

**DRAFT PROGRAMMATIC AGREEMENT
AMONG**
**THE NATIONAL SCIENCE FOUNDATION,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND
THE PUERTO RICO STATE HISTORIC PRESERVATION OFFICER**
IMPLEMENTING
SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT
FOR THE DECISION REGARDING
POTENTIAL CHANGES TO
ARECIBO OBSERVATORY OPERATIONS
IN THE VICINITY OF ARECIBO, PUERTO RICO

WHEREAS, the Arecibo Observatory is a federal facility owned and funded by the National Science Foundation (NSF), a federal agency. SRI International with Universities Space Research Association (USRA) and Universidad Metropolitana (UMET) receives funding from NSF via a Cooperative Agreement to operate and maintain the Arecibo Observatory for the benefit of research communities;

WHEREAS, the Arecibo Observatory was listed in the National Register of Historic Places (NRHP) in 2008 as the National Astronomy and Ionosphere Center (NAIC) Historic District under Criterion A because of its contribution to the history of the science of ionosphere studies and the development of radio and radar astronomy in the United States, and under Criterion C because it represents a significant work of engineering;

WHEREAS, the NRHP-listed historic district contains eight buildings and one structure that are contributing resources to the district (see Attachments A and B);

WHEREAS, NSF acknowledges that the Arecibo Observatory holds significant cultural importance to the people of Puerto Rico as a source of inspiration and pride; in addition, it is considered to be culturally and scientifically iconic;

WHEREAS, NSF is in a funding-constrained environment, and needs to maintain a balanced and cutting-edge research portfolio with the largest scientific return for the taxpayer dollar;

WHEREAS, NSF relies on the scientific community, via decadal surveys and senior-level reviews, to provide input on priorities, and this community has repeatedly recommended divestment from Arecibo Observatory. The Portfolio Review Committee, a subcommittee of NSF Mathematical and Physical Sciences Advisory Committee composed solely of external members of the scientific community, was charged with recommending a balanced portfolio to maximize the science recommended by National Academy of Sciences surveys of the field, which are carried out every decade under constrained budget scenarios. The resulting Portfolio Review Committee Report, released in August 2012, recommended the divestment of a number of telescopes from the federal portfolio that would best address decadal survey science. With respect to the Arecibo Observatory, the report recommended NSF reevaluate its participation in Arecibo in consideration of the science opportunities and budget forecasts. This followed a recommendation made by the Division of Astronomical Sciences Senior Review Committee in 2006 that the NAIC should seek partners to contribute personnel or financial support to the operation of Arecibo by 2011 or else these facilities should be closed;

WHEREAS, subsequent to these recommendations, NSF, in the fall of 2015, sought viable concepts of operation from the scientific community via a Dear Colleague Letter (NSF 16-005 October 26, 2015);

WHEREAS, based on the input from the scientific community, NSF developed preliminary proposed alternatives to address changes to Arecibo Observatory operations. The proposed changes to Arecibo Observatory operations also constitute a proposed federal undertaking subject to Section 106 (54 U.S.C. Section [§] 306108) of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 300101 et

seq.) (NHPA) and the NHPA's implementing regulations, "Protection of Historic Properties" (Title 36 *Code of Federal Regulations* [C.F.R.] Part 800).

WHEREAS, NSF's preliminary proposed alternatives were published in the *Federal Register* on May 23, 2016 as part of NSF's scoping process under the National Environmental Policy Act (42 United States Code [U.S.C.] §§ 4321, *et seq.*) (NEPA). Letters to potentially interested parties, agencies, and Puerto Rican elected officials were also sent. Notification of NSF's NEPA and Section 106 processes was also given through social media announcements, website updates on the NSF Division of Astronomical Sciences website, scientific digests and blogs, and newspaper public notices (in both English and Spanish). Public meetings were held in Arecibo and San Juan, Puerto Rico on June 7th and 8th, 2016, to discuss the preliminary proposed alternatives and NSF's compliance with NEPA and the NHPA, seek input from the public on the preliminary proposed alternatives, and identify consulting parties to participate in NSF's Section 106 consultation process under the NHPA. Six individuals informed NSF that they wished to participate in NSF's Section 106 consultation process as consulting parties;

WHEREAS, on July 5, 2016, NSF initiated its Section 106 consultation process pursuant to the NHPA;

WHEREAS, on September 30, 2016, NSF provided to the scientific community its intent to release a solicitation regarding future continued operations of the Arecibo Observatory via a Dear Colleague Letter (NSF 16-144 September 30, 2016);

WHEREAS, on October 19, 2016, NSF provided to the Puerto Rico State Historic Preservation Office (PR SHPO), a letter setting forth NSF's assessment of effects, and attached the document, "Proposed Changes to Arecibo Observatory Operations: Historic Properties Assessment of Effects," which was also sent to the six Consulting Parties;

WHEREAS, on October 28, 2016, NSF released its Draft Environmental Impact Statement (DEIS), and availability of it was published in the *Federal Register*. On November 16th and 17th, 2016, NSF held public meetings in Arecibo and San Juan, Puerto Rico, to present information on the DEIS and to seek public comment on the DEIS;

WHEREAS, on November 17th, 2016, following the public meetings on the DEIS, NSF held a separate consultation meeting in San Juan, Puerto Rico, open to the public, with the Consulting Parties pursuant to Section 106 of the NHPA. At that meeting four more individuals informed NSF that they wished to participate in NSF's Section 106 consultation process as consulting parties (these four individuals and the original six individuals Tony Van Eyken (Arecibo Observatory), Dr. Brett Isham (Interamerican University-Bayamon), Xavier Siemens (American Nanohertz Observatory for Gravitational Waves), Dr. Nicholas White (Universities Space Research Association), Qihou Zhou (Miami University), Luisa Zambrano-Marin (Arecibo Observatory), Daniel R. Altschuler (University of Puerto Rico), Miguel Babilonia – Puerto Rican Karzo Speleological Research Foundation (FIEKP); Carmen Pantoja (University of Puerto Rico), and Joan Schmelz (Universities Space Research Association) are collectively referred to herein as "Consulting Parties");

WHEREAS, on January 25, 2017, NSF released a solicitation requesting proposals to manage and operate the Arecibo Observatory in a reduced funding environment (NSF 17-538 January 25, 2017); this solicitation, including review of any proposals received, has been proceeding simultaneously with NSF's Section 106 consultation process;

WHEREAS, NSF provided updates to the scientific community on divestment of Arecibo Observatory via a Dear Colleague Letter (NSF 17-079 April 27, 2017, see Dear Colleague Letters at www.nsf.gov/AST);

WHEREAS, NSF, in consultation with the PR SHPO, has established that the area of potential effects (APE) (as defined at 36 C.F.R. § 800.16(d)) includes the Arecibo Observatory (see Attachment C);

WHEREAS, the proposed undertaking includes five possible Action Alternatives under consideration: Alternative 1 – *Collaboration with Interested Parties for Continued Science-focused Operations*, Alternative 2

– *Collaboration with Interested Parties for Transition to Education-focused Operations*, Alternative 3 – *Mothballing Facilities*, Alternative 4 – *Partial Demolition and Site Restoration*, and Alternative 5 – *Complete Demolition and Site Restoration*;

WHEREAS, because of the presence of the NAIC Historic District, NSF has determined that, in consultation with PR SHPO, all five Action Alternatives have the potential to result in adverse effects on historic properties;

WHEREAS, NSF has identified Alternative 1 as NSF's Preferred Alternative in its NEPA process and recognizes that Alternative 1 can only be implemented if a collaborator(s) comes forward with viable plans to provide additional non-NSF funding in support of their science-focused operations; because Alternative 1 has been identified as NSF's Preferred Alternative, this Programmatic Agreement (PA) addresses potential adverse effects only from Alternative 1; if implementation of Alternative 1 is ultimately not feasible, NSF will resume Section 106 consultation focusing on Alternatives 2-5;

WHEREAS, under Alternative 1, any new collaborator(s) must retain the buildings and structures listed in Column A of Attachment D, which include the following contributing resources: the 305-meter Radio Telescope and Support Towers, Operations Building (excluding the associated Atmospheric Science Trailer and Visiting Science Trailer), the Visitor Center, Learning Center, Photometry Shack and Optical Lab, and Maintenance Building; buildings listed in Column B of Attachment D (which include the following contributing resources: Atmospheric Science Trailer and Visiting Science Trailer, Administration Building, and Warehouse and Business/Purchasing Building) may be retained or demolished depending on the needs of any collaborator(s) and subject to NSF's approval;

WHEREAS, under Alternative 1, NSF may retain or transfer ownership, depending on the needs of any new collaborator(s);

WHEREAS, NSF has consulted with PR SHPO and determined that, under Alternative 1, adverse effects to historic properties would result if contributing resources of the historic district are demolished or if ownership is transferred from NSF to a nonfederal entity;

WHEREAS, in accordance with 36 C.F.R. § 800.6(a)(1)(i)(C), NSF has provided the ACHP the required documentation and invited it to participate in this PA; ACHP notified NSF that it would participate in the consultation via a letter dated May 30, 2017;

WHEREAS, NSF has consulted with the PR SHPO, the ACHP, and the Consulting Parties on ways to avoid, minimize, and/or mitigate the adverse effects that the proposed undertaking could have on historic properties pursuant to the regulations implementing Section 106 of the NHPA, 36 C.F.R. Part 800;

WHEREAS, NSF has provided the public an opportunity to express their views on resolving potential adverse effects during a public meeting on July 6, 2017 and during a 30-day public comment period on a draft PA commencing on June 23, 2017; notification for public involvement opportunities was provided via email to potentially interested parties, updates to the NSF Division of Astronomical Sciences website, and notices in *El Nuevo Dia* and *El Norte* newspapers on date XX, 2017; the draft PA was emailed to stakeholders, posted to the AST website, and provided (hard copies) to the following libraries: XXX Branch, Arecibo, and XXX Branch, San Juan;

WHEREAS, NSF has determined, in consultation with PR SHPO and the Advisory Council on Historic Preservation (ACHP), that circumstances are present (undetermined result of the solicitation and uncertainty regarding the specific needs of any new collaborator) that warrant a departure from the normal Section 106 process and, accordingly, the development of a PA, in accordance with 36 C.F.R. § 800.14(b)(1)(v), is appropriate;

WHEREAS, the PR SHPO, ACHP, and Consulting Parties participated in the development of this PA; PR SHPO and ACHP are Signatories herein; in accordance with 36 C.F.R. § 800.6(c)(3), NSF has invited the Consulting Parties to sign this PA as Concurring Parties [PLACEHOLDERS];

NOW, THEREFORE, NSF, ACHP, and PR SHPO agree that NSF will ensure the following Stipulations are implemented to address any adverse effects of the proposed undertaking on historic properties under Alternative 1, and agree that these Stipulations will govern the undertaking and all of its parts.

STIPULATIONS

The following Stipulations address adverse effects to historic properties associated with implementation of Alternative 1 under the following two scenarios: 1) NSF retains ownership of Arecibo Observatory (Stipulation I, below); and 2) NSF transfers ownership of Arecibo Observatory to a non-federal entity (Stipulation II, below). Stipulation III addresses the process to be employed if it is determined that implementation of Alternative 1 is not feasible.

I. Alternative 1- NSF retains ownership of Arecibo Observatory

- A. NSF shall encourage any collaborator(s) to retain and use the contributing resources identified in Column B of Attachment D.
- B. NSF shall ensure that any collaborator(s) receive historic preservation awareness training to encourage awareness of the historic and cultural significance of Arecibo Observatory and to minimize the potential for adverse effects to historic properties. Such training shall occur within 180 days of the commencement of operations by the collaborator(s).
- C. NSF shall require that any collaborator(s) allow reasonable public access for tourism and/or educational purposes as long as such access does not adversely impact scientific research.
- D. If any collaborator(s) does not wish to retain and use all buildings listed in Column B of Attachment D, NSF shall ensure that all contributing resources designated for demolition are documented in accordance with National Park Service (NPS) Historic American Buildings Survey (HABS) and Historic American Engineering Records (HAER) standards prior to any demolition.

1. Preparation of HABS/HAER Documentation

NSF, or its designee, shall develop Level I documentation pursuant to the *Guidelines for Architectural and Engineering Documentation* published in the *Federal Register* on July 21, 2003, of any contributing resources that would be demolished. The documentation shall include a full set of measured drawings; photographs with large-format negatives of exterior and interior views; and an architectural and historical narrative, all in an archive-stable format.

a) Measured Drawings

The documentation shall include reproductions of any existing drawings of the buildings and/or structures to be demolished, as well as scaled drawings of existing conditions prior to demolition. The drawings shall be produced with ink on translucent material, such as Mylar, and archivally stable materials shall be used. Such drawings shall be sized 19 inches by 24 inches, 24 inches by 36 inches, or 34 inches by 44 inches. The final version of these drawings shall also be submitted on archival compact discs (CDs). Measurements may be produced using a three-

dimensional laser scan, and drawings may be produced using Computer-Assisted Drawing software.

b) **Photographs**

The documentation shall include no more than 20 large format, black and white photographs of each building and/or structure to be demolished, including all four elevations, relevant architectural details, and at least one context photograph. The documentation shall include a photograph key showing the location and view direction of each image. In addition, relevant photographs shall include duplicate photographs that include a scale. Photography shall be processed and stored according to archival standards, with negatives on safety film only and prints on fiber paper. Photographs shall be produced, one print per negative, sized either 4 inches by 5 inches, 5 inches by 7 inches, or 8 inches by 10 inches. The photographs shall also be submitted electronically on archival CDs.

c) **Architectural/Engineering and Historical Narrative**

The narrative shall contain a description of the contributing resources and a summary of their history. The narrative shall be printed on high-quality bond paper and submitted electronically on archival CDs.

2. Review and Submission of HABS/HAER Documentation

- a) Prior to demolition, NSF, or its designee, shall prepare the draft HABS/HAER documentation in accordance with Stipulation I.D.1. and shall distribute it via electronic mail or CD to PR SHPO and ACHP for review.
- b) PR SHPO and ACHP shall review and provide comments to NSF within 30 days of receipt of the documentation.
- c) If no comments are provided to NSF by the end of the 30-day comment period, the documentation shall be considered complete and final, and NSF, or its designee, shall prepare final printed copies.
- d) If comments are provided to NSF, NSF shall revise the documentation in response to the comments, as needed, and submit the final documentation to the PR SHPO and ACHP via electronic mail or CD within 30 days of receipt of comments.
- e) NSF shall submit a final printed copy of the documentation to PR SHPO and ACHP within 15 days of finalizing the document.
- f) Once HABS/HAER documentation is final as defined in Stipulation I.D.2.c. or I.D.2.d., demolition may proceed (in accordance with any required permits). No demolition may occur until the HABS/HAER documentation is final.
- g) Upon finalization of the HABS/HAER documentation, NSF shall submit one copy of the documentation to PR SHPO, one copy to the NPS HABS/HAER office for transmittal to the Library of Congress, and will offer one copy of the documentation to **XXX (local repository)**. NSF shall provide the documentation to these three recipients in printed copy and electronically on archival CDs.
- h) Evidence of transfer to the recipients listed in Stipulation I.D.2.g., which may include a copy of the transmittal letter(s), shall be provided to PR SHPO by NSF.

E. In the case that any collaborator does not wish to retain and use all buildings identified in Column B of Attachment D, NSF shall prepare Puerto Rico Historic Property Inventory (HPI)

forms for all non-contributing buildings designated for demolition in the NAIC Historic District prior to any demolition.

1. The PR SHPO shall review and provide comments to NSF within 30 days of receipt of the HPI forms.
2. If comments are provided to NSF, NSF shall revise the HPI forms in response to the comments, as needed, and resubmit the HPI forms via electronic mail or CD within 30 days of receipt of comments.
3. If no comments are provided to NSF by the end of the 30-day comment period, the HPI forms shall be considered complete and final.
4. Once the HPI forms are final as defined in Stipulation I.E.2. or I.E.3., demolition may proceed (in accordance with any required permits). No demolition may occur until the HPI forms are considered final.

II. Alternative 1- NSF transfers ownership of Arecibo Observatory to a non-federal entity

- A. NSF shall ensure that any new owner(s) receive historic preservation awareness training to encourage awareness of the historic and cultural significance of Arecibo Observatory and to minimize the potential for adverse effects to historic properties. Such training shall occur within 180 days of the transfer.
- B. Prior to the transfer of Arecibo Observatory to any new owner(s), NSF shall complete HABS/HAER documentation for all contributing resources as set forth in Stipulation I.D.1. and I.D.2., above; for all non-contributing buildings, NSF shall complete HPI forms as set forth in Stipulation I.E.1 – I.E.4., above.
- C. Within one year of the transfer of Arecibo Observatory to a new owner(s), NSF shall fund the development and installation of an exhibit in the Arecibo Observatory Visitor's Center that conveys the historic and cultural significance of Arecibo Observatory. Such exhibit shall be of professional quality and the cost for the exhibit shall not exceed \$50,000. Signatories to this PA will have a 30-day review of mock-ups of this exhibit, and NSF will consider any comments received in the final design.
- D. NSF shall include the following terms as part of any transfer to a new owner(s):
 1. The new owner(s) shall facilitate the installation of the NSF-funded exhibit described in Stipulation II.C., above.
 2. The new owner(s) shall allow reasonable public access for tourism and/or educational purposes as long as such access does not adversely impact scientific research.
 3. If, at any point in the future following transfer of Arecibo Observatory, the 305-meter Radio Telescope and Support Towers are demolished or destroyed, the new owner(s) shall commission a Puerto Rican artist to create artwork that conveys the cultural importance of Arecibo Observatory to the Puerto Rican people.

III. ALTERNATIVE 1 is selected by NSF in its ROD and implementation is not feasible

If Alternative 1 is selected by NSF in its ROD and implementation is not feasible, consultation under Section 106 will resume and focus on Alternatives 2-5.

IV. UNANTICIPATED EFFECTS

If unanticipated effects on historic properties occur during implementation of the undertaking, NSF will, in compliance with 36 C.F.R. § 800.13(b)3, determine actions that it can take to resolve potential adverse effects and notify via phone and email the PR SHPO and other Consulting Parties, as appropriate, within 48 hours of NSF's awareness of the effects. The notification will describe the eligibility of the property and proposed actions to resolve any adverse effects. The PR SHPO and other Consulting Parties will respond within 48 hours of the notification by phone or email. The NSF will take into account the Consulting Parties' recommendations regarding NRHP eligibility and proposed actions, and then carry out appropriate actions. NSF will provide the PR SHPO and other Consulting Parties, as appropriate, with a report of the actions when they are completed.

V. UNANTICIPATED DISCOVERIES

All unanticipated discoveries of historic properties and human or burial remains within the APE revealed during the demolition (if any) and operation phase(s) of the proposed undertaking shall be addressed in the following manner:

- A. The contractor/collaborator(s) carrying out any such demolition shall promptly notify NSF, who will notify PR SHPO of the discovery.
- B. If NSF determines, in consultation with PR SHPO, that the discovery is eligible for listing in the NRHP, NSF will initiate consultation with the Consulting Parties to draft a plan with measures that will avoid, minimize, and/or mitigate adverse effects. If agreement is reached regarding such a plan, NSF shall implement the plan. If the discovery is made during the demolition phase (if any), demolition in the affected area must cease until the discovery process in this Stipulation has been concluded either through a finding that the property is not eligible for listing in the NRHP or through finalization of the plan referenced herein.
- C. If the Consulting Parties cannot reach agreement regarding the development of a treatment or mitigation plan, then the matter shall be referred to ACHP for guidance. NSF shall address the ACHP's guidance in reaching a final decision regarding implementation of the plan.
- D. If any previously unidentified human or burial remains are discovered during implementation of the undertaking, the contractor/collaborator(s) shall immediately cease any demolition work and adhere to applicable state and federal laws regarding the treatment of human or burial remains.

VI. REPORTING

- A. To keep the public and Consulting Parties apprised of the status of the implementation of the Stipulations in this PA, NSF shall maintain a status report on the NSF Division of Astronomical Sciences website with relevant information.
- B. Meetings or conference calls regarding the undertaking or the stipulations of this PA may be requested at any time by the Signatories for the duration of this PA.

VII. DISPUTE RESOLUTION

A. Signatories

In the event one of the Signatories objects to the manner in which any term of this PA is implemented, the following dispute resolution process shall be followed:

1. The objecting Signatory shall notify NSF, in writing, of the objection or disagreement, request written comments on the objection or disagreement within ten days following receipt of such notification, and then proceed to consult with the Signatory to resolve the objection. If at any time during consultation, NSF determines that the objection or disagreement cannot be resolved through consultation, NSF shall forward all documentation relevant to the dispute to PR SHPO, or if the objection is raised by PR SHPO, NSF shall forward all documentation relevant to the dispute to ACHP. Within 30 days after receipt of all pertinent documentation, PR SHPO or, as appropriate, ACHP will provide NSF with comments and recommendations, which NSF will take into account in reaching a final decision regarding the dispute. Any recommendation or comment provided by the PR SHPO or, as appropriate, the ACHP will be understood to pertain only to the subject of the dispute. The responsibility of NSF to carry out all actions under this PA that are not the subject of the dispute will remain unchanged.
2. Unless all Signatories agree that the dispute warrants a cessation of demolition work, NSF will not be required to cease construction work on the proposed undertaking while the dispute is being reviewed.

B. Continued Participation by the Public and Concurring Parties

At any time during the implementation of the Stipulations set forth in this PA, any member of the public, including any Consulting Party who has decided not to sign this PA as a Concurring Party, and any Concurring Party may continue to participate in the Section 106 consultation process as follows:

1. Any member of the public may raise an objection to NSF pertaining to the treatment of an historic property associated with implementation of the proposed undertaking, provided that title to Arecibo Observatory is retained by NSF. In the event such an objection is raised, NSF shall consult with PR SHPO regarding the objection, and following such consultation, will provide the objecting member of the public with a decision on the objection.
2. Any Concurring Party may raise an objection to NSF and PR SHPO pertaining to the treatment of an historic property associated with implementation of the proposed undertaking. In the event such an objection is raised by a Concurring Party, NSF and the PR SHPO shall consult regarding how to resolve the objection. If NSF and PR SHPO are unable to resolve the objection, they shall consult with the ACHP. NSF will consider any advice on the objection provided by the ACHP before making a final decision on the matter. NSF will communicate such a final decision to the objecting Consulting Party and PR SHPO.

If an objection is made pursuant to either Stipulation VII.B.1. or VII.B.2., NSF, in consultation with PR SHPO, will determine whether the objection warrants a cessation of demolition work (if any) on the proposed undertaking while the objection is being reviewed.

VIII. PROFESSIONAL QUALIFICATIONS

All work pursuant to this PA will be developed and/or implemented by or under the direct supervision of a person or persons meeting or exceeding the minimum professional qualifications, appropriate to the affected resource(s), listed in the *Secretary of the Interior's Professional Qualification Standards* (36 CFR Part 61, Appendix A) and amended in 1992.

IX. PRINCIPLES AND STANDARDS

The Signatories agree that historic properties investigations performed pursuant to this PA will be conducted in a manner consistent with the principles and standards contained in the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (36 CFR Part 68), *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (1983, as amended), *Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites* (ACHP, May 18, 1999, 64 FR 27085-27087), and any Puerto Rico guidelines, as appropriate.

X. ELECTRONIC COPIES

NSF will provide PR SHPO, ACHP, and each Consulting Party with one legible, full-color, electronic copy of the fully executed PA and its attachments no more than 30 days after execution. If the electronic copy is too large to send via email, NSF will provide each Consulting Party with a copy of the executed PA via a CD.

XI. AMENDMENT

This PA may be amended upon written agreement by the Signatories.

XII. EXPIRATION

This PA will expire ten years from the Effective Date of this PA as defined in Stipulation XVIII., herein, or upon completion of all of the terms, herein. Prior to such expiration date, NSF may consult with the PR SHPO to reconsider the terms of this PA and amend it in accordance with Stipulation XI. If unresolved issues remain within two years of the expiration date of this PA, NSF shall, at that time, consult with the PR SHPO regarding the progress of implementation of this PA and consider the appropriateness of developing a subsequent agreement or amendment to the PA.

XIII. COMPLIANCE WITH APPLICABLE LAW AND ANTI-DEFICIENCY ACT PROVISION

This PA shall be carried out consistent with all applicable federal and state laws. No provision of this PA shall be implemented in a manner that would violate the Anti-Deficiency Act. All obligations on the part of NSF shall be subject to the availability and allocation of appropriated funds for such purposes. Should NSF be unable to fulfill the terms of this PA due to funding constraints, NSF shall immediately notify and consult with PR SHPO to determine whether to amend or terminate the PA pending the availability of resources.

XIV. INCORPORATION OF PA IN ANY FUTURE COOPERATIVE AGREEMENTS AND REFERENCE TO PA IN ANY DEMOLITION-RELATED AGREEMENTS

This PA shall be incorporated into all future cooperative agreements entered into between NSF and any entity responsible for implementing the proposed undertaking. This PA shall also, as appropriate, be referenced in any demolition-related agreements.

XV. TERMINATION

If any Signatory to this PA determines that the terms of this PA will not or cannot be carried out, that Signatory shall immediately consult with the other Signatory to develop an amendment to this PA pursuant to Section XI., above. If this PA is not amended following that consultation, then it may be terminated by any Signatory through written notice to the other Signatory. Within 30 days following any such termination, NSF shall notify PR SHPO if it will initiate consultation to execute a new PA under 36 C.F.R. § 800.6(c)(l) or request and consider the comments of ACHP under 36 C.F.R. § 800.7 and proceed accordingly.

XVI. EFFECTIVE DATE

This PA shall be executed in counterparts, with a separate page for each Signatory, and NSF shall ensure that each Signatory is provided with a fully executed copy. This PA shall become effective upon execution of this PA by NSF and PR SHPO.

Execution of this PA by NSF, ACHP, and PR SHPO evidences that NSF has taken into account the effects of this proposed undertaking on historic properties, and has afforded ACHP an opportunity to comment on the proposed undertaking.

SIGNATORY PAGE

PROGRAMMATIC AGREEMENT
AMONG
NATIONAL SCIENCE FOUNDATION AND
PUERTO RICO STATE HISTORIC PRESERVATION OFFICER
IMPLEMENTING
SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT
FOR THE DECISION REGARDING POTENTIAL CHANGES TO ARECIBO OBSERVATORY OPERATIONS
IN THE VICINITY OF ARECIBO, PUERTO RICO

Signatory:

National Science Foundation

Name, Title

Date _____

SIGNATORY PAGE

PROGRAMMATIC AGREEMENT
AMONG
NATIONAL SCIENCE FOUNDATION AND
PUERTO RICO STATE HISTORIC PRESERVATION OFFICER
IMPLEMENTING
SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT
FOR THE DECISION REGARDING POTENTIAL CHANGES TO ARECIBO OBSERVATORY OPERATIONS
IN THE VICINITY OF ARECIBO, PUERTO RICO

Signatory:

Advisory Council on Historic Preservation

Name, Title

Date

SIGNATORY PAGE

PROGRAMMATIC AGREEMENT
AMONG
NATIONAL SCIENCE FOUNDATION AND
PUERTO RICO STATE HISTORIC PRESERVATION OFFICER
IMPLEMENTING
SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT
FOR THE DECISION REGARDING POTENTIAL CHANGES TO ARECIBO OBSERVATORY OPERATIONS
IN THE VICINITY OF ARECIBO, PUERTO RICO

Signatory:

Puerto Rico State Historic Preservation Officer

Name, Title

Date

DRAFT

CONCURRING PARTY SIGNATURE PAGE

PROGRAMMATIC AGREEMENT
AMONG
NATIONAL SCIENCE FOUNDATION AND
PUERTO RICO STATE HISTORIC PRESERVATION OFFICER
IMPLEMENTING
SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT
FOR THE DECISION REGARDING POTENTIAL CHANGES TO ARECIBO OBSERVATORY OPERATIONS
IN THE VICINITY OF ARECIBO, PUERTO RICO

Concurring Party:

Arecibo Observatory

Tony Van Eyken, Title

Date

DRAFT

CONCURRING PARTY SIGNATURE PAGE

PROGRAMMATIC AGREEMENT
AMONG
NATIONAL SCIENCE FOUNDATION AND
PUERTO RICO STATE HISTORIC PRESERVATION OFFICER
IMPLEMENTING
SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT
FOR THE DECISION REGARDING POTENTIAL CHANGES TO ARECIBO OBSERVATORY OPERATIONS
IN THE VICINITY OF ARECIBO, PUERTO RICO

Concurring Party:

Interamerican University-Bayamon

Dr. Brett Isham, Title

Date _____

DRAFT

CONCURRING PARTY SIGNATURE PAGE

PROGRAMMATIC AGREEMENT
AMONG
NATIONAL SCIENCE FOUNDATION AND
PUERTO RICO STATE HISTORIC PRESERVATION OFFICER
IMPLEMENTING
SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT
FOR THE DECISION REGARDING POTENTIAL CHANGES TO ARECIBO OBSERVATORY OPERATIONS
IN THE VICINITY OF ARECIBO, PUERTO RICO

Concurring Party:

Miami University

Qihou Zhou, Title

Date _____

DRAFT

CONCURRING PARTY SIGNATURE PAGE

PROGRAMMATIC AGREEMENT
AMONG
NATIONAL SCIENCE FOUNDATION AND
PUERTO RICO STATE HISTORIC PRESERVATION OFFICER
IMPLEMENTING
SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT
FOR THE DECISION REGARDING POTENTIAL CHANGES TO ARECIBO OBSERVATORY OPERATIONS
IN THE VICINITY OF ARECIBO, PUERTO RICO

Concurring Party:

Universities Space Research Association

Date

Dr. Nicholas White, Title

DRAFT

CONCURRING PARTY SIGNATURE PAGE

PROGRAMMATIC AGREEMENT
AMONG
NATIONAL SCIENCE FOUNDATION AND
PUERTO RICO STATE HISTORIC PRESERVATION OFFICER
IMPLEMENTING
SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT
FOR THE DECISION REGARDING POTENTIAL CHANGES TO ARECIBO OBSERVATORY OPERATIONS
IN THE VICINITY OF ARECIBO, PUERTO RICO

Concurring Party:

American Nanohertz Observatory for Gravitational Waves

Xavier Siemens, Title

Date _____

DRAFT

CONCURRING PARTY SIGNATURE PAGE

PROGRAMMATIC AGREEMENT
AMONG
NATIONAL SCIENCE FOUNDATION AND
PUERTO RICO STATE HISTORIC PRESERVATION OFFICER
IMPLEMENTING
SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT
FOR THE DECISION REGARDING POTENTIAL CHANGES TO ARECIBO OBSERVATORY OPERATIONS
IN THE VICINITY OF ARECIBO, PUERTO RICO

Concurring Party:

University of Puerto Rico

Daniel R. Altschuler, Title

Date _____

CONCURRING PARTY SIGNATURE PAGE

PROGRAMMATIC AGREEMENT
AMONG
NATIONAL SCIENCE FOUNDATION AND
PUERTO RICO STATE HISTORIC PRESERVATION OFFICER
IMPLEMENTING
SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT
FOR THE DECISION REGARDING POTENTIAL CHANGES TO ARECIBO OBSERVATORY OPERATIONS
IN THE VICINITY OF ARECIBO, PUERTO RICO

Concurring Party:

Puerto Rican Karzo Speleological Research Foundation (FIEKP)

Miguel Babilonia, Title

Date
