



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

**GUIDEBOOK FOR PROPOSERS
RESPONDING TO A
NASA NOTICE OF FUNDING OPPORTUNITY (NOFO)**

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Preface

The *Guidebook for Proposers Responding to a NASA Notice of Funding Opportunity* (NOFO) (hereafter referred to as the Guidebook) outlines the policies and processes for submitting responses to a NASA NOFO, which are also known as NASA Research Announcements (NRA), Cooperative Agreement Notices (CAN), Broad Agency Announcements (BAA), or solicitations. The NRA is used by the program offices to request proposals for basic and applied science and technology research and for science, technology, engineering, and mathematics (STEM) education programs. NOFOs will specify the anticipated award instrument (e.g., grant, cooperative agreement, and/or contract). All proposers applying to a NASA NOFO should adhere to the guidelines contained in this Guidebook to the extent invoked in the NOFO. NASA NOFOs are located in the NASA Solicitation and Proposal Integrated Review and Evaluation System (NSPIRES): <https://nspires.nasaprs.com> and Grants.gov: <https://www.grants.gov>.

The order of precedence is the following:

1. Provisions of law
2. [Title 2 of the Code of Federal Regulations \(CFR\) Part 200](#) (2 CFR 200)
3. [Title 2 of the Code of Federal Regulations \(CFR\) Part 1800](#) (2 CFR 1800)
4. The NASA [Grant and Cooperative Agreement Manual](#) (GCAM)
5. The requirements noted in the NOFO
6. The [Guidebook for Proposers Responding to a NASA Notice of Funding Opportunity](#) (NOFO)

NASA recognizes and supports the benefits of having diverse and inclusive scientific, engineering, and technology communities and fully expects the reflection of such values in the composition of all panels and teams, including peer review panels, proposal teams, science definition teams, and mission and instrument teams. Per Federal statutes and NASA policy, no eligible applicant shall experience exclusion from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving financial assistance from NASA on the grounds of their race, color, creed, age, sex, national origin, or disability. NASA welcomes proposals from all qualified and eligible sources, and especially encourages proposals from Historically Black Colleges and Universities (HBCUs), Minority Serving Institutions (MSIs), small disadvantaged businesses (SDBs), veteran-owned small businesses, service-disabled veteran-owned small businesses (SDVOSB), HUBZone small businesses, and women-owned small businesses (WOSBs), as eligibility requirements apply.

The Guidebook may be reproduced in whole or in part without restriction. The Guidebook is maintained by the NASA Office of the Chief Financial Officer, Grants Policy and Compliance Branch (GPC), and the GPC website and Guidebook can be found at <https://www.nasa.gov/offices/ocfo/gpc>.

1. Introduction to NASA's Programs

NASA is an independent Federal agency of the United States (U.S.) created by the National Aeronautics and Space Act of 1958. NASA has four Mission Directorates, each assigned responsibility for implementing NASA's vision, mission, and values as outlined in the latest NASA Strategic Plan. The Mission Directorates are listed below:

- Science
- Human Exploration and Operations
- Aeronautics Research
- Space Technology

The Mission Directorates pursue NASA's goals using a wide variety of ground-, aeronautical-, and space-based programs, and any of these may issue NOFOs that will incorporate this Guidebook by formal reference.

NASA's Office of STEM Engagement, in collaboration with the Mission Directorates and Offices, issues NOFOs that solicit evidence-based projects that foster formal and/or informal STEM education and/or contribute to participation by underrepresented or underserved students and education organizations that predominantly (or historically) serve individuals traditionally underrepresented in STEM careers or underserved in STEM higher education, including but not limited to minorities, women, and persons with disabilities. Visit the NASA STEM Engagement website for the most up to date information on performance and priorities:

<https://www.nasa.gov/stem/about.html>.

2. Proposal Preparation and Organization

Proposers responding to a NASA NOFO are responsible for submitting proposals relevant to the latest NASA Strategic Plan, which is accessible at:

https://www.nasa.gov/sites/default/files/atoms/files/nasa_2018_strategic_plan.pdf.

If proposed activities are described or understood to be a type of education, proposers are also responsible for submitting proposals relevant to the latest Federal STEM Education Five-Year Strategic Plan, a report from the Committee on STEM (Co-STEM) Education of the National Science and Technology Council (<https://www.whitehouse.gov/wp-content/uploads/2022/01/2021-CoSTEM-Progress-Report-OSTP.pdf>).

The requirements of this Guidebook shall be applicable to the extent invoked by the NOFO. NOFOs may provide other instructions, under which NASA may reject, without review, proposals that do not follow the NOFO instructions.

2.1. Submission Guidance

To assist with the submission of a valid, complete proposal, proposers shall:

- Carefully read the entire NOFO before preparing the proposals. The NOFO includes but is not limited to, key dates, eligibility, program goals and objectives, funding restrictions, evaluation criteria, and submission information. The NOFO also provides information for

points of contact and help desks that can answer questions regarding the NOFO and the submission process. Follow the instructions outlined in each NOFO as NASA is legally obligated to review and select proposals per the published NOFO.

- Address the objectives listed in the NOFO with an implementation plan that clearly provides a detailed breakdown of all tasks the proposer will complete by the period of performance end date.
- Identify pivotal milestones, knowledge of key publications in the field, and how the proposed activities will extend or build on those accomplishments. If offering innovative work in a new or emerging field, the proposer should strive to balance the provision of tutorial material and the description of new activities.
- Choose non-color-dependent ways of conveying critical information when designing graphics, as reviewers may not be able to differentiate colors or hues.
- Propose fresh, new ideas rather than slight modifications of previously submitted proposals. Simply revising a proposal to meet deficiencies identified in a previous review(s) does **not** guarantee a higher rating or selection of that proposal.
- Propose costs that are reasonable, allowable, and allocable to the proposed work according to 2 CFR 200, Subpart E, Cost Principles. Be sure that budgets are thoroughly prepared as they shall provide all the details necessary to justify and facilitate an understanding of the proposed costs. During the non-technical review process, NASA may request that the proposer provide additional information to explain specific expenses.
- Familiarize themselves with the proposal submission process and the NSPIRES or Grants.gov websites well before the deadline. If possible, submit proposals well in advance of the proposal submission deadline to minimize the impact of technical difficulties that may arise. Some systems, such as the System for Award Management (SAM), may require extended periods (up to 15 business days) to receive the necessary credentials for submitting a proposal.
- Proofread the proposal carefully before submission and strive for the quality and clarity of the text.

2.2. Submission Requirements and Restrictions

- Proposals that are not submitted by the required deadline(s) and/or do not meet the eligibility, page length, line spacing, font size, and other administrative requirements listed in the NOFO may be returned without review. Electronic submission of only the NSPIRES proposal cover page or the Grants.gov Research and Related (R&R) SF-424 does not satisfy the deadline for proposal submission.
- Reprints and/or preprints are not permitted to be appended to a proposal unless accommodated within the proposal page limit.
- Proposals containing unsolicited appendices/attachments may be returned without review.

- Proposers are solely responsible for ensuring NASA receives their proposals before the deadline.

2.2.1 Special Restrictions for Non-U.S. Organizations

- In general, per 2 CFR 1800.3, Applicability, research with foreign organizations will not be conducted through grants or cooperative agreements. Typically, NASA conducts research with non-U.S. organizations on a cooperative, no-exchange-of-funds basis. Although Co-Investigators (Co-Is) or collaborators employed by non-U.S. organizations may identify as part of a proposal submitted by a U.S. organization, NASA funding does not normally support research efforts by non-U.S. organizations and Collaborators at any level, including travel by investigators at non-U.S. organizations. This policy pertains to the nature of the proposing organization and not the nationality or citizenship of the individuals listed in the proposal. The direct purchase of supplies and/or services, which do not constitute research, from non-U.S. sources with NASA-awarded funds is permitted.
- In accordance with Public Law 113-235, Division B, Title V, Section 532, NASA is prohibited from funding any work that involves the bilateral participation, collaboration, or coordination with China or any Chinese-owned company or entity, at the prime recipient level or at any subrecipient level, whether funded or performed under a no-exchange-of-funds basis. Accordingly, proposals shall not include bilateral participation, collaboration, or coordination with China or any Chinese-owned company or entity, whether funded or performed under a no-exchange-of-funds basis. Proposals involving bilateral participation, collaboration, or coordination in any way with China or any Chinese-owned company, whether funded or performed under a no-exchange-of-funds basis, will be ineligible for award.

2.3. Notice of Intent (NOI) to Propose

In some cases, NASA requires submission of the NOI prior to the submission of a complete proposal. In these cases, a proposer's failure to submit the NOI by the specified time may result in non-acceptance of the NOI and any subsequent proposal. If an NOI is required prior to the submission of the proposal the NOFO will state that explicitly.

The material in a NOI is confidential and will be used for NASA planning purposes only unless stated in the NOFO. NOIs shall be submitted via NSPIRES (<https://nspires.nasaprs.com>). Once logged in, proposers will access the "Proposals/NOIs" module and select "Create an NOI", selecting the NOFO to which the NOI will be submitted. Unlike a proposal, submission of an NOI does not require that files be uploaded nor any action by the proposer's Authorized Organizational Representative (AOR).

NOIs allow proposers to submit the following information:

- Title of the anticipated proposal (not to exceed 254 characters). The title shall be readily understandable by a scientifically trained person;

- A brief description of the primary work or research area(s) and objective(s) of the anticipated work or research;
- The names of any Co-Is and/or Collaborators known at the time that the NOI is submitted. To enter these names, those team members **shall** have previously registered in NSPIRES (a Principal Investigator (PI) cannot register on their behalf); and
- Answers to any “Program Specific Data” questions that may be asked, such as a shortened version of the title.

After completing the indicated fields, proposers shall submit the NOI electronically.

2.4. Submission Process

Whether an NOI (see above) is required or simply requested, proposals shall be submitted electronically by the AOR at the PI's organization. This submission serves as the required original signature of the proposing organization. NOFOs may specify two options for the submission process, the 1-Step Approach and the 2-Step Approach.

2.4.1. One-Step Approach

Organizations may submit proposals via either of two different electronic proposal submission systems: NSPIRES and Grants.gov; however, all team members and the submitting organization shall be registered in NSPIRES. If submitting a proposal via Grants.gov, the proposer shall ensure that all of the required Grants.gov forms are included (e.g., see Sections 2.8, 2.10, 2.11, 2.17, 2.18 below). The components of the proposal, including the page-limited Science/Technical/Management Plan (see Section 2.13) are provided below in Section 2. All team members shall confirm their participation either via NSPIRES or, for Grants.gov submissions, by providing a letter of commitment. Proposals shall be submitted by the due date and time set forth in the NOFO. Failure to do so may result in NASA rejecting the proposal.

2.4.2. Two-Step Approach

Some NOFOs require a two-step submission process, which proceeds as follows:

Step-1 Proposal:

- A complete Step-1 proposal is a minimum prerequisite for submission of a Step-2 proposal;
- The NOFO will outline all the required content needed for the Step-1 proposal;
- The NOFO will specify if there are additional requirements or obligations for Step-2 proposal submission; and
- The AOR shall submit the abbreviated presentation of the intended research or work effort by the required due date.

Step-2 Proposal:

- The NOFO will outline the process for submitting a Step-2 proposal;
- The NOFO will specify what changes to the proposal are permitted between Step-1 and Step-2;

- The NOFO will also specify whether feedback will be provided in response to the Step-1 proposal, e.g., changes to incorporate into the Step-2 proposal;
- The NOFO will stipulate if there are additional requirements, such as documentation or explanations needed for the evaluation process; and
- The AOR shall submit the Step-2 proposal by the required due date.

2.5. Renewal Proposals

Recipients of existing awards are permitted to submit "renewal proposals" to continue an ongoing research or work effort to its next logical step in response to NOFOs that include the same NASA program objectives. However, to ensure equitable treatment of all submitted proposals, NASA does not extend any special consideration or preference to such renewal proposals. Therefore, NASA will consider all proposals received in response to a NOFO as new proposals and will review them impartially.

Renewal proposals are welcomed and encouraged and shall describe relevant achievements made during the previous award(s) in their Scientific/Technical/Management Plan. Also, for proposers using the NSPIRES electronic submission system, the proposal cover page provides space for entering the NASA Financial Assistance Identification Number (award number) of any existing award that is the predecessor to the renewal proposal being submitted. If a renewal proposal is selected, NASA will fund the proposal as a new award, and the starting date of a renewal award will follow the period of the performance end date of the preceding award (i.e., a renewal award should not overlap the predecessor award). All renewal proposals require a different title from the previous award. A change as simple as adding "Phase 2" is sufficient.

2.6. Standard Proposal Style Formats

Unless otherwise stated in the NOFO, NASA requires electronic submission of proposals and does not accept hard-copy proposals. If a NOFO requires only the electronic submission of proposals, then the AOR's submission of a proposal serves as the required original signature by an authorized official of the proposing organization.

If the NOFO allows or requires both an electronic submission and a paper copy submission, consisting of an original and a specific number of copies, the original and all required copies shall be received at the designated address, time, and date specified in the NOFO. If a paper copy submission is required, the hard copy proposal shall be signed in accordance with the NOFO instructions.

Unless otherwise specified in the NOFO, the standard formats for all types of proposals submitted in response to NOFOs are below:

- Required page size is 8.5x11 inches.
 - Pages shall have at least 1-inch (2.5 cm) margins on all sides.
 - Proposals shall adhere to the page limits listed in the NOFO.

- Proposals shall be single-spaced, in 12-point font, English-language text, and formatted using one column.
- The font size for symbols in equations shall be consistent with this guideline.
 - Proposers may not adjust or otherwise condense a font or line from its default appearance.
- While superscripts, subscripts, and text within figures and tables may use a smaller font, the text shall, in the reviewers' judgment, be legible without magnification.
- Figure and table captions shall follow the same font requirements and restrictions as the main proposal text.
- Expository text necessary for the proposal may not be located solely in figures or tables, or in their captions.
- Units shall report in the common standard for the relevant discipline.
 - Fold-out pages, illustrations, and/or photographs are allowed, for the display of unique and critically essential proposal data. Fold-out pages will count as multiple pages, dependent on the number of fold-out sections, against the required page limit. For example, a three-section fold-out is considered equal to three pages counted towards the page limitation.
- Only non-proposal material, e.g., page numbers, section titles, disclaimers, are permitted in headers and footers.
- Proposals shall include references to published papers and other products to demonstrate, for example, that the methodology has passed peer review, but shall not include references to materials outside the proposal (e.g., published articles and sites on the internet) for information or material needed to either complete or understand the proposal. Peer reviewers have no obligation to read materials outside of the proposal.

In addition to the above formatting requirements, for any required hard copies of the proposal, the proposer shall submit an easily disassembled single-sided, original version. Any additional copies needed may be printed double-sided. The copies shall be on white 8.5 x 11-inch paper with at least 1-inch (2.5 cm) margins on all sides. Loose-leaf binders, plastic, or permanent covers shall not be submitted.

2.7. Overview of Proposal

Unless specified in the NOFO, proposals shall be assembled according to the sections in the following table in the order shown and within the listed page limits. NASA may reject proposals without review that omit required sections or exceed the page limits (Exemption: If a NOFO specifies exceptions to page limits for certain parts, e.g., the Scientific/Technical/Management Plan). A description of each section follows this table.

<u>Required Parts of a Proposal (in order of assembly)</u>	<u>Page Limit</u>
Proposal Cover Page (NSPIRES web forms or Grants.gov forms) including: <ul style="list-style-type: none"> • Proposal Summary – limit to 4,000 characters (including spaces) • Data Management Plan (per the NOFO) – limit to 4,000 characters (including spaces) • NSPIRES cover page budget • Proposal team members • Other required elements 	Constrained by NSPIRES and Grants.gov
Table of Contents	As needed
Scientific/Technical/Management Plan	15*
References and Citations	As needed
Biographical Sketches for: See Section 2.15	
The Principal Investigator(s)	2 (per PI)
Each Co-Investigator	1
Current and Pending Support	As needed
Statements of Commitment and Letters of Support	As needed
¹ Proposal Budget (budget) – both the budget narrative and budget details	As needed
Facilities and Equipment	As needed
Table of Personnel and Work Effort	As needed

2.8. Proposal Cover Page

Proposers submitting their proposals through NSPIRES shall use the NSPIRES proposal cover page that is available at <https://nspires.nasaprs.com/>. Proposers shall complete all elements of the cover page, including the program-specific data element. One or more (per the NOFO) PDF files shall be uploaded to complete the proposal assembly. Once the PI completes the assembly, the AOR shall access the proposal in the NSPIRES system and submit it electronically.

Proposers submitting their proposals through Grants.gov shall complete the required Grants.gov forms, including the SF 424 (R&R) Application for Federal Assistance, R&R Other Project Information, R&R Senior/Key Person Profile, and R&R Budget. Additionally, proposers shall complete the required NASA-specific forms: NASA Other Project Information, NASA PI and

¹ NOFOs may require more information in a separate section.

* Includes all illustrations, tables, and figures, where each "n-page" fold-out counts as n-pages and each side of a sheet containing text or an illustration counts as a page. This page limit may be superseded by instructions in the NOFO.

Authorized Representative Supplemental Data Sheet, and the Program Specific Data and Proposal Summary PDF forms. These last two forms are part of the instructions file provided for every NOFO on the Grants.gov website. The required PDF file(s) shall also be provided, per the Grants.gov instructions.

Incomplete proposals, including those that omit the required NASA- and program-specific forms or any required PDF file, may be rejected by NASA as noncompliant and may not be reviewed.

2.9. Certifications, Assurances, and Representations

According to 2 CFR Part 200.209, Certifications and representations, Federal agencies are authorized to require non-Federal entities to submit certifications and representations required by Federal statutes or regulations on an annual basis.

To streamline this data collection and to reduce burdens on award recipients, effective February 1, 2019, the SF-424B Assurances – Non-Construction Programs is optional. Effective January 1, 2020, SAM is the central repository for the standard Government-wide assurances, including financial assistance information collected in the SF-424B. The Office of Management and Budget (OMB), in coordination with the Federal assistance community, developed standard Government-wide certifications and representations to be certified by the non-Federal entity when registering in SAM. This will reduce the duplicative practice of Federal-awarding agencies requesting certifications and representations with the submission of each Federal financial assistance application per the September 5, 2018, OMB memorandum M-18-24, "[Strategies to Reduce Grant Recipient Reporting Burden](#)." NASA also requires proposers to complete NASA specific certifications, assurances, and agreements in NSPIRES as part of the proposal submission process. Proposers are required to disclose any lobbying activities and shall complete and submit SF- LLL, "[Disclosure of Lobbying Activities](#)," in accordance with the requirements in 31 United States Code (U.S.C.) 1352.

Each registered entity shall renew and revalidate its SAM registration at least every 12 months from the date it previously registered to maintain an active status in SAM. Renewing registration will avoid expiration. An expired registration negatively affects an applicant's ability to apply for and receive NASA awards.

2.10 Proposal Summary/Abstract

The proposal summary (or abstract) shall provide an overview of the proposed investigation that the proposer consents to release through a publicly accessible archive if the proposal is selected for funding. The proposal summary shall be concise and not contain any special characters or formatting. The proposal summary is an NSPIRES cover page element. Grants.gov users shall use a writeable PDF form (downloadable as part of the NOFO instructions zip file from Grants.gov) named "proposalsummary.pdf" to submit this document. The proposal summary document is limited to 4,000 characters (including spaces).

2.11 Data Management Plan

All proposals submitted under a funding opportunity shall submit a Data Management Plan (DMP), per [NASA Plan for Increasing Access to the Results of Scientific Research](#). Proposals for

work that will not generate any data or qualify for an exemption, as defined in the NASA Plan, shall specifically demonstrate this in the DMP. Unless instructed in the NOFO, the DMP is part of the NSPIRES cover page or is submitted via the program-specific data form, available as part of the instructions document for a proposal submitted through Grants.gov. Proposers shall refer to the NOFO for any NOFO-specific DMP requirements and information on the evaluation of the DMP.

NASA's Open Data portal at data.nasa.gov is a registry of NASA dataset metadata, which enables machine-readable dataset discovery. Making information resources accessible, discoverable, and usable by the public helps to fuel entrepreneurship, innovation, and scientific discovery. This portal is a collection of descriptions of datasets; each description is a metadata record. A data catalog intends to facilitate data access by users who are searching for particular types of data. The portal hosts both metadata records and/or original datasets. See [Appendix J](#).

2.12 Table of Contents

Proposers shall include a Table of Contents that provides a guide to the organization and contents of the proposal.

2.13 Scientific/Technical/Management Plan

As the main body of the proposal, this section shall cover the following topics, all within the specified page limit. The NOFO may stipulate additional and/or more specific requirements. This section shall address:

- The goals and expected significance of the proposed work, especially as related to the objectives set forth in the NOFO;
- The perceived impact of the proposed work to the state of knowledge in the field. If the proposal is submitted as a successor to an existing NASA award, the proposal shall include:
 - How the proposed work expects to build upon and extend the previous accomplishments that NASA has supported;
 - The relevance of the proposed work to the specific objectives set forth in the NOFO, and/or to present and/or future NASA programs and interests, such as described in current versions of the [NASA Strategic Plan](#) and/or documents from the soliciting directorate, office, or program (e.g., the [Science Plan](#), the [Strategic Technology Investment Plan](#), the [Strategic Implementation Plan](#), [Voyages: Charting the Course for Sustainable Human Space Exploration](#));
- The technical approach and methodology to be employed in conducting the proposed work, including:
 - Proposed experimental designs, methods, techniques, and approaches for achieving the proposed goals and objectives of the NOFO;
 - A description of any hardware or software development, construction, or fabrication required to carry out the effort;

- Sources of error and uncertainties and what effect they may have on the robustness of potential results or conclusions;
 - The resilience of the approach and methodology, e.g., complementary measurements, confirming tests, and likely pitfalls of various approaches;
 - Any special capabilities and advantages of facilities and equipment (a basic description list is in the facilities and equipment section);
 - Technical approach and methodology impact on the budget², and;
 - The flow of the different tasks and how they feed into one another.
- A general implementation plan, including:
 - A project schedule that identifies anticipated key milestones for accomplishments and dependencies between tasks;
 - The management structure for the proposed personnel;
 - Any substantial collaboration(s);
 - Any proposed use of consultant(s); and
 - A description of the expected contribution to the proposed effort, by task and sub-task, by the PI and each person identified in one of the additional categories set forth in [Appendix B](#), regardless of whether they derive support from the proposed budget, but not including the information required in the table of personnel and work effort.

The Scientific/Technical/Management Plan section may contain illustrations and figures that amplify and demonstrate key points of the proposal (including milestone schedules, as appropriate). However, they shall be of an easily viewed size and resolution and have self-contained captions that do not contain critical information not provided elsewhere in the proposal.

If an acronym used in the page limited Scientific/Technical/Management (S/T/M) section needs to be defined, it shall be defined within the S/T/M section the first time it is used. Proposers may not define acronyms solely in a list outside of the page-limited S/T/M section. If and only if acronyms are defined within the S/T/M section may an acronym list also be provided outside of the S/T/M section for the reviewer's convenience.

2.14 References and Citations

All references and citations provided in the Scientific/Technical/Management Plan shall use easily understood, standard abbreviations for journals and complete names for books. Also, it is highly preferred, but not required, that these references include the full title of the cited paper or report.

2.15 Biographical Sketch(es)

The proposal shall demonstrate that the personnel and/or participants who will have critical management or technical roles in the effort have the appropriate qualifications, capabilities, and expertise to provide confidence that the proposed objectives will be achieved.

² See the proposal budget section for further discussion of costing details needed for proposals involving significant hardware, software, and/or ground systems development, and, if allowed by a NOFO, proposals for flight instruments.

- PIs, Co-Principal Investigators (CoPIs), and any Co-I serving in one of the three special Co-I categories and (if the person is known) graduate student participant/trainees defined in Appendix B shall include a biographical sketch that includes their professional experiences, positions, and a bibliography of publications, especially those relevant to the proposed effort, as well as a description of scientific, technical, and management experience on relevant prior efforts.
- Co-Is who are proposing to spend 10 percent or more of their time (in any given year) to the proposed effort are limited to a one-page sketch.
- PIs, CoPIs, and any Co-Is who are serving in one of the three special Co-I categories are permitted two pages each for their CV.
- No biographical sketches are required for Co-Is or other team members who are spending less than 10 percent of their time in any given year on the proposed work unless specified in the NOFO.

2.16 Current and Pending Support

PIs and CoPIs shall provide all ongoing and pending projects and proposals (regardless of salary support) in which they are performing or will perform any part of the work. Co-Is proposing to spend 10 percent or more of their time in any given year to the proposed effort shall provide a list of ongoing and pending projects and proposals (regardless of salary support) that require more than 10 percent of their time in any given year. Proposals do not need to include the current proposal on the list of pending proposals unless it has been submitted in response to another funding opportunity (i.e., NASA or another sponsor).

PIs and CoPIs also shall list their current and pending support with Chinese universities and other similar institutions or a Chinese-owned company at the prime recipient level and at all subrecipient levels, whether the bilateral involvement is funded or performed under a no-exchange of funds arrangement³. (See paragraph 2.2.1) For those investigators for whom it is required (see above), the proposal shall provide the following information for each current and pending project:

- Title of funded project or proposal title;
- Name of PI on award or proposal;
- Program name (if appropriate) and sponsoring agency or organization, including a point of contact with their telephone number and email address;
- Performance period;
- Total amount proposed (if pending) or received by that PI (including indirect costs) for that award or the amount per year if uniform (e.g., \$50k/year); and
- Time commitment by the PI for each year of the period of performance.

The proposing PI shall notify the NASA Program Officer identified in the NOFO immediately of any successful proposals that are awarded for substantially overlapping work as that proposed to NASA any time after the proposal due date and until the announcement of NASA's selections.

³ "China or Chinese-owned Company" means the People's Republic of China (PRC), any company owned by the PRC, or any company incorporated under the laws of the PRC. Chinese universities and other similar institutions are considered to be incorporated under the laws of the PRC and, therefore, the funding restrictions apply to grants and cooperative agreements that include bilateral participation, collaboration, or coordination with Chinese universities.

Current and pending support is not required for Co-Is at non-U.S. institutions. Current and pending support is usually not required for students, but it may be requested, depending on the requirements of the NOFO. Proposers may request student funding in one of three different ways:

- As a direct labor cost, the same as a key or other personnel;
- As a scholarship or other student aid that shall comply with the requirements in 2 CFR 200.466, Scholarships and student aid costs; or
- As a participant support cost as defined in 2 CFR 200.1, Definitions.

2.17 Statements of Commitment and Letters of Support

Every CoPI, Co-I, and Collaborator identified as personnel on the proposal's cover page and/or in the proposal's Scientific/Technical/Management Plan shall acknowledge their intended participation in the proposed effort. This acknowledgement of commitment is completed through NSPIRES.

Proposers shall include participation statements in the body of the proposal if:

- Team members are unable to confirm their participation through NSPIRES;
- Proposers are directed to do so by the NOFO; or
- A proposer is submitting its proposal through Grants.gov.

Each written statement shall address the PI, may be a facsimile of an original statement or the copy of an email (the latter shall have sufficient information to identify the sender unambiguously), and is required even if the CoPI, Co-I, or Collaborator is from the proposing organization.

An example of such a statement follows:

"I (we) acknowledge that I (we) am (are) identified by name as Co-Principal Investigator(s), Co-Investigator(s) [and/or Collaborator(s)] to the investigation, entitled <name of proposal>, that is submitted by <name of Principal Investigator> to the NASA funding announcement<alpha-numeric identifier>, and that I (we) intend to carry out all responsibilities identified for me (us) in this proposal. I (we) understand that the extent and justification of my (our) participation, as stated in this proposal, will be considered during peer review in determining in part the merits of this proposal. I (we) have read the entire proposal, including the management plan and budget, and I (we) agree that the proposal correctly describes my (our) commitment to the proposed investigation." To conduct work for this investigation, my participating organization is <<insert name of organization>>."

Letters of support are only required if there is a facility or resource essential to the implementation of the proposal, and a proposal team member does not have guaranteed access to such facility or resource. By submitting a statement of commitment, the team member confirms that any facilities or resources needed for the proposal are readily available for the proposal team members(s) who require its use.

If the proposal involves the conduct of research by a non-U.S. organization, the proposer shall include a signed letter(s) of certification. Such letters shall verify that funding for the research will

be provided by a responsible organization(s) or government agency(ies) if NASA selects the proposal. An authorized official of the organization or agency shall sign the letter of certification to make such a commitment.

Statements of commitment and letters of support do not include "letters of affirmation" (i.e., letters that endorse the intrinsic merit, including significance or impact, of a proposal). NASA neither solicits nor evaluates such affirmations or endorsements for proposals. NASA determines, with input from the peer review panel, whether a proposal fully meets the evaluation criteria.

2.18 Proposal Budget with Budget Narrative and Budget Details (see [Appendix C](#) for details)

2.18.1 Proposal Budget

The proposal budget consists of two parts: 1) the budget narrative and 2) the budget details. Each proposal shall provide a proposed budget for each year of the proposed effort supported by an appropriate budget narrative and specifics. There shall be a direct parallel between the items described in the budget narrative (written description of purchase), those set forth in the budget details (actual estimates of costs, in whole dollars, for the purchase), and the figures entered in the proposal cover page/Grants.gov forms.

- All proposers from U.S. organizations shall submit a thoroughly detailed cost breakdown (see below for instructions for non-U.S. proposers with U.S. Co-Is).
- All proposed costs shall be directly related to the project and scope of work.
- All proposed costs shall be allowable, allocable, and reasonable.

The NOFO describes the availability or limitation on funds for a proposer's potential NASA partner (e.g., civil servants, salaries, travel, facilities). If the NOFO provides instructions on how to request a budget for a NASA partner, including the Jet Propulsion Laboratory (JPL), proposers shall list NASA key personnel by name on the NSPIRES cover sheet as team members and any non-key-personnel costs under other direct costs as consulting services, subawards, equipment, etc., as appropriate.

The proposed budget shall include an itemized list detailing expenses within major budget categories, detailed subawards, and a summary of personnel ([Appendix C](#)). The Table of Personnel and Work Effort (Table) shall immediately follow the proposal budget; however, the Table is not to be included in the budget.

2.18.2 Budget Narrative

The budget narrative shall not include any information that belongs in the Scientific/Technical/Management Plan. Instead, it shall:

- Cite the basis of estimate and rationale for each proposed component of cost, including direct labor, subawards, consultants, tuition, other direct costs (including travel), and facilities and equipment;

- Present the rationale for planned work commitments set forth in the table of personnel and work effort based upon the assigned tasks;
- Provide the source of cost estimates (e.g., based on quote, previous purchases for same or similar item(s), cost data obtained from internet research) including the company name and/or URL and date, if known, but the actual price quote or screen captures from the website do not need to be included;
- Describe the need to acquire items costing more than \$5,000 and include the source of the cost estimates as described above; and
- Explain the purpose of any proposed travel concerning the award and provide the basis of estimate, including:
 - Destination (if the destination is not known, the narrative shall include reasonable assumptions about the potential destination and use historical cost data based on previous trips taken or conferences attended),
 - Number of travelers;
 - Number of days;
 - Conference fees;
 - Airfare;
 - Per diem; and
 - Miscellaneous travel expenses (e.g., car rental, airport parking).

2.18.3 Budget Details

The budget details are the actual or estimated costs that correspond with the budget narrative. In this section, proposers shall break out the costs, as needed, for the items listed in the general budget found on the proposal cover page.

2.18.4 Joint Proposals Involving Both U.S. Government and Non-Government Organizations or U.S. Organizations and Non-U.S. Organizations

- Unless specified in the NOFO, if a PI from any private or public organization proposes to team with a Co-I and/or use a facility at a U.S. Government organization (including NASA Centers and JPL), the budget for the proposal shall include all funding requested from NASA for the proposed work effort, including all costs of Government personnel or facilities to be paid by NASA. This shall be reflected in the budget totals that appear in the budget forms (e.g., proposal cover page, Grants.gov forms, and budget details). Also, the budget narrative and the budget details – other applicable costs shall include any required budget for such Government Co-I and/or facility. If selected, NASA will execute an inter- or intra-agency transfer of funds, as appropriate, to cover the applicable costs at that Government organization.
- If a PI from a U.S. Government organization (including NASA Centers and JPL) proposes to team with a Co-I from a non-Government organization, then the proposing Government organization shall issue a subaward for the costs of the Co-I. Such non-Government Co-I costs shall be entered as a "Subaward" in the budget and identify which Co-I organization is to receive the funding.

- If a PI from a non-U.S. organization proposes to team with a Co-I from a U.S. organization, the proposer shall submit a budget for the U.S. Co-I and identify which Co-I organization is to receive the funding.

2.18.5 Responsibility of the Proposing Organization to Issue Subawards for Co-Is at Other Organizations

Other than the special cases discussed above, or unless it is not legally permitted or it is specifically noted otherwise in the NOFO, the proposing PI organization shall issue a subaward, through an approved funding mechanism, to fund all proposed Co-Is who reside at other non-Government organizations, even if this may result in higher proposal costs because of subcontracting fees.

2.18.6 Full-Cost Accounting at NASA Centers

Regardless of whether functioning as a team member, NASA Center personnel shall propose budgets based on full-cost accounting. Proposal budgets from NASA Centers shall include all costs to be paid out of the resulting award. Costs that will not be paid from the resulting award, but that will be paid from a separate NASA budget (e.g., Center Management and Operations, (CM&O)), and that are not based on the success of the specific award, shall not be included in the proposal budget. For example, CM&O shall not be included in the proposal budget, while direct civil service labor, travel, service pools, and other charges to the proposed work effort or research task shall be included. Proposal budgets including JPL participation shall include all costs except for the JPL fixed-fee award amount (formerly the award fee).

2.19 Facilities and Equipment

The technical narrative for facilities and equipment describes any special facilities and equipment that are required for the recipient to complete the project (the Facilities and Administration cost pool shall be provided in the budget section). This section shall:

- Describe any required existing facilities and equipment for the proposed work effort and whether the team already has access to items that are in good working order or if such items need to be repaired, upgraded, or acquired (see letters of resource support for facilities and equipment not controlled by a member of the proposal team); and
- Not include any text that belongs in the page-limited Scientific/Technical/Management Plan (e.g., description of the work plan, justifications for perceived impact of the work, descriptions of proposal team roles and responsibilities)

Proposals submitted via Grants.gov shall include facilities and equipment as a separate PDF document to be uploaded to the Grants.gov application and titled "Facilities and Other Resources."

2.20 Table of Personnel and Work Effort

The Table of Personnel and Work Effort (Table) summarizes the proposed work effort, whether performed at the proposing or other organization and whether NASA funds the work. This section

of the proposal shall neither describe the work each member will be performing nor include any other technical details that belong in the Scientific/Technical/Management Plan.

- Proposals shall not include the Table in the budget narrative section. Instead, the Table shall follow the budget narrative section.
- The table of personnel and work effort shall include the following:
 - A listing of the planned work commitment, by person's name or role without any additional technical details of what work they will be doing
 - Only those resources that are directly applicable to the proposed research or work effort (as opposed to technical details); The names and/or titles of all personnel necessary to perform the proposed effort, including the planned work funded by NASA, as well as the planned work not funded by NASA;
 - Position (i.e., postdoc or technician) if names are not known; and
 - Planned work not funded by NASA that is listed in the Table is not considered cost sharing as defined in 2 CFR 200.29, Cost sharing or matching.

2.21 Special Notifications and/or Certifications

Some NOFOs may require proposals to include special notifications or certifications regarding the impact of research concerning the environment, human, or animal care provisions; conflicts of interest; or other topics as may be required by statute, Executive Order, or Government policies. Compliance with such requirements is necessary to ensure the submission of a complete and responsive proposal.

2.21.1 Environmental Impact

All awards shall comply with the [National Environmental Policy Act](#) (NEPA). Under NEPA, NASA is required to consider the potential environmental effects of proposed projects. This includes projects that NASA funds that are implemented by grant and cooperative agreement recipients. Most grant-related activities categorically exclude research and development projects that do not pose any adverse environmental impact, which the NASA Grants Record of Environmental Consideration (REC) covers. The questions in the following table enable NASA to identify proposals that do not fall within this blanket REC. Proposals that could result in a potential adverse environmental effect may require additional NEPA analysis if awarded (e.g., preparation of an Environmental Assessment). "Yes" responses are not proposal review or selection criteria.

		Yes	No
1	Will the proposal involve any activity that includes: <ul style="list-style-type: none"> ○ Construction of new facilities or modification to the footprint of an existing facility; or ○ Ground disturbance (e.g., excavation, clearing of trees, installation of equipment, etc.); or ○ Outdoor discharges of water (e.g., wastewater runoff), air emissions (e.g., ozone-depleting substances), or generation of noise exceeding 115 dBA (excluding those associated with aircraft operations)? 		
2	Will the proposal involve any field activity that will: <ul style="list-style-type: none"> ○ Release equipment (e.g., dropsondes, sensors) or chemicals (e.g., dyes, tracers) into the air, bodies of water or on the ground; or ○ Release a parachute or use equipment that will not be recovered; or ○ Involve equipment or a payload that contains hazardous (e.g., petroleum, hypergolic, oxidizers, solid propellants) or radioactive materials? 		
3	Will the proposal involve the launch of a payload, equipment, or instrument (e.g., via launch vehicle, sounding rocket, balloon)?		
4	Will the proposal involve any activity to be conducted outside the United States or its territories?		

If a proposer anticipates an environmental impact associated with its proposal, it shall plan and budget accordingly. Proposers shall also document the environmental impacts in the program-specific data element of the proposal cover page submitted to NASA. For questions concerning environmental compliance requirements, please address Tina Norwood, NASA NEPA Manager, at tina.norwood-1@nasa.gov. More information on NASA’s NEPA Program can be found at <https://www.nasa.gov/emd/nepa>.

2.21.2 Flight Activities

Proposals that include flight activities (not regular passenger travel) such as aircraft or helicopter flight services, including Unmanned Aircraft Systems (UAS)/Drones operations or the acquisition or construction of such flight vehicles, shall comply with [NASA Policy Directive \(NPD\) 7900.4D](#). For questions concerning flight compliance requirements, please contact Norman Schweizer at norman.s.schweizer@nasa.gov.

2.22 Assembly of Electronic Proposals

For proposals submitted electronically, the required parts of the proposal are submitted as one or more unlocked (i.e., without secure digital signature), searchable PDF files. NASA will not accept proposal sections and forms in any other formats. Required and permitted appendices may be included either in the PDF file containing the Scientific/Technical/Management Plan or as separate PDF files attached to the electronic submission, but not both. The NOFO will specify the required number of files to upload to NSPIRES. Grants.gov proposals may provide PDF files as instructed by that application package.

Sections of proposals transferred from Grants.gov to NSPIRES may appear in a slightly different order.

2.23 NASA Requirements for Uploaded PDF Files

PDF files that do not meet the following requirements may be rejected as noncompliant and not submitted to peer review for evaluation.

The file size limit for proposals submitted electronically to NASA through either NSPIRES or Grants.gov is 20 MB, unless otherwise stated in the NOFO. Any embedded photos and graphic files shall be compressed and cropped to an appropriate size and resolution to facilitate the review of the proposal.

Also, any proposer that creates files using TeX or LaTeX is required first to create a DVI file and then convert the DVI file to Postscript and then to PDF. Please see the following link: https://nspires.nasaprs.com/tutorials/PDF_Guidelines.pdf for more information on creating PDF documents compliant with NSPIRES.

It is the responsibility of each proposer to verify that:

- All PDF files are unlocked and that edit permission is enabled;
- All fonts are embedded in the PDF file; and
- The proposal is accurate and complete, including all text, figures, tables, and required forms.

NSPIRES provides the "Generate" function (found on the "View Proposal" page within NSPIRES), which allows proposers the ability to verify that all information contained in the proposal PDF file(s) is complete and accurate before submission to NSPIRES. Proposals submitted via Grants.gov will be entered into NSPIRES, usually within a few days of the proposal due date, and checked for completeness and accuracy. The proposer shall immediately contact the NSPIRES Help Desk for assistance with any proposal that is not complete and correct. However, proposers shall submit their proposals by the due date even if a proposal does not properly generate. Tutorials, registration assistance, and other NSPIRES help topics are accessible through the NSPIRES on-line help site at <https://nspires.nasaprs.com/external/help.do>. For any questions and answers that are not available on the on-line help site, requests for assistance may be directed by email to nspires-help@nasaprs.com or by telephone to (202) 479-9376, Monday through Friday, 8:00 a.m. – 6:00 p.m. (Eastern), excluding Federal holidays.

3.0 Proposal Submission

Unless otherwise stated in the NOFO, all proposals shall be submitted electronically, through either NSPIRES or Grants.gov. If the NOFO requires other submission options (e.g., e-mail), proposal shall follow the requirements in that NOFO for which forms or cover page information to submit.

The AOR for the proposing entity shall submit proposals. It is the proposed PI's responsibility to coordinate changes and updates to the proposal with the AOR. In instances where one individual

serves as both the PI and the AOR, that individual shall take separate actions for each role to ensure that the proposal is properly submitted.

3.1 NSPIRES and SAM Registration Requirements and Instructions

All organizations and individuals named in the proposal shall register in NSPIRES. NASA is able to issue grant awards only to organizations (including sole proprietorships) and not to individuals. Therefore, NASA does not award grants to PIs in their individual capacity. All organizations participating in a proposal shall use the NSPIRES registration module to affiliate with a PI. Affiliation is a two-way relationship that requires the approval of the targeted organization. Organizations may take some time to respond to requests from PIs for affiliations, which may introduce extra time into the proposal preparation and submission cycle, and the organization's registration process can take more than ten working days, depending on the organization. NASA will not evaluate proposals submitted via Grants.gov if the organization submits its proposal to Grants.gov before the entity registers in NSPIRES.

A prerequisite for registering an organization in NSPIRES is registration in the System for Award Management (SAM). It may take up to 15 business days before an entity's registration is active in SAM. Therefore, NASA advises proposers to start the SAM and NSPIRES registration processes well in advance of the proposal deadline.

Registration for NSPIRES requires organizations to have the following:

- Unique Entity Identifier (UEI) (for additional information related to the UEI, visit the General Services Administration's UEI update [website](#)). Through April 4, 2022, UEIs may be obtained from Dun & Bradstreet at <https://www.dnb.com>. After April 4, 2022, Dun & Bradstreet will no longer provide UEIs for Federal awards, and SAM.gov (<https://sam.gov/content/home>) will generate UEIs for Federal award recipients.
- Valid registration with SAM.gov. An organization's electronic business point-of-contact shall perform SAM registration.

Every individual named on the proposal's electronic proposal cover page form or in the Grants.gov forms as a proposing team member in any role, including Co-Is and Collaborators, shall be registered in NSPIRES. Such individuals shall perform this registration themselves; no one else may register a second party, even the PI of a proposal for which that person is committed to participating. The NSPIRES website is secure, and all information entered is strictly for NASA's evaluation purposes only.

3.2 Submitting Proposals Through NSPIRES

Proposals may be submitted electronically via NSPIRES at <https://nspires.nasaprs.com>. NASA strongly encourages potential proposers to access the site well in advance of the proposal due date(s) to familiarize themselves with its structure and enter the requested identifier information.

NSPIRES automatically assigns a unique proposal number after the proposal is successfully submitted. NASA uses this NSPIRES number throughout the proposal review and selection process to identify the proposal and its associated electronic data. If an NSPIRES number does not

appear on the proposal cover page, this means the proposal was not correctly submitted through the NSPIRES system.

All proposals submitted via NSPIRES shall include the required electronic proposal cover page and one or more uploaded PDF files. The cover page consists of:

- General information about the proposal, the submitting organization, team members that contain the identifier information for the proposing institution and personnel;
- Certification and Authorization;
- A proposal summary that provides an overview of the proposed project that is suitable for release through a publicly accessible archive if the proposal is selected;
- Other project information including international collaboration, environmental impact, and historic site impact;
- Program-specific data questions with answers that are unique to each NOFO; and
- The budget for the proposed work effort.

The cover page and PDF upload option is available for access to both the AOR and the PI, notifying them via email of the successful submission of the proposal by the AOR within minutes of that action.

Unless otherwise stated in the NOFO, all electronic proposals are due prior to 11:59 pm (Eastern) on the due date listed in the NOFO. The NSPIRES help desk closes at 6 pm (Eastern).

3.3 Submission of Proposals Through Grants.gov

Proposers have the option to use Grants.gov to prepare and submit proposals. Grants.gov allows organizations to electronically find and apply for competed discretionary grant/cooperative agreement opportunities offered by the 26 Federal grant-making agencies. As a reminder, to submit applications on Grants.gov, the AOR shall complete a [one-time registration process](#). Proposers shall access the Grants.gov website well in advance (registration may take longer than ten working days) of the proposal due date(s) to familiarize themselves with its structure and download the appropriate application packages and tools. Registration checklists are included on the Grants.gov website.

All proposals submitted through Grants.gov will be transferred to the NSPIRES system for evaluation by NASA. All individuals and organizations named in the proposal shall register in NSPIRES to enable the transfer. If there are multiple proposals submitted via Grants.gov with the same title and PI, NASA will attempt to accept and review the version with the latest time and date stamp.

Instructions for the use of Grants.gov may be found at <https://www.grants.gov/>. Instructions for NASA specific forms and NASA program-specific forms may be found in the “Instructions” that accompany the specific NOFO application package. For any questions and answers that are not available on-line, requests for assistance may be directed by email to support@grants.gov or by telephone to (800) 518-4726. The Contact Center is available 24 hours a day, seven days a week, except for Federal holidays.

To submit a proposal via Grants.gov, the PI shall download the application package from Grants.gov. Identifying the appropriate application package requires using the “Search Grant Opportunities” function within Grants.gov and/or using the funding opportunity number for the specific program. The funding opportunity number is in the NOFO. For omnibus NOFOs, such as Research Opportunities in Space and Earth Science (ROSES) or Research Opportunities in Aeronautics (ROA), each program element will have a separate funding opportunity number.

Submitting a proposal via Grants.gov requires the following additional steps:

- Proposers shall register in NSPIRES even if they submit their proposal through Grants.gov (proposals are transferred to NSPIRES for review). Grant researchers (PIs) do NOT need to register with Grants.gov;
- To find open and current NASA NOFOs, use "Search Grant Opportunities" at <https://www.grants.gov/web/grants/search-grants.html>. Using the Basic Search function, enter the funding opportunity number to retrieve the application package;
- Download and install any required Grants.gov software applications or tools;
- Download the application package from Grants.gov at <https://www.grants.gov>;
- Complete the required Grants.gov forms, including the SF 424 (R&R) Application for Federal Assistance, R&R Other Project Information, R&R Senior/Key Person Profile, and R&R Budget;
- Complete the required NASA-specific forms: NASA Other Project Information, NASA PI and Authorized Representative Supplemental Data Sheet, NASA Senior/Key Person Supplemental Data Sheet (required only if there are Senior/Key Persons other than the PI), and the proposal summary form. For instructions for program-specific forms, view the "Application Instructions" that accompany the application package. Complete any NASA program-specific forms required for a specific program element. NASA program-specific forms, which are required by many NOFOs, including all ROSES program element submissions, are included as PDF forms within the proposal package downloaded from Grants.gov. The forms, once completed, are attached to the NASA Other Project Information form;
- Create a proposal in PDF, including the Science/Technical/Management plan and all other required sections. Attach the proposal and any allowed or required appendices/attachments (also in PDF) to the appropriate Grants.gov form(s); and
- Submit the proposal via the AOR; the PI may not submit the proposal to Grants.gov unless they are the AOR.

It is the proposer’s responsibility to ensure the successful submission of its proposal and to ensure that all required parts of the proposal, as described in the NOFO, are incorporated. Proposers should expect to receive notification from NSPIRES of a successful submission to that system. Contact the NSPIRES Help Desk if notification is not received within two to three business days before the proposal due date.

3.4 Other Submission Options

If a hard copy submittal is also required, proposers shall print the NSPIRES cover page or SF 424 (R&R), as appropriate, and have it signed by the AOR. Submit the signed cover page with the original version of the proposal on or before the proposal due date. Also, use reproductions of the signed proposal cover page to preface the required printed copies of the proposal.

When a hard-copy submission is required, the requisite number of copies of the proposal (as specified in the NOFO), including an original signed by the AOR, shall be received (not postmarked) by 4:30 pm (Eastern) of the submission due date. The address for the delivery of hard-copy proposals, including a telephone number and point-of-contact for commercial delivery, is given in the summary of each NOFO that allows for hard-copy submission.

If both an electronic and hard copy submission is required, the proposer shall submit the required number of copies of the proposal (as specified in the NOFO), along with the original signature of the AOR on the printed proposal cover page, to the address specified in the NOFO by 4:30 pm (Eastern) of the submission due date.

3.5 Proposal Receipt

The PI and AOR will both receive an email from the NSPIRES system indicating that a proposal was successfully submitted. This email is sent shortly after the submission activity. If a proposer does not receive such an email, they should contact the NSPIRES Help Desk. Proposers can also verify that their proposals were submitted by logging into NSPIRES and verifying that the proposal record appears in the "Submitted Proposals" (versus "Unsubmitted Proposals") section of their accounts.

4. Proposal Review and Selection Criteria

All proposals submitted in response to a NOFO are evaluated by the same peer-review process regardless of the submitting organization, including NASA Centers. All proposals will have administrative, technical, and financial reviews performed.

4.1 Administrative Review

Proposals that are submitted late or fail to meet the minimum administrative requirements may be returned to the proposer without further review. NSPIRES automatically identifies any late proposals.

NASA's initial review of each proposal determines if it meets the minimum administrative requirements listed in the NOFO. These requirements usually include, but are not limited to, the following factors:

- Proposal submitted by the due date(s) and time;
- Proposer and proposing organization were eligible to submit a proposal;
- Proposal met the page, font, and spacing limits; and
- Proposer or key personnel are not suspended or debarred from receiving Federal funding.

4.2 Technical and Programmatic Review

[Appendix D](#) lists the basic evaluation criteria for proposals. However, the NOFO may supplement and/or modify specific criteria. NASA always seeks the best possible evaluations by qualified, unconflicted peers of the proposer who are knowledgeable, though not necessarily specialists, in the objective(s) addressed in the proposals. Characteristics of successful proposals are technical merit, logical structure, completeness, readability, compliance with any published funding limits in the NOFO, and responsiveness to the advertised NASA program. NASA will consider proposals that the reviewers identify as fully meeting the evaluation criteria for funding. NASA peer review members may also participate in determining the relevance of a proposal to the NOFO and the reasonableness of proposed costs.

Following peer evaluation, the cognizant Program Officer will evaluate the competitively rated proposals in the context of the programmatic objectives and financial limitations. The Program Officer will present a recommendation for selection based on the entirety of these factors to the NASA Selection Official identified in the NOFO. The Selection Official will select proposals as judged against the evaluation criteria, the objectives of the NOFO, programmatic considerations, and available financial resources.

4.3 Selection

The announcements of the selections are typically between 150 days and 220 days after the proposal due date. NASA usually does not announce new selections until after the approval of NASA funding through the Federal budget process. Delays in the Federal budget process may delay new selections and their announcements.

After completion of the selection process, each proposer will receive notification regarding the disposition of its proposal. Such notification will be sent via email.

If a proposal is selected to receive Federal assistance funding, the NASA Shared Services Center (NSSC) will work with appropriate personnel at the proposing organization to initiate actions required to support awards. The Grant Officer has the authority to obligate Federal funds and to make awards. Until the issuance of the award, there is no guarantee that financial assistance resources will be available.

Awards are made directly to the proposing organization and not to the PI. Thus, any change in PI affiliation between proposal submission and decision announcements shall be brought to the attention of the NASA official in charge of the NOFO as soon as possible.

4.4 Budget, Cost Analysis, and Financial Capability Reviews

Following the review and selection process, documents are submitted to the NASA Grant Officer for a review to determine if proposed costs are allowable, allocable, and reasonable for the proposed work. Additionally, for grants and cooperative agreements, the Grant Officer will review the risk posed by applicants as required in 2 CFR 200.206, Federal awarding agency review of risk

posed by applicants. To complete these required reviews, NASA may request proposers to submit additional documentation.

4.5 Withdrawal of Proposal

The proposer may withdraw a proposal at any time for any reason, such as if another organization has agreed to fund the proposal. Proposals submitted using NSPIRES may be withdrawn electronically by the AOR, or the proposer may send a signed written request to withdraw a proposal to the NASA technical contact listed in the NOFO.

4.6 Proposal Rejected by NASA Without Review

NASA reserves the right to reject a proposal without review for the following reasons:

- The proposal is nonresponsive to the objectives and/or provisions of the NOFO;
- The proposal does not meet the requirements for proposal format, content, and organization as specified in this Guidebook and/or the NOFO itself;
- The proposal is not submitted by the due date/time set forth in the NOFO;
- The hard copy proposal is not delivered to the specified delivery address by the due date/time set forth in the NOFO;
- The proposal consists of PDF files that do not meet NASA requirements or otherwise cannot be captured by the NSPIRES system; or
- The proposal is submitted through Grants.gov, but the proposer did not register with NSPIRES.

5.0 Award Notification

Soon after the selections are announced, NASA will issue award notices to the proposers as soon as practicable. However, delays may be caused by:

- The need for additional materials from the proposer (e.g., revised budgets and/or budget details) before NASA may legally obligate Federal funding; and
- A delay in Congressional approval of NASA's yearly appropriation/funding.

6.0 Award Management

For the management of grant or cooperative agreement awards, recipients primarily manage their own research or work efforts with minimal oversight by the Agency. Throughout the entire process—starting with the identification of program objectives, the preparation and peer review of submitted proposals, the conduct of the research or work itself, and, finally, the exposition of new knowledge through publications, public outreach, and education—NASA views itself as a partner with the scientific, engineering, and educational communities in making its programs relevant and productive. Post-award activities are addressed in the *NASA Grant and Cooperative Agreement Manual*, 2 CFR 200, and 2 CFR 1800 for grants and cooperative agreement and the Federal Acquisition Regulation (FAR) and the NASA FAR Supplement (NFS) for contract research awards.

Appendix A

Statements of General Policy

Awards to NASA Centers

A selected proposal submitted from a NASA Center is funded directly by NASA Headquarters (HQ) through the Agency's funding mechanism called a Research and Technology Operating Plan (RTOP). Awards made to JPL are funded through the contract between NASA and the California Institute of Technology, which operates and manages JPL.

Awards to Non-NASA Organizations

NASA determines the most appropriate funding vehicle, which can be a grant, a cooperative agreement, or a contract based upon the nature of the work proposed.

- **Grant** – A legal instrument of financial assistance between a Federal awarding agency or pass-through entity and a non-Federal entity (31 U.S.C. 6302, 6304). It is distinguished from a cooperative agreement in that it does not provide for substantial involvement between the Federal awarding agency or pass-through entity and the non-Federal entity in carrying out the activity contemplated by the Federal award (2 CFR 200.1, Definitions).
- **Cooperative Agreement** – A legal instrument of financial assistance between a Federal awarding agency or pass-through entity and a non-Federal entity (31 U.S.C. 6302, 6305). A cooperative agreement is distinguished from a grant in that it provides for substantial involvement between the Federal awarding agency or pass-through entity and the non-Federal entity in carrying out the activity contemplated by the Federal award (2 CFR 200.1, Definitions).
- **Contract** – A mutually binding legal commitment between the Government and a non-Federal entity the principal purpose of which is the acquisition by purchase, lease, or barter of property or services for the direct benefit of or use by the Government (FAR 2.101, Definitions).

A NASA grant or cooperative agreement award may be signed only by a NASA Grant Officer and is addressed to the proposing organization. Only an appointed NASA Grant Officer is authorized to make commitments, obligations, or awards on behalf of the Agency and approve the expenditure of funds. It is important to note that no commitment on the part of NASA or the Federal Government is legally binding unless a NASA Grant Officer has signed off on the request.

Award Governance:

Grant and cooperative agreement awards are governed by the following:

- The Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (2 CFR 200) at: <https://www.ecfr.gov/current/title-2/subtitle-A/chapter-II/part-200>
- The NASA supplement to 2 CFR 200, 2 CFR 1800, at: <https://www.ecfr.gov/current/title-2/subtitle-B/chapter-XVIII/part-1800>
- NASA *Grant and Cooperative Agreement Manual* at: [NASA Grants Policy and Compliance Branch](#)

Contract awards will be governed by the following:

- **Title 48 Chapter 1:** Federal Acquisition Regulations (FAR) found at <https://www.acquisition.gov/browse/index/far>
- **Title 48 Chapter 18:** NASA FAR Supplement (NFS) found at <https://www.hq.nasa.gov/office/procurement/regs/NFS.pdf>

Contact with NASA Personnel: While NASA program personnel may be contacted to discuss general program objectives with prospective proposers, to the extent authorized by the NOFO, they are forbidden from providing specific advice on budgetary or technical issues beyond those published in the NOFO that may provide an unfair competitive advantage to any proposer unless this same information is available to all interested proposers.

Restriction on the Use of Classified Material

It is NASA policy that proposals are not to contain security-classified material. However, if the project's proposed approach requires access to classified information, or if the project will result in the generation of such material, the proposer shall comply with all Government security laws, regulations, and policies.

Pre-Award Costs

For grants or cooperative agreements, expenses that a recipient incurs within the 90-day period preceding the effective date of the award may be authorized; however, such expenses are made at the recipient's risk. NASA will not pay any pre-award costs incurred for unfunded proposals.

Limited Release of Proposers' Confidential Business Information

For proposal evaluation and other administrative processing, NASA may find it necessary to release information submitted by the proposer to individuals not employed by NASA. Business information that is entitled to confidential treatment may be included in the information released to these individuals subject to protective measures including non-disclosure forms and firewalls as

appropriate. Accordingly, by submission of this proposal the proposer hereby consents to such limited release of its confidential business information (CBI).

Proposals Involving Non-U.S. Organizations

Except as outlined in the certification regarding restriction on doing business with certain countries, NASA welcomes proposals from non-U.S. organizations and proposals that include the participation of non-U.S. organizations. Proposals that propose research to be performed by a non-U.S. organization or with a non-U.S. organization as part of a proposal submitted by a U.S. organization typically are supported on a no-exchange-of-funds basis. The policy pertains to the nature of the proposing organization and does not relate to the nationality or citizenship of the individuals listed in the proposal. If a proposal with a non-U.S. partner is selected, NASA will determine whether such participation should be covered by and implemented through an international agreement between NASA and the sponsoring foreign agency or funding/sponsoring institution under which the parties agree to each bear their own costs to carry out their respective responsibilities.

Export Control: Information regarding U.S. export regulations is available at https://www.pmddtc.state.gov/ddtc_public and at <https://www.bis.doc.gov>.

The following important provision may apply to proposals that involve the participation of non-U.S. organizations, as well as proposals that include personnel who are not U.S. citizens and do not have status as legal permanent U.S. residents.

Export-Control Guidelines Applicable to Foreign Proposals and Proposals Including Foreign Participation

Foreign proposals and proposals including foreign participation shall include a section discussing compliance with U.S. export laws and regulations, e.g., 22 CFR Parts 120-130 and 15 CFR Parts 730-774, as applicable to the circumstances surrounding the particular foreign participation. The discussion shall describe in detail the proposed foreign involvement and is to include, but not be limited to, whether or not the foreign participation may require the prospective proposer to obtain the prior approval of the Department of State or the Department of Commerce via a technical assistance agreement or an export license, or whether a license exemption/exception may apply. If prior approvals are necessary via licenses, discuss whether the license is applied for, and if not, discuss the projected timing of the application and any implications for the schedule. Information regarding U.S. export regulations is available at the U.S. Department of State Web site at https://www.pmddtc.state.gov/ddtc_public and through the U.S. Department of Commerce's Bureau of Industry and Security Web site at <https://www.bis.doc.gov>. Under U.S. law and regulations, spacecraft and the specifically designed, modified, or configured systems, components, and parts are generally considered "Defense Articles" on the United States Munitions List and subject to the provisions of the International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120-130.

Because of these legal provisions and requirements, proposers and institutions whose proposals involve non-U.S. participants or personnel should be aware that such participation can add to management complexity and risk, and, therefore, proposers are encouraged to limit such

cooperative arrangements to those offering significant benefits while maintaining the most transparent and simplest possible technical and management interfaces.

Export-Controlled Material in Proposals

Explicit inclusion of export-controlled material in proposals is not prohibited. However, under U.S. law and regulations, spacecraft and their specifically designed, modified, or configured systems, components, and parts may be considered "Defense Articles" on the United States Munitions List and subject to the provisions of the International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120-130. Other items or information may be subject to the Export Administration Regulations (EAR), 15 CFR Parts 730 – 774. This may, in some circumstances, complicate NASA's ability to evaluate the proposal, since occasionally NASA may use the services of foreign nationals who are neither U.S. citizens nor lawful permanent residents of the U.S. to review proposals submitted in response to the NOFO.

Proposers to NOFOs are strongly encouraged not to include export-controlled material in their proposals, although the effort proposed may itself be export controlled. If it is essential to include any export-controlled information in a proposal, a notice to that effect shall be prominently displayed on the first pages of the proposal and shall state:

“The information (data) contained in [insert page numbers or other identification] this proposal is (are) subject to U.S. export control laws and regulations. It is furnished to the Government with the understanding that it will not be exported without the prior approval of the Proposer under the terms of an applicable export license or technical assistance agreement.”

Reference the following URL for guidance on NASA's Export Control Program and NASA Center Points of Contact: <https://www.hq.nasa.gov/office/oer/nasaecp/contacts.html>

For proposals submitted via NSPIRES or Grants.gov, the first pages listing export-controlled information should precede the table of contents, do not count against the page limits, and may also be used to provide the proprietary notification, if applicable. It is the proposer's responsibility to determine whether any proposal information is subject to export-control regulations. Many NOFOs will also include program-specific data questions about the inclusion of export-controlled material in the proposal; proposers shall answer these questions.

Appendix B

General Information Regarding Organization and Personnel

Categories of Proposal Organizations

NASA accepts proposals submitted in response to its NOFOs by most types of U.S. organizations acting on behalf of the PI(s). The designation of one of the following organizational categories is required on the proposal cover page.

The NSPIRES cover page does not offer subcategory organization types (e.g., museums or public K-12 schools). Some NOFOs may request subcategory organization type using a program specific data form. Also, certain NOFOs may specifically disallow some or all the following broad categories and/or may add sub-categories not cited below.

The proposing organization type shall be identical to that listed in SAM and tied to the UEI. Regardless of what proposing organization type is designated, any resulting award and its reporting requirements will be consistent with applicable NASA and Federal regulations.

Institutions of Higher Education (IHE) – A two- or four-year university or college (including U.S. community colleges), public or private, accredited to confer degrees beyond that of the K-12 grade levels.

Educational Institutions – Non-higher-education entities, such as K-12 education groups or institutions of informal education, are classified as Educational Institutions. Since NSPIRES does not have a listing for Educational Institutions, institutions falling under this category shall propose as non-profit or commercial organizations or as agencies of state, local, or Federally recognized tribal governments as described below.

Non-profit Organization – A non-profit organization is generally defined as any private corporation, trust, association, cooperative, or other organization that:

- Is operated primarily for scientific, engineering, educational, research, or similar purposes in the public interest;
- Is not organized primarily for profit; and
- Is an entity incorporated or unincorporated as a non-profit organization under Federal, state, or local law.

Non-profit organizations generally exclude (i) colleges and universities; (ii) hospitals; and (iii) state, local, and Federally recognized Indian tribal governments.

Commercial Organization – An organization of any size that is organized primarily for profit.

NASA Center – Any NASA Center, e.g., Johnson Space Center (JSC).

Other Federal Agency – Any non-NASA, U.S. Federal executive agency.

Federally Funded Research and Development Centers (FFRDC) – FFRDCs are under a broad charter by a Government agency for performing, analyzing, or conducting research for the United States Government. NASA sponsors the Jet Propulsion Laboratory (JPL) as the Agency’s sole FFRDC.

Non-U.S. Organizations – Organizations outside the U.S. that propose on a no-exchange-of-funds basis in accordance with NASA policy. Some NOFOs may be issued jointly with a non-U.S. organization (e.g., those concerning guest observing programs for jointly sponsored space science programs) that will contain additional special guidelines for non-U.S. participants.

State, Local, or Federally-Recognized Tribal Government Agency –

State Government means any of the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, any territory or possession of the United States, or any agency or instrumentality of a State exclusive of its local governments.

Local Government means a county, municipality, city, town, township, local public authority, school district, special district, intrastate district, council of governments (whether or not incorporated as a non-profit corporation under state law), any other regional or interstate government entity, or any agency or instrumentality of a local government.

Federally-Recognized Indian Tribal Government means the governing body or a governmental agency of any Indian tribe, band, nation, or other organized group or community (including any native village as defined in Section 3 of the Alaska Native Claims Settlement Act, 85 Stat. 688) certified by the Secretary of the Interior as eligible for the special programs and services provided through the Bureau of Indian Affairs.

Categories of Proposal Personnel

Every identified individual expected to have a role in the execution of the proposed effort shall be identified on the proposal cover page, using the most appropriate personnel role below. Prior to proposal submission via NSPIRES, every individual named on the proposal’s electronic cover page form as a team member (even Collaborators) must be registered in NSPIRES and confirm their commitment to that role. Team members will receive an email from NSPIRES indicating that they have been added to the proposal and must log into NSPIRES to corroborate. Through this electronic confirmation process, the organization through which they are participating in the investigation is also identified to enable organizational conflict of interest checks that are required as part of the evaluation process. When submitting proposals through Grants.gov, statements of commitment must be included in the proposal (see section 2.17 of this Guide for more information on statements of commitment). Such confirmation of participation is not needed for unnamed participants (e.g., students and postdoctoral associates). Any organization requesting NASA funds through participation in the proposed project shall list each team member on the proposal cover page. Other than the category of Principal Investigator (PI), some NOFOs may explicitly disallow some or all of the below categories and/or may add other categories.

Principal Investigator (PI) – The PI is the individual whom an organization designates as having an appropriate level of authority and responsibility for the proper conduct of proposed work effort,

including the appropriate use of funds and administrative requirements such as the submission of progress reports to the agency. Every proposal shall identify a PI who is responsible for the quality and direction of the proposed work effort and for the proper use of awarded funds regardless of whether the PI receives support through the award. The PI is the person with whom NASA will communicate and who will be responsible for relaying communications to other team members as needed. The proposing organization has the authority to designate the PI and to designate a replacement if that becomes necessary. After the proposal selection, the replacement of a PI requires NASA's prior written approval.

Co-Principal Investigator (CoPI) – CoPIs, together with the PI, share the responsibilities for and will work together to oversee the project. CoPIs are affiliated with U.S. organizations. Individuals affiliated with non-U.S. organizations may be designated “Co-I/CoPI [non-U.S. organization only]” in NSPIRES. While all CoPIs and the PI are jointly responsible for milestones, deliverables, appropriate use of funds, and administrative requirements, NASA will generally communicate with the PI. If a CoPI is not affiliated with the submitting organization, CoPI input on the use of funds will be subject to the corresponding subcontract/subaward, and clear responsibilities, actions, and deliverables for the CoPIs must be detailed in the roles and responsibilities narrative. NASA awards are generally made to the PI’s organization. In some cases, NASA may elect to provide a separate award directly to the CoPI’s organization. In such cases, the CoPI would serve as the “PI” for this separate award to their organization and would also retain their responsibilities as CoPI on the originating project, if mutually agreed upon.

NASA strongly encourages PIs to specify only the most critically important personnel to aid in the execution of their proposed work efforts. Such personnel shall be designated as being in one of the following categories:

Co-Investigator (Co-I) – A Co-I is a member of the team who is a critical "partner" for the conduct of the investigation through the contribution of expertise and/or capabilities. A Co-I will serve under the direction of the PI or a CoPI and generally will have a continuing role in the proposed investigation. The Co-I may or may not receive funding through the award. In NSPIRES, the PI may also designate one of the following roles for a Co-I who will carry additional responsibilities, as appropriate, for the following unique circumstances:

- One Co-I may be designated as the "Science PI" (i.e., Co-I/Science PI) if the proposing organization does not permit that individual, affiliated with that organization in NSPIRES, to formally serve as a PI as defined above (e.g., non-tenured faculty, postdoctoral personnel). In such a case, NASA understands that the Co-I/Science PI is to oversee the scientific direction of the proposed work, although the formally designated PI will still be responsible for the overall direction of the effort and use of funds.
- A Co-I at an organization other than that of the PI or CoPI institution(s) who is making a major contribution to the proposal (e.g., providing a significant piece of hardware or overseeing a single specific aim carried out in full at a partner institution) and who serves as the point of contact at that Co-I’s organization, may also be designated as the "Institutional PI" (i.e., Co-I/Institutional PI) for that Co-I’s organization. If stated explicitly in the NOFO, NASA may elect to provide a separate award directly to the organization of the Co-I. In this case, the Co-I will serve as the “PI” for this separate award for their

organization. This role contrasts with the CoPI role due to the scope of responsibility. PIs and CoPIs have oversight and responsibility over the entire project, including administrative tasks. The role of Co-I/Institutional PI is for individuals overseeing significant efforts at their institution that are limited in scope.

- A Co-I from a non-U.S. organization may also be designated as a "Co-Principal Investigator" (i.e., Co-I/CoPI [non-U.S. organization only]) if such a designation is required to fulfill administrative requirements of that Co-I's organization and/or to enable the acceptance of funding by that Co-I from their sponsoring funding authority. Non-U.S. team members may not use the CoPI role in NSPIRES and must use the "Co-I/CoPI [non-U.S. organization only]" role instead, if such a role is desired.

Collaborator – A Collaborator is an individual who is not critical to the proposal but committed to providing a focused but unfunded contribution for a specific task. If funding support, including travel costs, is requested in the proposal, such individual shall be identified in one of the other categories. For a proposal submitted via Grants.gov, Collaborators shall be listed on the Project Role "Other" line of the Senior/Key Person portion of the SF 424 (R&R) form.

Postdoctoral Associate – A Postdoctoral Associate holds a Ph.D. or equivalent terminal degree, is identified as a major contributor (but not explicitly as a Co-I) for the execution of the proposed work effort and receives funding through the proposal's budget. Such a Postdoctoral Associate shall be identified by name, if known, but may be identified only by their designated function in those cases where recruitment depends on the successful selection of the proposal. Postdoctoral Associates need not be named on the proposal cover page, but their effort(s) shall be included in the technical description of work assignments and the proposed budget.

Other Professional – This category is appropriate for an individual who supports a proposal in a critical manner, e.g., a key Project Engineer and/or Manager, but who is not identified as a Co-I or Postdoctoral Associate. This individual's role in the proposal shall be described in the budget narrative.

Graduate and/or Undergraduate Students – A proposal may incorporate students working for graduate or undergraduate degrees who will be paid through the proposal's budget to help carry out the proposed work effort under the direction of the PI, a CoPI, or one of the designated Co-Is. Such students shall be identified by name, if known, but may be identified only by function in those cases where their recruitment depends on the successful selection of the proposal. These students need not be named on the proposal cover page, but their effort(s) shall be included in the technical description of work assignments and the proposed budget.

Consultant – A Consultant is an individual who possesses a special skill, receives a fee for their services, which may include travel to consult with the PI or another member of the team, and is not an officer or employee of the proposing organization. A consultant provides services that support the proposed activities but is not responsible for project oversight and completion. As compared to a Co-I who is actively engaged in the proposed activities, a consultant provides information, advice, engages in discussions, and serves as a resource—a person with whom the PI, CoPI (if applicable), and Co-Is confer. The proposal's budget shall include the identification, justification, and complete breakdown of all costs proposed for all consultants.

Participant/Trainee – This category is not an option in NSPIRES as a personnel category because these individuals are not employees. A participant or trainee conducts research, and/or receives research or other training, e.g., travel support and/or tuition as described in the funding opportunity. Depending on the funding opportunity or appropriation, this participant often may be enrolled in a degree program as undergraduate or graduate students; however, not all NOFOs require participants to be enrolled as higher education students. NASA may require graduate students to be named on the proposal’s cover page.

APPENDIX C

Required Budget Details

The regulations at 2 CFR 200, Subpart E, Cost Principles identify and describe certain costs that may not be included (unallowable costs) in a proposed budget. The use of obligated funds for such purposes is unallowable and may lead to cancellation of the award and possible criminal charges. Furthermore, grants and cooperative agreements shall not provide for the payment of fee or profit to the recipient.

In addition to the budget narrative, proposers shall include detailed budgets, including detailed subaward budgets, in a format of their choosing that is clear and understandable. Regardless of the format chosen, the following information shall be included in the budget details.

Direct Labor (salaries, wages, and fringe benefits): A list of the names (if known) and titles of personnel, level of effort for each position, and rates of pay. The annual salary shall be clearly noted for each position. Labor shall clearly be broken out from fringe benefits. The fringe benefit rate/percent shall be clearly noted on the budget for each labor category for ease of review. An unknown proposer may be identified only by its designated function along with the level of effort and estimated rate of pay.

Fringe rates: In accordance with 2 CFR 200.414, Indirect (F&A) costs, NASA is required to apply the applicable negotiated rate for all grants and cooperative agreements awarded to the recipient. If fringe benefits comprise part of that negotiated rate, NASA will use this rate for all grants and cooperative agreements awarded to the recipient. If a proposing organization does not have a negotiated rate for fringe benefits, recipients shall use their rates for fringe benefits that are applied to funds from all funding sources.

Subawards: Attachments shall describe the work to be sub-awarded, estimated amount, and the recipient (if known). Itemized budgets are required for all subawards, regardless of dollar value.

Consultants: Identify consultants to be used and provide the amount of time they will spend on the project and rates of pay to include annual salary, and overhead.

Equipment: List all equipment items separately.

Capital expenditures for general purpose equipment, buildings, and land are unallowable as direct charges, except with the prior written approval of the NASA Grant Officer. The definition of general purpose equipment can be found in 2 CFR 200.1, Definitions.

Capital expenditures for special purpose equipment are allowable as direct costs, provided that items with a unit cost of \$5,000 or more have the prior written approval of the NASA Grant Officer. Equipment and other capital expenditures are unallowable as indirect costs. The definition of special purpose equipment can be found in 2 CFR 200.1, Definitions.

Supplies: Provide general categories of needed supplies, the method of acquisition, and the estimated cost.

Travel: Provide a detailed breakout of costs for any proposed travel. Detailed budget data shall include the following:

- Destination (if the destination is not known, the narrative shall provide reasonable assumptions about the potential destination and, use historical cost data based on previous trips taken or conferences attended),
- Number of travelers,
- Number of days,
- Conference fees,
- Airfare,
- Per diem, and
- Miscellaneous travel expenses (car rental, airport parking, etc.).

Every effort shall be made to estimate and detail travel costs accurately. Missing or minimum data is not acceptable for budget evaluation and award purposes. If destinations are not known at the time of proposal preparation, use reasonable assumptions and historical data for destinations and length of stay, however, use current pricing for the applicable categories listed above.

Tuition: Provide basis of estimate for tuition costs such a tuition remission percentage applied or semester rates per hour.

Other: List and enter the total of direct costs not covered in the above sections.

Facilities and Administrative (F&A)/Indirect Costs: Identify F&A cost rate(s) and basis(es) as approved by the cognizant Federal agency, including the effective period of the rate. Provide the name, address, and telephone number of the Federal agency official having cognizance. If approved audited rates are not available, provide the computational basis for the indirect expense pool and the corresponding allocation base for each proposed rate. All budgets shall be prepared using the most current “approved” indirect rates for estimating and award purposes. Proposers shall not use unapproved “future” rates.

For grants and cooperative agreements: Any non-federal entity that does not have a current negotiated indirect cost rate, except for non-federal entities described in 2 CFR 200, Appendix VII, paragraph D.1.b, may elect to charge a de minimis rate of 10% of modified total direct costs (MTDC) which may be used indefinitely. For all types of institutions other than institutions of higher education, if the negotiated rates change throughout the period of performance, the grant recipient shall apply the adjusted rate to any direct funds expended during the timeframe stated on the modified agreement.

F&A costs are not permitted for fellowship and scholarship awards.

Other Applicable Costs: Enter the total amount, explaining the need for each item and itemized lists detailing expenses within significant budget categories. Also, enter the required funding for any Co-Is who cannot be funded as a subaward (e.g., because the PI is at a non-Government organization and a Co-I is at a U.S. Government organization)

Subtotal-Estimated Costs: Enter the sum of all items.

Cost Sharing (if offered): Neither NSPIRES nor Grants.gov allows for notating cost-sharing on the standardized budget form. However, if cost-sharing is proposed, it shall be discussed in detail in the budget narrative. Further, if cost-sharing is based on specific cost items, identify each item and amount in the budget detail with a full explanation provided in the Budget Narrative.

Under grants or cooperative agreements, cost-sharing is only required if stated in the NOFO. However, NASA may accept cost-sharing from any organization if it is voluntarily offered (2 CFR 200.306, Cost sharing or matching).

Total Estimated Costs: Enter the total amount of funding requested from the Government.

APPENDIX D

Proposal Processing, Review, and Selection

Overview: As a matter of policy and practice, proposals submitted to NASA are principally reviewed by panels composed of the proposer's professional peers who have been screened in advance for conflicts of interest. In addition, panel reviews may be augmented by one or more non-panelist reviews solicited by the NASA Program Officer that are made available to the panel reviewers once they convene. As a rule, and based on its deliberations, a peer panel is authorized to wholly or partially accept or reject any such individual reviews. There are generally at least three readers of each proposal. In all cases, however, copies of every proposal are available for inspection by the members of the panel while it is in session. The panel's final proposal evaluation is reviewed and approved for completeness and clarity by the attending NASA Program Officer and, if appropriate, by the chair of the panel.

The evaluation forms that are provided to reviewers will list (perhaps in abbreviated form) all criteria for which their opinion is requested. Reviewers are instructed to evaluate each proposal against the evaluation criteria stated in the NOFO and not to compare proposals to which they have access, even if those proposals propose similar objectives. Only the NASA Program Officer may make binding comparisons of proposals during the process of developing recommendation for selection.

Conflicts of Interest and Confidentiality: The issue of conflicts of interest and confidentiality is of critical importance to the peer-review process. All reviewers are directed to avoid not only actual but also any apparent conflicts of interest and to maintain confidentiality about all activities involved in the review process. Reviewers are personally responsible for identifying and calling to the attention of the cognizant NASA Program Officer any conflict of interest situations. The presiding NASA Program Officer addresses and adjudicates conflicts of interest based on the following general guidelines:

- Every reviewer agrees to avoid conflicts of interest (both actual and apparent) and to maintain the confidentiality of their participation in and the results of the review process. Non-federal reviewers are required to sign a Nondisclosure Agreement in advance of being given access to any proposals. U.S. Government employees are governed by the Ethics in Government Act. If an unanticipated conflict arises or otherwise becomes known during the course of proposal reviews, the reviewer shall immediately inform the cognizant NASA Program Officer and cease participation pending a NASA decision on the issue.
- Disclosure by a reviewer of the proposals, their evaluation materials, and discussions is never condoned by NASA under any circumstances at any time, including after the selections are announced. Since the review process is not complete until selections are announced, a breach of confidentiality of the review process may result in the entire selection process for that specific funding opportunity being declared invalid.
- In certain situations, NASA may ask individuals to participate as reviewers even if such individuals are identified in a competing proposal. In such situations, NASA takes appropriate measures to ensure the objectivity and integrity of the evaluation process, including, excusing the individual from panel discussions of proposals for which a conflict exists. In some cases, the individual may also be excused from the discussion of proposals

other than those giving rise to the conflict of interest if these proposals are in direct programmatic competition with those proposals giving rise to the conflict.

Proposal titles, project summaries, and project team personnel and participants may be disclosed to potential reviewers who ultimately decline to act as reviewers because the presence of conflicts or a lack of expertise pertaining to specific proposal topics.

Overview of the Selection Process

An overview of the process from proposal submission through selection is as follows:

- The Program Officer selects reviewers based on their known expertise relevant to the content of each proposal and the avoidance of conflicts of interest. While in-person panel reviewers generally have access to all proposals reviewed by the panel, access is not provided in the cases of identified conflict of interest.
- Non-panelist reviewers only see the proposals to which they are assigned.
- The scientific and technical merits of each proposal are evaluated by the peer reviewers while meeting as a panel. The peer reviewers may also be asked to comment on the perceived programmatic relevancy, the cost reasonableness of the proposals, and other evaluation criteria specified in the NOFO.
- The Program Officer develops a recommendation for which proposals to fund based on the science/technical merit peer review, any program-unique criteria stated in the NOFO, relevance to the objectives stated in the NOFO, programmatic balance/comparison to competing proposals of equal merit, and the available budget resources. Selections are then made by the NASA Selection Official, as identified in the NOFO.
- After selection, each proposer is notified of the disposition of its proposal. However, notice of selection, does not constitute an award of funds. All proposers may request a debriefing from NASA regarding the evaluation of their proposal.
- Notification of selection is then forwarded by the Program Officer to a NASA Award Office that will contact the proposing organization to negotiate funding through an appropriate award instrument.
- NASA may notify Members of Congress of award selections.
- Following notification to proposers, a list of selected proposals are posted at <https://nspires.nasaprs.com/>. NASA considers the Proposal Title, the Principal Investigator's name and organization, and the proposal summary to be in the public domain and will post that information on an appropriate publicly accessible location. Selected proposers are free to release any additional information about their proposals that they may choose. However, this additional release is not required by NASA.

It is NASA policy not to release any information about proposals that are not selected.

Evaluation Criteria

Unless otherwise specified in the NOFO, the evaluation criteria considered in evaluating a proposal are its relevance to NASA's objectives, intrinsic merit, and cost. The failure of a proposal to be rated highly in any one of these factors may cause the proposal not to be selected.

Evaluation of a proposal's relevance includes the consideration of the potential contribution to NASA's mission, as expressed in its most recent NASA Strategic Plans and the permitted scope and specific objectives and goals given in the NOFO. If a NOFO describes the program's relevance to the NASA Strategic Plans, it is not necessary for proposals to show relevance to NASA's broader goals and objectives but rather only to demonstrate relevance to the specific goals and objectives set forth in the NOFO.

Evaluation of Intrinsic Merit includes the consideration of the following factors, as applicable to the particular proposal:

- The scientific quality of the proposed project, including, but not limited to, the scientific rationale and the expected significance and/or impact of the proposed work;
- Overall technical quality of the proposed work, including, but not limited to, the quality of the management plan and project timeline for carrying out the work and the effectiveness and resilience of the proposed experimental designs, methods, techniques, and approaches for achieving the proposed goals and/or objectives;
- The qualifications, capabilities, and related expertise of personnel demonstrated by the proposal (e.g., publications, delivered products, and other measures of productivity and/or expertise) that will affect the likelihood of achieving the objectives; and
- Facilities, instruments, equipment, and other resources or support systems presented in the proposal that will affect the likelihood of achieving the proposed objectives.

Review panels are instructed not to compare proposals to each other; any comparative evaluations are conducted as appropriate by NASA program personnel.

Evaluation of the cost of a proposed effort may include the reasonableness of the proposed cost, as well as whether costs are allowable and allocable to the project. The comparison of the proposed cost to available funds is performed by NASA program personnel and is not part of the peer-review process.

The combined significance of a proposal's strengths and weaknesses determines its final summary evaluation. This may be given for each criterion or as a single overall evaluation. In the absence of a criterion-specific scale, the evaluation is based on the following adjectival scale.

Summary Evaluation	Basis for Summary Evaluation	Relationship of Summary Evaluation to Potential for Selection
<u>Excellent</u>	A thorough and compelling proposal of exceptional merit that fully responds to the objectives of the NOFO as documented by numerous or significant strengths and with no major weaknesses.	A top priority for selection in the absence of any issues of funding availability, suspension or debarment, past performance, or programmatic priorities.
<u>Very Good</u>	A competent proposal of high merit that fully responds to the objectives of the NOFO, with strengths fully outweighing any weaknesses, and none of those weaknesses constitute fatal flaws.	A second priority for selection in the absence of any issues of funding availability, suspension or debarment, past performance, or programmatic priorities.
<u>Good</u>	A competent proposal representing a credible response to the NOFO, with strengths and weaknesses, essentially balances each other.	May be selected as funds permit based on programmatic priorities.
<u>Fair</u>	A proposal that provides a nominal response to the NOFO but with weaknesses outweighing any strengths.	Not selectable regardless of the availability of funds or programmatic priorities.
<u>Poor</u>	A seriously flawed proposal, having one or more major weaknesses that constitute fatal flaws.	Not selectable regardless of the availability of funds or programmatic priorities.

To help ensure uniformity of the reviews, NASA requires its reviewers to document their findings using clear, concise language that is understandable to the non-specialist by means of perceived strengths and weaknesses, which may each be designated as a “major” or “minor” finding.

A strength is a finding that increases a proposal’s suitability for funding by a given criterion. A major strength significantly increases a proposal’s suitability, and a minor strength increases, but not significantly, a proposal’s suitability. A reviewer may conclude, however, that multiple minor strengths together are equivalent to a major strength.

A weakness is a finding that decreases a proposal’s suitability for funding by a given criterion. A major weakness significantly decreases a proposal’s suitability, and a minor weakness decreases, but not significantly, a proposal’s suitability. For a weakness to be minor, it shall not significantly affect an appreciable portion of the proposed work or the final outcome. A reviewer may conclude, however, that multiple minor weaknesses together are equivalent to a major weakness. A fatal flaw is any single weakness or collection of weaknesses that would effectively prevent, in part or in whole, the proposed objectives from being accomplished or that otherwise may render the proposal unsuitable for consideration for funding (e.g., the proposal fails to address the NOFO’s objectives,

will have no impact, has a plan of research that is incapable of succeeding, proposes an unrealistic level of effort).

If proposals are rated equally, the Program Officer and Selection Official may use other factors to determine final selections. These factors include, but are not limited to, the balance of the research objectives addressed by other tasks within the program and available program funds.

Occasionally a proposal may include tasks that rate low on one or more evaluation criteria or have other aspect(s) that is(are) considered undesirable or unnecessary (e.g., tasks not permitted by a NOFO, plans for excessive travel, the support of certain personnel). In such a case, and at the option of the cognizant NASA Program Officer, a proposal may be evaluated more than once: first as originally proposed, and then again as "descoped" of one or more of its original provisions. In such a case, the rating of the descoped proposal may justify its consideration for funding consistent with the policy for partial selections (see below), and NASA may request a revised proposal.

Although a peer review may rate a proposal as having high Intrinsic Merit, it still may not be selected due to budget limitations, lack of relevance to the NOFO, or for programmatic balance.

Partial Selections

NASA may elect to fund only a portion of a proposal. Partial selections also may offer tentative selections where NASA invites investigators to a joint investigation. In such a case, the proposer will have the opportunity to accept or decline such selection. If the proposer accepts such an offer, a revised budget and statement of work may be required from the proposer, if this reduction will be greater than 20 percent of the originally proposed budget. However, as a rule, if the reduction is less than 20 percent of the originally proposed budget, the adjustment to the budget and statement of work can be extracted from the original proposal, and no further submission will be required.

If NASA partially select a proposal, the proposer may have the opportunity to modify the proposal summary so that it correctly describes the funded research.

If the proposer declines the offer of a partial selection or participation in a joint investigation, NASA may withdraw its selection in its entirety.

Debriefings for Proposers

A proposer has the right to be informed of the major factor(s) that led to the acceptance or rejection its proposal. Debriefings will be available upon request. Again, it is emphasized that non-selected proposals should be aware that proposals of nominally high intrinsic and programmatic merits may be declined for reasons entirely unrelated to any scientific or technical weaknesses.

Resubmission of a Non-Selected Proposal

Non-selected proposals may not be submitted as an unsolicited proposal. However, the non-selection of a proposal does not restrict the submission of a similar (or even the same effort) by the proposer(s) in response to appropriate future NASA NOFOs or to other appropriate funding

agencies or organizations. If a proposal submission to NASA is contemplated, proposers are strongly urged to carefully consider the entirety of comments offered during their debriefing, as well as the proposal guidelines, before making the decision to resubmit the same, or substantially the same, proposal. Merely correcting any perceived deficiencies in a proposal, as noted by a review process for one NOFO in no way guarantees a higher rating or selection in response to a different NOFO.

APPENDIX E

Conflicts of Interest for NASA Peer Reviewers

(This is a list of examples and is not an exhaustive list of disqualifying affiliations and relationships.)

You may have a disqualifying conflict of interest or appearance of a conflict of interest if you have a relationship or affiliation identified in any of the three categories listed below:

Your Affiliations with a Proposing or Applicant Institution or Company

- Current employment at the proposing organization as a professor, adjunct professor, visiting professor, employee, or similar position.
- Other current employment with the proposing organization (such as a consulting or advisory arrangement).
- Seeking or negotiating for employment with the proposing organization.
- Formal or informal arrangement for future employment with the proposing organization.
- A financial interest in the proposing organization (e.g., ownership of securities).
- Serving as an officer, director, trustee, general partner, or in another role of authority in the proposing organization. (Ordinary membership in a professional society or association is not considered an office.)
- Current enrollment as a student with a proposing organization. (This is only a conflict for proposals or applications that originate from the department or school where one is a student.)
- Previous employment with the proposing organization within the last 12 months.
- Any award, honoraria, or other payment received from a proposing organization within the last 12 months.

Your Relationship with an Investigator, Project Director, or Other Person who is a Participant in the Proposal or Other Application

- Family relationship as a spouse, child, sibling, or parent.
- Business or professional general partnership. (An ordinary scientific collaboration is not considered a partnership).
- Association as thesis advisor (major professor) or thesis student or acting in a similar role within the past 12 months.
- Professional or personal relationship which may prevent you from being impartial or viewed as impartial.

Your Other Affiliations or Relationships

The following interests may create a conflict or the appearance of a conflict for you:

- Any financial interest or professional affiliation or relationship of your spouse, your minor child, anyone living in your immediate household, or anyone who is legally your general

partner (e.g., if a proposing organization employs your spouse, this may create an actual conflict or the appearance of a conflict for you.).

- Other relationships, such as close personal friendships that you think may tend to affect your judgment or be seen as doing so by a reasonable person having knowledge of the facts.
- Other financial interests and relationships, such as those related to persons or organizations in competition with a proposing organization, which you think may tend to affect your judgment or be seen as doing so by a reasonable person having knowledge of the facts.

If you identify a potential or actual conflict of interest or appearance of such a conflict at the beginning or at any time during your tenure as a NASA peer reviewer, please immediately stop your review of the proposal and contact the NASA Program Officer who asked you to serve as a peer reviewer. This official will determine whether you may continue to serve as a reviewer and may recommend that you consult your local legal counsel or ethics official. If at any time during the review process, you need legal advice, then consult your local legal counsel or ethics official. When local legal or ethics advice impacts your ability to review proposal(s), promptly inform the NASA Program Officer who asked you to serve as a peer review, so that the proposal(s) can be reassigned.

APPENDIX F

Security Requirements

If award recipients require access to a NASA Center, facility, computer system, or to NASA technical information, then the recipient shall meet certain security requirements.

Requirement for Grant and Cooperative Agreement Awards

- Recipients that require access to a NASA Center, facility, computer system, or to NASA technical information shall comply with agency personal identity verification procedures identified in the award that implements the Homeland Security Presidential Directive-12 (HSPD-12), Office of Management and Budget (OMB) guidance M-05-24 and Federal Information Processing Standards Publication (FIPS PUB) Number 201.
- The recipient shall account for all forms of Government-provided identification issued to the recipient employees in connection with performance under the grant and cooperative agreement awards. The recipient shall return such identification to the issuing agency at the earliest of any of the following unless the Government determines otherwise:
 - When no longer needed for grant performance,
 - Upon completion of the recipient's employee's employment, or
 - Upon grant completion or termination.
- The Grant Officer may delay the final payment under a grant if the recipient fails to comply with the above-stated requirements.

APPENDIX G

Funding Continuation of Multiple-Year Awards

Continuation funding for multiple-year awards is dependent on several factors, including satisfactory performance progress and the availability of funds.

When the period of performance is for multiple years of funding, those funding levels are fixed at the time of the award. When funding is released for a multiple-year award, new proposals and technical evaluations are not required if the Agency reviewed and approved this information for the multiple-year period as part of the original proposal. A revised budget for the next year of a multiple-year award is required only if: (i) the anticipated expenditures are greater than that stated in the award, (ii) the research has appreciably changed in scope, or (iii) changes have been made to the planned purchases of equipment.

Requests to fund work that is beyond the scope of the originally approved proposal may require additional technical evaluations by NASA.

NASA reserves the right to terminate any multiple-year grant or cooperative agreement as set forth under 2 CFR 200.

Reports for Multiple-Year Awards

See the NASA [Grant and Cooperative Agreement Manual](#) (GCAM), Appendix F, for a list of required reports.

Performance Reports

An Annual Performance Report is due 60 days prior to the anniversary date the of award except for the final year when a final performance report is due within 120 days of the end of the award period of performance. Investigations with a period of performance exceeding three years may be subject to a full peer evaluation after the first three years in order to qualify for the next level of funding. Information on the required contents of a performance report can be found in the Section 7.3, Performance Report Requirements, of the GCAM.

Financial Reports

Federal Financial Reports – SF 425 are due quarterly and within 120 days of the end of the award period of performance.

Completing an Award

At the completion of a grant or cooperative agreement, NASA requires certain reports; these will be specified in the award terms and conditions. For research grants, generally the following final reports are required:

- Federal Financial Report (SF 425)

- Final Performance Report
- Final Inventory Report of Federally Owned Property
- New Technology Summary Report
- Management Plan
- Any peer-reviewed articles published or planned
- Any data sets or other products (including code) published or planned

APPENDIX H

Appealing NASA's Decision to Decline a Proposal for Financial Assistance

This section describes the types of reconsideration that NASA may make available for grant and cooperative agreement proposals that entities have submitted to NASA. This section does not apply to proposals returned without review by NASA for an applicant's failure to:

1. Submit the proposal with enough lead time before the activity is to commence.
2. Submit a late proposal where information regarding the proposal deadline (i.e., date, time, and location) for submission had been previously specified.
3. Meet the NASA proposal preparation requirements, such as page limitations, formatting, instructions, and electronic submission as specified in this Guidebook.

Appeals Policy

1. When a proposal for a NASA federal assistance award is declined or returned by the Agency without review, NASA provides the applicant the opportunity to dispute the Agency's decision and present information and documentation to request reconsideration of this decision per the NASA Guidebook for Proposers, Appendix H. For a declined or returned proposal to be reconsidered for funding, the applicant shall, within 30 calendar days of receiving the synopsis of reviewers' comments, submit a written Request for Reconsideration to the Selecting Official. If the applicant did not receive a synopsis of the reviewers' comments, the Request for reconsideration shall be submitted within 60 calendar days of receiving the notification that the proposal has been declined or returned. The Selecting Official will respond to the Request for Reconsideration within 30 calendar days of receiving it. If additional time is required to prepare a response, the Selecting Official will provide an explanation to the applicant of the need for more time to the applicant by the deadline for a response.
2. The goal of the reconsideration process is to ensure that NASA's review of the proposal has been fair and reasonable, both substantively and procedurally. The scientific and technical merits may be examined within the context of budget availability and program priorities. Reconsideration may also address any procedural errors in peer review or other aspects of proposal review, including unidentified conflicts of interest.
3. All NASA awards are discretionary, and reconsideration is not an adversarial process. Therefore, a formal hearing will not be held as part of the reconsideration process. Because factors such as program budget and priorities factor into the decision to select or not select each proposal, NASA cannot ensure proposers that reconsideration will result in an award even if it is discovered that an error occurred in the initial review.
4. After declining or returning a proposal, NASA will not consider any revisions that the applicant has made to its original proposal. However, this does not preclude an applicant from sending a substantially revised proposal to the Agency in response to a subsequent and different (new) NOFO. NASA reserves the right to return without review a proposal

that is substantially the same as one that was previously reviewed and declined or returned, regardless of whether a request for reconsideration was made.

Appeals Above the Selecting Official

If the applicant is dissatisfied with the explanation provided by the NASA Selecting Official, they may request in writing an appeal of the Selecting Official's decision. This appeal shall be submitted to the Assistant or Associate Administrator of the Mission Directorate or Office issuing the NOFO or one of their authorized designees. This appeal request shall explain why the applicant believes that the decision to decline or return the proposal was unwarranted. Appeal requests will be considered only if two conditions are met: (1) the applicant has first sought and obtained an explanation from the NASA Selecting Official, and (2) the appeal request is received by NASA within 60 days after the applicant received notice of the declination or return. Appeals of the Selecting Official's reconsideration decision shall be filed within 30 calendar days of the applicant receiving that decision. NASA will provide a response to the applicant regarding the appeal within 30 calendar days of receipt.

APPENDIX I

Guide to Key Documents

- Guidance for the Preparation and Submission of Unsolicited Proposals:
https://www.nasa.gov/offices/ocfo/gpc/regulations_and_guidance
- NASA Solicitation and Proposal Integrated Review and Evaluation System (NSPIRES):
<https://nspires.nasaprs.com>
- Grants.gov: <http://www.grants.gov>
- The following items may be found through active links from the NASA homepage:
 - 2018 NASA Strategic Plan:
https://www.nasa.gov/sites/default/files/atoms/files/nasa_2018_strategic_plan.pdf
 - Links to all NASA Headquarters Mission Directorates, Centers, and the Jet Propulsion Laboratory: https://www.nasa.gov/about/org_index.html
 - The NASA Technology Taxonomy:
<https://www.nasa.gov/offices/oct/taxonomy/index.html>
- The following URL can be used to track the status of a grant and/or cooperative agreement prepared by the NASA Shared Services Center (NSSC):
<https://www.nssc.nasa.gov/grantstatus>

APPENDIX J

Intellectual Property

Data Rights: NASA wishes to disseminate data and material produced under this award as broadly as possible with minimal restrictions. While recipients are not restricted in their own use and distribution of data first produced in the performance of an award, NASA's goal is to reduce restrictions on dissemination and use of data to the greatest extent possible, consistent with the terms and conditions of the award. Data rights differ based on whether data is first produced under an award or instead was developed at private expense outside the award, and the particular instrument under which the award is made.

Invention Rights: Recipients that are small businesses or nonprofit organizations may elect to retain title to their inventions pursuant to the Bayh-Dole Act (35 U.S.C. § 202). Large business recipients are subject to section 20135 of the National Aeronautics and Space Act (51 U.S.C. § 20135) relating to property rights in inventions. Title to inventions by large business award recipients initially vests with NASA. However, these recipients may request a waiver to obtain title to inventions made under the award. Such a request may be made in advance of the award or within 30 days thereafter. However, even if an advance waiver request is not made, or is denied, a large business award recipient may request a waiver on individual inventions made during award performance.

For grants and cooperative agreements, intellectual property provisions are subject to the terms and conditions set forth in 2 CFR 200 and 2 CFR 1800.

Appendix K

Publishing Datasets on the NASA Open Data Portal

What is the NASA Open Data portal?

NASA's Open Data portal at data.nasa.gov is a registry of NASA dataset metadata, which enables machine-readable dataset discovery. Making information resources accessible, discoverable, and usable by the public can help fuel entrepreneurship, innovation, and scientific discovery.

This portal is a collection of descriptions of datasets; each description is a metadata record. The intention of a data catalog is to facilitate data access by users who are searching for particular types of data. The portal hosts both metadata records and/or original datasets.

What is a dataset?

A dataset is an identifiable collection of data products unified by a set of criteria, also referred to as a Dataset Metadata Record (i.e., contains information on authorship, subject, scope, location, and/or time). The NASA Open Data Portal contains two types of datasets: 1) Dataset Metadata Records, and 2) Data files hosted on the platform. All Dataset Metadata Records cataloged on data.nasa.gov conform to a metadata schema described here: <https://project-open-data.cio.gov/v1.1/schema>.

How do I host my data on the Open Data portal?

- Contact the Open Data mailing list (nasa-data@lists.arc.nasa.gov) and describe your data products and whether you have a Data Management Plan.
- Consider where your data currently resides. If you would like to host it through the data.nasa.gov server, consider data transport options such as the Large File Transfer for NASA personnel.
- Be prepared to provide the metadata about your dataset(s) that conform to the requirements of the [Project Open Data Schema v1.1](https://project-open-data.cio.gov/v1.1/schema).

What data are accepted for hosting on the Open Data portal?

[Data.nasa.gov](https://data.nasa.gov) can support any file type (machine-readable formats are preferable). NASA may limit file size in some cases. For certain types of data, NASA may specify a more appropriate archive. The portal offers the capability to create visualization and RESTFUL APIs if your data is in a tabular format.

Please note: The Open Data team cannot host any data that contain Personally-Identifiable Information (PII).

If I host my data on the Open Data portal, what other information is required?

For each dataset you want to host, you shall provide the following metadata to the Open Data team:

- Title of dataset

- Description of dataset
- Point of contact (full name and email)
- Keywords or tags that describe or categorize your data
- Proposal number, award number, and/or ORCID
- Area of proposal research area or name of supporting NASA program (if known)
- Number, size, and format/type of data products
- URLs to:
 - Related documents
 - Publication(s) related to this dataset
 - Web pages on the datasets/research
- Information about any software or code that is needed to work with your data
- Any temporal information about your dataset, such as date ranges for when the research was conducted
- Any spatial information about your datasets, such as latitude and longitude coordinates or geographic regions for which the data is relevant
- Any other supporting documentation, such as a data dictionary