative evaluation plan. The evaluation plan should refer to the objectives, goals and baseline data presented within the description of the proposed Targeted Infusion Project activities. The formative evaluation should include benchmarks and indicators of progress that demonstrate the proposers' understanding of the essential quantitative and qualitative indicators for assessing the implementation processes of the Targeted Infusion Project. The summative evaluation should assess whether the Targeted Infusion Project achieved the overall goals as well as identify any unexpected results.

B. Budgetary Information

Cost Sharing: Cost sharing is not required by NSF in proposals submitted to the National Science Foundation.

Other Budgetary Limitations:

- Equipment Limitations:
    - Implementation Projects - Equipment costs cannot exceed 30% of the total NSF budget requested.
    - Planning Grants - Minimal equipment costs are allowed if required to implement the planning grant process.
    - Targeted Infusion Projects - There is no limit on the percent of the budget that can go to equipment.
    - Education Research Projects - Minimal equipment costs are allowed if required to implement the education research activities. Education Research Projects are not intended to support implementation activities therefore major equipment is not normally included in Education Research Projects. However, equipment may be justified in some cases, please contact one of the Cognizant Program Officers before submitting the proposal.
- Required Meeting Travel:
    - Implementation Projects should budget for the PI and the co-PI or staff person responsible for the most day-to-day management of the project, to attend a three-day grantee meeting in the Washington, DC area each year of the project. Implementation Projects should also budget for the institution's financial officer assigned to the HBCU-UP project to attend a one day workshop on financial management of NSF grants in the Washington, DC area each year of the project.
    - Targeted Infusion Projects should budget for the PI with the most day-to-day contact with the project to attend a three-day grantee meeting in the Washington, DC area each year of the project.
    - Education Research Projects should budget for the PI to attend a three-day grantee meeting in the Washington, DC area each year of the project.
- Financial support may be provided to student participants under HBCU-UP Implementation Projects. However, financial support may only be provided to students that are U.S. citizens, nationals, or permanent residents of the U.

S. Student support should be included on the "Stipends" line under the "Participant Support Costs" section of the budget. Stipends to undergraduate students should not replace other need based grants and scholarships already awarded to the students.

C. Due Dates

- **Letter of Intent Due Date(s)** ***(optional):***

  November 14, 2006

  Implementation Projects, Planning Grants, Education Research Projects and Targeted Infusion Projects

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

  December 15, 2006

  Implementation Projects, Planning Grants, Education Research Projects and Targeted Infusion Projects

D. FastLane / Grants.gov Requirements

- **For Proposals Submitted Via FastLane:**

Detailed technical instructions regarding the technical aspects of preparation and submission via FastLane are available at: https://www.fastlane.nsf.gov/a1/newstan.htm. For FastLane user support, call the FastLane Help Desk at 1-800-673-6188 or e-mail fastlane@nsf.gov. The FastLane Help Desk answers general technical questions related to the use of the FastLane system. 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.

Submission of Electronically Signed Cover Sheets. The Authorized Organizational Representative (AOR) must electronically sign the proposal Cover Sheet to submit the required proposal certifications (see Chapter II, Section C of the Grant Proposal Guide for a listing of the certifications). The AOR must provide the required electronic certifications within five working days following the electronic submission of the proposal. Further instructions regarding this process are available on the FastLane Website at: https://www.fastlane.nsf.gov/fastlane.jsp.

- **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. The Grants.gov's Grant Community User Guide is a comprehensive reference document that provides technical information about Grants.gov. Proposers can download the User Guide as a Microsoft Word document or as a PDF document. The Grants.gov User Guide is available at: http://www.grants.gov/CustomerSupport. In addition, the NSF Grants.gov Application Guide provides additional technical guidance regarding 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.

VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

Proposals received by NSF are assigned to the appropriate NSF program and, if they meet NSF proposal preparation 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 who are experts in the particular fields represented by the proposal. These reviewers are selected by Program Officers charged with the 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 with the proposer.

A. NSF Merit Review Criteria

All NSF proposals are evaluated through use of the two National Science Board (NSB)-approved merit review criteria: intellectual merit and the broader impacts of the proposed effort. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two NSB-approved merit review criteria are listed below. The criteria include considerations that help define them. These considerations are suggestions and not all will apply to any given proposal. While proposers must address both merit review criteria, reviewers will be asked to address only those considerations that are relevant to the proposal being considered and for which the reviewer is qualified to make judgements.

What is the intellectual merit of the proposed activity?
How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of the prior work.) To what extent does the proposed activity suggest and explore creative and original concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

What are the broader impacts of the proposed activity?
How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

NSF staff will give careful consideration to the following in making funding decisions:

Integration of Research and Education
One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learning perspectives.

Integrating Diversity into NSF Programs, Projects, and Activities
Broadening opportunities and enabling the participation of all citizens -- women and men, underrepresented minorities, and persons with disabilities -- 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.

B. Review and Selection Process

Proposals submitted in response to this program solicitation will be reviewed by Panel Review.

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. 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 is striving to be able to tell applicants whether their proposals have been declined or recommended for funding within six months. The time interval begins on the date of receipt. The interval ends when the Division Director accepts the Program

Officer's recommendation.

A summary rating and accompanying narrative will be completed and submitted by each reviewer. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers, 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.

In all cases, 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 and 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.

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 letter, 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 letter; (4) the applicable award conditions, such as Grant General Conditions (GC-1); * or Federal Demonstration Partnership (FDP) Terms and Conditions * and (5) any announcement or other NSF issuance that may be incorporated by reference in the award letter. 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 http://www.nsf.gov/awards/managing/general_conditions.jsp?org=NSF. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from pubs@nsf.gov.

More comprehensive information on NSF Award Conditions and other important information on the administration of NSF awards is contained in the NSF *Grant Policy Manual* (GPM) Chapter II, available electronically on the NSF Website at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpm.

Special Award Conditions:

Reverse Site Visits: Participation in a Reverse Site Visit (RSV) can be requested by NSF at anytime during the grant period. The RSV is a presentation on the outcomes and progress of the grant activities at NSF in front of a peer review panel. Participation in the RSV is required by the appropriate grant management team and institutional administration.

Site Visits: NSF staff may visit the site of the grant project at anytime during the grant period. Reasonable accommodation of the site visit by NSF program staff is required by the grantee.

Cooperation with NSF evaluation projects and special projects: NSF, an NSF contractor, or a grantee on behalf of NSF, may from time to time conduct program evaluations or special projects of HBCU-UP projects. These may occur at anytime during the grant period and sometimes after the grant period has ended. Reasonable cooperation with these efforts is required by the grantee.

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 at least 90 days before the end of the current budget period. (Some programs or awards require more frequent project reports). Within 90 days after expiration of a grant, the PI also is required to submit a final project report.

Failure to provide the required annual or final project reports will delay NSF review and processing of any future funding increments as well as any pending proposals for that PI. 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 FastLane, for preparation and submission of annual and final project reports. Such reports provide information on activities and findings, project participants (individual and organizational) publications; and, other specific products and contributions. PIs will not be required to re-enter information previously provided, either with a proposal or in earlier updates using the electronic system. Submission of the report via FastLane constitutes certification by the PI that the contents of the report are accurate and complete.

HBCU-UP Implementation Project awardees are required to submit data via the Self Evaluation Indicator System (SEIS) each year of the award and after the award is over. This is in addition to the annual project reports and the final project report submitted to the cognizant Program Officer via FastLane. The SEIS data is used by NSF to assess project progress as well as for HBCU-UP outcomes at the program level for Government Performance and Results Act (GPRA) reporting and other reporting requirements. SEIS data will only be published outside of normal NSF reporting requirements as aggregate data unless permission from the institution is received to publish the data individually.

VIII. AGENCY CONTACTS

General inquiries regarding this program should be made to:

- Jessie DeAro, Program Director, 815 N, telephone: (703) 292-5350, fax: (703) 292-9018, email: jdearo@nsf.gov
- Camille McKayle, Program Director, 815 N, telephone: (703) 292-4671, fax: (703) 292-9018, email: cmckayle@nsf.gov

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: fastlane@nsf.gov.
- Gloria Strothers, telephone: (703) 292-4718, email: gstrothe@nsf.gov
- Victoria Smoot, telephone: (703) 292-4677, email: vsmoot@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.

Division of Research, Evaluation and Communication Education Research contact, especially for Education Research Projects:

- James Dietz, Program Director, Directorate for Education & Human Resources, telephone: (703) 292-5156, fax: (703) 292-9046, email: jdietz@nsf.gov

Division of Elementary, Secondary and Informal Education contact, especially for projects that include STEM teacher preparation components:

- Angelicque Tucker Blackmon, Program Director, Directorate for Education & Human Resources, telephone: (703)

292-5092, email: atucker@nsf.gov

Biological Sciences contact, especially for Targeted Infusion Projects in the Biological Sciences:

- Thomas Brady, Division Director, Directorate for Biological Sciences, Division of Integrative Organismal Biology, telephone: (703) 292-8420, fax: (703) 292-9153, email: tbrady@nsf.gov

Computer and Information Science and Engineering contact, especially for Targeted Infusion Projects in Computer and Information Science:

- Janice Cuny, Program Director, Directorate for Computer & Information Science & Engineering, Division of Computer and Network Systems, telephone: (703) 292-8950, fax: (703) 292-9010, email: jcuny@nsf.gov

Engineering contact, especially for Targeted Infusion Projects in Engineering:

- Susan Kemnitzer, Deputy Division Director, Directorate for Engineering, Division of Education & Centers, telephone: (703) 292-5347, fax: (703) 292-9051, email: skemnitz@nsf.gov

Geosciences Contact, especially for Targeted Infusion Projects in the Geosciences:

- Jill Karsten, Program Director for Diversity and Education, Directorate for Geosciences, telephone: (703) 292-7718, email: jkarsten@nsf.gov

Mathematical and Physical Sciences Contact, especially for Targeted Infusion Projects in Mathematical and Physical Sciences:

- Henry Blount, III, Head, Office of Multidisciplinary Activities, Directorate for Mathematical & Physical Sciences, telephone: (703) 292-8803, fax: (703) 292-9151, email: hblount@nsf.gov

Polar Programs contact, especially for Targeted Infusion Projects that include Polar Science:

- Renee Crain, Program Director, Arctic Sciences Section, Office of Polar Programs, telephone: (703) 292-4482, email: rcrain@nsf.gov

Social, Behavioral and Economic Sciences contact, especially for Targeted Infusion Projects in Social, Behavioral and Economic Science:

- Jonathan Perhonis, Program Director, Cross Directorate Programs, Directorate for Social, Behavioral and Economic Sciences, telephone: (703) 292-7279, email: jperhonis@nsf.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, MyNSF (formerly the Custom News Service)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 Regional 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. MyNSF also is available on NSF's Website at http://www.nsf.gov/mynsf/.

Grants.gov provides an additional electronic capability to search for Federal government-wide grant opportunities. NSF funding opportunities may be accessed via this new mechanism. Further information on Grants.gov may be obtained at http://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 40,000 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 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.

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