



National
Aeronautics and
Space
Administration

Notice of Award for Grant and Cooperative Agreement (NOA)

Assistance Listings Number: 43.008 Education

CHOOSE ONE:

- ☒ COOPERATIVE AGREEMENT
☐ GRANT

CHOOSE ONE: ☐ EDUCATION ☒ RESEARCH

NASA Grant and Cooperative Agreement Web Site: <<https://www.nasa.gov/centers/nssc/grants>>

1. FEDERAL AWARD IDENTIFICATION NO.

80NSSC23M0170

2. SUPPLEMENT NUMBER

P00001

3. PERIOD OF PERFORMANCE

07/06/2023 - 07/05/2025

4. RECIPIENT

NAME/ADDRESS (No., Street, City/County, State, Zip)
UNIVERSITY OF WYOMING
1000 E UNIVERSITY AVE
LARAMIE WY 82071-2000

5. AWARING ORGANIZATION

NASA
Shared Services Center (NSSC)
Building 1111, Jerry Hlass Road
Stennis Space Center MS 39529-0001

6. UNIQUE ENTITY IDENTIFIER

FDR5YF2K32X5

7. PRINCIPAL INVESTIGATOR/STUDENT/ORGANIZATION'S PROJECT OR PROGRAM MGR. (Name, Email & Phone)

SHAWNA MCBRIDE, SMCBRIDE@UWYO.EDU, 307-766-2987

8. PROPOSAL NO., TITLE, AND PROJECT DESCRIPTION

23-2023 R3-0038, 7.6 NASA SMD Computational and Information Sciences and Technology Office (CISTO) C-010: Lyapunov Assured Trustworthy Multi-agent Reinforcement Learning for Large-scale UAV Decision-making Against Cyberattacks

9A.	AMOUNT OF AWARD	9B.	FUNDS OBLIGATED
PREVIOUS	\$100,000.00	PREVIOUS	\$100,000.00
THIS ACTION	\$0.00	THIS ACTION	\$0.00
TOTAL	\$100,000.00	TOTAL	\$100,000.00

10. NASA ACCOUNTING AND APPROPRIATION DATA

See Continuation Sheet If Applicable

11. PR NUMBER

4200840155

12. NASA POINTS OF CONTACT

SPONSORING CENTER: Kennedy Space Center

	NAME	TELEPHONE	E-MAIL ADDRESS
TECHNICAL OFFICER	ALI SHAYKHIAN	321-289-0512	ALI.SHAYKHIAN@NASA.GOV
ADMINISTRATOR	RACHEAL DOWN	877-677-2123	NSSC-CONTACTCENTER@NASA.GOV
PAYMENTS	NSSC CONTACT CENTER	877-677-2123	NSSC-CONTACTCENTER@NASA.GOV

13. THIS AWARD IS MADE UNDER THE AUTHORITY OF 51 U.S.C. 20113 (e) AND IS SUBJECT TO ALL APPLICABLE LAWS AND REGULATIONS OF THE UNITED STATES IN EFFECT ON THE DATE OF THIS AWARD, INCLUDING, BUT NOT LIMITED TO:

☒ 2CFR200 ☒ 2CFR1800 ☐ FAR 48 CFR Part 30 ☒ NASA and Grant Cooperative Agreement Manual

14. APPLICABLE STATEMENT(S), IF CHECKED:

- ☐ NO CHANGE IS MADE TO EXISTING TERMS AND CONDITIONS
- ☒ R&D TERMS AND CONDITIONS AND NASA AGENCY-SPECIFIC REQUIREMENTS APPLY TO THIS GRANT

15. APPLICABLE ENCLOSURE(S), IF CHECKED:

- ☒ TERMS AND CONDITIONS ☐ SPECIAL CONDITIONS
- ☒ REQUIRED PUBLICATIONS AND REPORTS



National
Aeronautics and
Space
Administration

Notice of Award for Grant and Cooperative
Agreement (NOA)

Assistance Listings Number: 43.008 Education

CHOOSE ONE:

- ☒ COOPERATIVE
AGREEMENT
- ☐ GRANT

THE UNITED STATES OF AMERICA
NATIONAL AERONAUTICS
AND SPACE ADMINISTRATION

Recipient

- ☒ A recipient indicates acceptance of an award and its associated terms and conditions by drawing or requesting funds from the designated NASA payment system or office.
- ☐ Recipient is required to sign this document and return to the awarding organization.

NAME OF GRANT OFFICER

NAME AND TITLE OF AUTHORIZED REPRESENTATIVE
(Type or print)

SIGNATURE

DATE

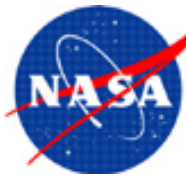
SIGNATURE

DATE



Notice of Award for Grant and Cooperative Agreement (NOA)

ITEM NO. (A)	ITEM OR SERVICE (Include Specifications and Special Instructions) (B)	QUANTITY (C)	UNIT (D)	ESTIMATED COST	
				UNIT PRICE (E)	AMOUNT (F)
	<p>Direct Labor Costs: \$49,477.03 Direct Costs - Equipment: \$5,000.00 Direct Costs - Travel: \$1,800.00 Direct Costs - Participant/Trainee Support Costs: \$0.00 Other Direct Costs: \$17,722.00 Indirect Costs: \$26,000.03 *Indirect Rate(s): 44.50% Total Costs: \$99,999.06 Differences are due to rounding. Total Award: \$100,000.00</p> <p>The proposed multi-agent reinforcement learning algorithm against spy agents will lead to a new research area regarding the scientific and technical robustness as well as the ethics and safety of AI for large-scale UAV teams. This proposal will also contribute to the scientific community in the long term by bridging the gap between multi-agent decision-making theory and real-world applications that rely heavily on interconnected complex systems such as power systems, robotics, etc. The limitations and physical performance of the multi-agent team is also evaluated in a novel aspect, i.e., the spy agent attack.</p> <p>All data and algorithms in the proposed research will be released for public use in the form of open-source software. The proposed project will provide opportunities to train undergraduate and graduate students at University of Wyoming and University of Nevada. Living in the least populated states in the US, Wyoming and Nevada residents need more exposure to cutting-edge AI technologies, and this project will serve that purpose. Special attention will be given to the minorities in the Wyoming and Colorado area through the CO-WY Alliance for Minority Participation, and the University of Nevada Reno First Generation Minority STEM Program. The PI will also participate in outreach activities to help promote</p>				



Notice of Award for Grant and Cooperative Agreement (NOA)

ITEM NO. (A)	ITEM OR SERVICE (Include Specifications and Special Instructions) (B)	QUANTITY (C)	UNIT (D)	ESTIMATED COST	
				UNIT PRICE (E)	AMOUNT (F)
0001	public knowledge of AI techniques in the state of Wyoming and Nevada. PI: Shawna McBride Obligated Amount \$100,000.00 Purchase Requisition: 4200840155 Fund: EDUX22023D Appropriation: 8023/240128 Amount: \$100,000.00 Payment Terms: Net 30 days FOB: DESTINATION				\$100,000.00

This supplement is hereby issued to provide a 12-month no-cost extension and to provide administrative changes. The new completion date for this award is 7/5/2025.

Accordingly:

AWARD TERMS AND CONDITIONS

<u>Location</u>	<u>Title</u>	<u>Date</u>
GCAM Appendix D1	Compliance with Title 2 of the Code of Federal Regulations, Grants and Agreements	Oct. 31, 2022
GCAM Appendix D2	System for Award Management and Unique Entity Identifier	Oct. 31, 2022
GCAM Appendix D3	Technical Publications and Reports	Oct. 31, 2022
GCAM Appendix D4	Reporting Subawards and Executive Compensation	Oct. 31, 2022
GCAM Appendix D6	Termination and Enforcement	Oct. 31, 2022
GCAM Appendix D7	Change in Principal Investigator or Scope	Oct. 31, 2022
GCAM Appendix D9	Equipment and other Property	Oct. 31, 2022
GCAM Appendix D10	Patent Rights	Oct. 31, 2022
GCAM Appendix D11	Rights in Data	Oct. 31, 2022
GCAM Appendix D12	National Security	Oct. 31, 2022
GCAM Appendix D13	Non-Discrimination	Oct. 31, 2022
GCAM Appendix D14	Clean Air and Water	Oct. 31, 2022
GCAM Appendix D15	Investigative Requirements	Oct. 31, 2022
GCAM Appendix D16	Travel and Transportation	Oct. 31, 2022
GCAM Appendix D17	Safety and Mishap Reporting	Oct. 31, 2022
GCAM Appendix D18	Made in America Encouragement	Oct. 31, 2022
GCAM Appendix D19	Investigation and Research Misconduct	Oct. 31, 2022
GCAM Appendix D20	Allocation of Risk/Liability	Oct. 31, 2022
GCAM Appendix D21	Export Licenses	Oct. 31, 2022
GCAM Appendix D22	Restrictions on sale or transfer of technology to foreign firms or institutions.	Oct. 31, 2022

Unless otherwise specified, the terms and conditions in D1 to D22 and the requirements in 2 CFR 170, 175, 182 and 183 apply and are incorporated by reference. To view full text of these requirements and terms and conditions go to

<https://nasa.sharepoint.com/sites/GrantsPolicyandCompliance/SitePages/Regulations-and-Guidance.aspx> to view the NASA Grant and Cooperative Agreement Manual (GCAM).

Personal Identity Verification of Recipient Personnel (DEC 2014)

- (a) The Recipient shall comply with agency personal identity verification procedures identified in the contract that implement 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.
- (b) The Recipient shall account for all forms of Government-provided identification issued to the Recipient employees in connection with performance under this contract. The Recipient shall return such identification to the issuing agency at the earliest of any of the following, unless otherwise determined by the Government:
 - (1) When no longer needed for grant performance.
 - (2) Upon completion of the Recipient's employee's employment.
 - (3) Upon grant completion or termination.
- (c) The Grant Officer may delay final payment under a grant if the Recipient fails to comply with these requirements.
- (d) The Recipient shall insert the substance of this clause, including this paragraph (d), in all subcontracts or subagreements when their employees are required to have routine physical access to a Federally-controlled facility and/or routine access to a Federally-controlled information system. It shall be the responsibility of the Recipient to return such identification to the issuing agency in accordance with the terms set forth in paragraph (b) of this section, unless otherwise approved in writing by the Grant Officer.

[End of Provision]

Reporting Requirements Regarding Sexual Harassment, Other Forms of Harassment, or Sexual Assault (APR 2020)

- (a) The Principal Investigator (PI) and any Co-Investigator(s) (Co-I) identified on a NASA award are in a position of trust. These individuals must comport themselves in a responsible and accountable manner during the award period of performance, whether at the recipient's institution, on-line, or at locales such as field sites, facilities, or conferences/workshops. Above all, NASA wishes to assure the safety, integrity, and excellence of the programs and activities it funds.
- (b) For purposes of this term and condition, the following definitions apply:
 - (1) Administrative Leave/ Administrative Action: Any temporary/ interim suspension or permanent removal of the PI or Co-I, or any administrative action imposed on the PI or Co-I by the recipient under organizational policies or codes of conduct, statutes, regulations, or

executive orders, relating to activities, including but not limited to the following: teaching, advising, mentoring, research, management/ administrative duties, or presence on campus.

- (2) Finding/Determination: The final disposition of a matter involving sexual harassment or other form of harassment under organizational policies and processes, to include the exhaustion of permissible appeals exercised by the PI or Co-I, or a conviction of a sexual offense in a criminal court of law.
- (3) Other Forms of Harassment: Non-gender or non-sex-based harassment of individuals protected under federal civil rights laws, as set forth in organizational policies or codes of conduct, statutes, regulations, or executive orders.
- (4) Sexual harassment: May include but is not limited to gender or sex-based harassment, unwelcome sexual attention, sexual coercion, or creating a hostile environment, as set forth in organizational policies or codes of conduct, statutes, regulations, or executive orders.

(c) The recipient is required to report to NASA:

- (1) Any finding/determination regarding the PI or any Co-I¹ that demonstrates a violation of the recipient's policies or codes of conduct, relating to sexual harassment, other forms of harassment, or sexual assault; and/or
- (2) If the PI or any Co-I is placed on administrative leave or if any administrative action has been imposed on the PI or any Co-I by the recipient relating to any finding/determination or an investigation of an alleged violation of the recipient's policies or codes of conduct, statutes, regulations, or executive orders relating to sexual harassment, other forms of harassment, or sexual assault.² Such reporting must be submitted by the Authorized Organizational Representative (AOR) to NASA's Office of Diversity and Equal Opportunity at <https://missionstem.nasa.gov/term-condition-institutional-harassment-discr.html> within 10 business days from the date of the finding/determination, or the date of the placement of a PI or Co-I by the recipient on administrative leave or the imposition of an administrative action.³

(d) Recipient agrees to insert the substance of this term and condition in any

subaward/subcontract involving a co-investigator. Recipient will be responsible for ensuring that all reports, including those related to co-investigators, comply with this term and condition.

(e) Each report must include the following information:

- NASA Award Number;
- Name of PI or Co-I being reported;⁴

Type of Report: Select one of the following:

- Finding/Determination that the reported individual has been found to have violated the recipient's policies or codes of conduct, statutes, regulations, or executive orders relating to sexual harassment, other forms of harassment, or sexual assault; *or*

- Placement by the recipient of the reported individual on administrative leave or the imposition of any administrative action on the PI or any Co-I by the recipient relating to any finding/determination, or an investigation of an alleged violation of the recipient's policies or codes of conduct, statutes, regulations, or executive orders relating to sexual harassment, other forms of harassment, or sexual assault.

The recipient must also provide:

- A description of the finding/ determination and action(s) taken, if any; and/or
- The reason(s) for, and conditions of placement of the PI or any Co-I on administrative action or administrative leave.

The recipient, at any time, may propose a substitute investigator if it determines the PI or any Co-I may not be able to carry out the funded project or activity and/or abide by the award terms and conditions.

In reviewing the report, NASA will consider, at a minimum, the following factors:

- a. The safety and security of personnel supported by the NASA award;
 - b. The overall impact to the NASA-funded activity;
 - c. The continued advancement of taxpayer-funded investments in science and scientists; and
 - d. Whether the recipient has taken appropriate action(s) to ensure the continuity of science and that continued progress under the funded project can be made.
- (f) Upon receipt and review of the information provided in the report, NASA will consult with the AOR, or designee. Based on the results of this review and consultation, the Agency may, if necessary and in accordance with 2 CFR 200.338, assert its programmatic stewardship responsibilities and oversight authority to initiate the substitution or removal of the PI or any Co-I, reduce the award funding amount, or where neither of those previous options is available or adequate, to suspend or terminate the award. Other personnel supported by a NASA award must likewise remain in full compliance with the recipient's policies or codes of conduct, statutes, regulations or executive orders relating to sexual harassment, other forms of harassment, or sexual assault. With regard to any personnel not in compliance, the recipient must make appropriate arrangements to ensure the safety and security of other award personnel and the continued progress of the funded project. Notification of these actions is not required under this term and condition.

Other personnel supported by a NASA award must likewise remain in full compliance with awardee policies or codes of conduct, statutes, regulations, or executive orders relating to sexual harassment, other forms of harassment, or sexual assault. With regard to any personnel not in compliance, the awardee must make appropriate arrangements to ensure the safety and security of other award personnel and the continued progress of the funded project. Notification of these actions is not required under this term and condition.

¹ If a co-I is affiliated with a subrecipient organization, the AOR of the subrecipient must provide the requisite information directly to NASA and to the recipient. The subrecipient must act in accordance

with Title 2 of the Code of Federal Regulations, Section 200.331, Requirements for Pass-Through Entities.

² Recipient findings/determinations and placement of a PI or Co-I on administrative leave or the imposition of an administrative action must be conducted in accordance with organizational policies and processes. They also must be conducted in accordance with federal laws, regulations, and executive orders.

³ Such report must be provided regardless of whether the behavior leading to the finding/determination, or placement on administrative leave, or the imposition of an administrative action occurred while the PI or Co-I was carrying out award activities.

⁴ Only the identification of the PI or Co-I is required. Personally identifiable information regarding any complainants or other individuals involved in the matter must not be included in the report. In the rare circumstance that information regarding a PI or Co-I is subject to the Family Educational and Privacy Act, 20 U.S.C. § 1232g and its implementing regulations, 35 C.F.R. Part 99, the recipient shall comply with those requirements.

[End of Provision]

Reporting of Matters Related to Recipient Integrity and Performance (JAN 2023)

1. General Reporting Requirement

If the total value of your currently active grants, cooperative agreements, and procurement contracts from all Federal awarding agencies exceeds \$10,000,000 for any period of time during the period of performance of this Federal award, then you as the recipient during that period of time must maintain the currency of information reported to the System for Award Management (SAM) about civil, criminal, or administrative proceedings described in paragraph 2 of this award term and condition. This is a statutory requirement under section 872 of [Public Law 110-417](#), as amended ([41 U.S.C. 2313](#)). As required by section 3010 of [Public Law 111-212](#), all information posted in the designated integrity and performance system on or after April 15, 2011, except past performance reviews required for Federal procurement contracts, will be publicly available.

2. Proceedings About Which You Must Report

Submit the information required about each proceeding that:

- a. Is in connection with the award or performance of a grant, cooperative agreement, or procurement contract from the Federal Government;
- b. Reached its final disposition during the most recent five-year period; and
- c. Is one of the following:
 - (1) A criminal proceeding that resulted in a conviction, as defined in paragraph 5 of this award term and condition;
 - (2) A civil proceeding that resulted in a finding of fault and liability and payment of a monetary fine, penalty, reimbursement, restitution, or damages of \$5,000 or more;
 - (3) An administrative proceeding, as defined in paragraph 5 of this award term and condition, that resulted in a finding of fault and liability and your payment of either a monetary fine or penalty of \$5,000 or more or reimbursement, restitution, or damages in excess of \$100,000; or
 - (4) Any other criminal, civil, or administrative proceeding if:

- (i) It could have led to an outcome described in paragraph 2.c.(1), (2), or (3) of this award term and condition;
- (ii) It had a different disposition arrived at by consent or compromise with an acknowledgment of fault on your part; and
- (iii) The requirement in this award term and condition to disclose information about the proceeding does not conflict with applicable laws and regulations.

3. Reporting Procedures

Enter in the SAM Entity Management area the information that SAM requires about each proceeding described in paragraph 2 of this award term and condition. You do not need to submit the information a second time under assistance awards that you received if you already provided the information through SAM because you were required to do so under Federal procurement contracts that you were awarded.

4. Reporting Frequency

During any period of time when you are subject to the requirement in paragraph 1 of this award term and condition, you must report proceedings information through SAM for the most recent five-year period, either to report new information about any proceeding(s) that you have not reported previously or affirm that there is no new information to report. Recipients that have Federal contract, grant, and cooperative agreement awards with a cumulative total value greater than \$10,000,000 must disclose semiannually any information about the criminal, civil, and administrative proceedings.

5. Definitions

For purposes of this award term and condition:

- a. Administrative proceeding means a non-judicial process that is adjudicatory in nature in order to make a determination of fault or liability (e.g., Securities and Exchange Commission Administrative proceedings, Civilian Board of Contract Appeals proceedings, and Armed Services Board of Contract Appeals proceedings). This includes proceedings at the Federal and State level but only in connection with performance of a Federal contract or grant. It does not include audits, site visits, corrective plans, or inspection of deliverables.
- b. Conviction, for purposes of this award term and condition, means a judgment or conviction of a criminal offense by any court of competent jurisdiction, whether entered upon a verdict or a plea, and includes a conviction entered upon a plea of nolo contendere.
- c. Total value of currently active grants, cooperative agreements, and procurement contracts includes—
 - (1) Only the Federal share of the funding under any Federal award with a recipient cost share or match; and
 - (2) The value of all expected funding increments under a Federal award and options, even if not yet exercised.

[End of Provision]

GCAM Appendix D5. Extensions (MAR 2024)

- (a) It is NASA's policy to provide maximum possible continuity in funding award-supported research and educational activities. Therefore, awards may be extended for additional periods of time when necessary to complete work that was part of the original award. NASA generally only approves such extensions within funds already made available. Any extension that would require additional funding must be supported by a proposal submitted at least three months in advance of the end date of the period of performance.
- (b) Recipients may extend the expiration date of an award if additional time beyond the established end date is required to assure adequate completion of the original scope of work within the funds already made available. For this purpose, the recipient may make a one-time no-cost extension, not to exceed 12 months, prior to the established expiration date. Written notification of such an extension, with a supporting justification, must be submitted to the NASA Grant Officer via the NSSC's [no-cost extension webform](#) at least ten days prior to the expiration of the award. NASA reserves the right to disapprove the extension if the requirements set forth at 200.308 (e)(2), Revision of budget and program plans, are not met.
- (c) Requests for approval for subsequent no-cost extensions must be submitted in writing to the NASA Grant Officer via the NSSC's [no-cost extension webform](#).

[End of Term and Condition]

GCAM Appendix D8. Financial Management (DEC 2023)

- (a) Advance payments will be made by the Financial Management Office of the NASA Center assigned financial cognizance of the award using the Department of Health and Human Services' Payment Management System (PMS), in accordance with procedures provided to the recipient. In accordance with [2 CFR §200.328](#), the recipient shall submit a Federal Financial Report (FFR) electronically within PMS within 30 days following the end of each NASA reporting period (i.e. April 1 – September 30, and October 1 – March 31).
- (b) In addition, the recipient shall submit a final Federal Financial Report (FFR) electronically within PMS within 120 calendar days after the end date of the period of performance. The final FFR shall pertain only to the completed award and shall include total disbursements from inception through completion. The report shall be marked "Final." The final FFR shall be submitted to NASA per the Grants and Cooperative Agreement Manual ([GCAM](#)), Appendix F, Required Publications and Reports.

[End of Term and Condition]

GCAM Appendix D23. Cooperative Agreement (OCT 2022)

- (a) This award is a cooperative agreement and it is anticipated there will be substantial NASA involvement during performance of the effort. NASA and the Recipient mutually agree to the following statement of anticipated cooperative interactions which may occur during the performance of this effort:

The NASA Established Program to Stimulate Competitive Research (EPSCoR) and the State NASA EPSCoR Director for the cooperative agreement awardee mutually agree to the following statement of anticipated cooperative interactions that may occur during the performance of this research effort:

NASA EPSCoR shall be responsible for the following contributions to the joint activity:

1. Provide a NASA Technical for the project with overall responsibility for the technical direction for the NASA's portion of the effort.
2. Generate a project work-plan/flow chart that outlines the specific responsibilities of the awardee and the other project partners and monitor the project via an Integrated Master Schedule (IMS).
3. Act as the primary liaison between the EPSCoR science community and the NASA Mission Directorates (MD) that will be the users and beneficiaries of the capabilities developed by the awardee under this agreement.
4. Provide the interface between the project and NASA Mission Directorates and with the extended NASA technology community.
5. With the recipient and the other project partners, NASA will co-author papers, technical reports and presentations on the results of the research.
6. Provide a NASA Technical Monitor from the appropriate NASA Mission Directorate or Center to evaluate the annual progress of the awardee research team.
7. The NASA EPSCoR Project Office will meet annually with the eligible jurisdiction director and research teams to provide programmatic feedback.
8. The NASA EPSCoR Project Office will approve Technical Monitor reports, review annual and final reports and provide results to the appropriate Mission Directorate.

The Recipient shall be responsible for the performance of the following agreed objectives:

1. The submitting and awardee institution will be that of the jurisdiction's NASA EPSCoR Director.
2. The Director is responsible for oversight and overall administrative management of the project to assure compliance with NASA EPSCoR.
3. The Director is responsible for ensuring the timely reporting of the team's progress and accomplishment of its work.
4. The investigator responsible for the scientific direction and day-to-day management of the proposed work shall be listed as the Science-I (Sc-I).
5. The jurisdiction's NASA EPSCoR Director shall provide guidance and updates to the Sc-Is regarding NASA policy and direction from both an Agency technical perspective and from a NASA EPSCoR programmatic standpoint.
6. The Director shall maintain an awareness of NASA research and technology development priorities and jurisdiction research priorities.
7. As the primary point of contact for NASA regarding EPSCoR in the jurisdiction, the Director will

identify and develop opportunities for collaboration within the jurisdiction with existing EPSCoR and EPSCoR-like programs from other federal agencies.

8.The NASA EPSCoR Director will consult with appropriate jurisdiction organizations, such as the economic development commission, in addressing jurisdiction research priorities.

9.The NASA EPSCoR Director will provide a Data Management Plan (DMP) or an explanation as to why one is not necessary given the nature of the work proposed.

10.Researchers will submit NASA-funded articles in peer-reviewed journals or conference papers through NASA's STRIVES . <https://strives.nasa.gov/submit>

11.The EPSCoR Director will submit reports in the Research Performance Progress Report (RPPR) format and special requests from the NASA OSTEM Office.

12.Researchers will report all new technology/inventions via the New Technology Reporting System (eNTR) web <https://invention.nasa.gov/>

13.With the assistance of the EPSCoR Office, EPSCoR researchers will post their research on NASA TechPort Portal <https://techport.nasa.gov/home>

14.Collaborate with NASA and the other project personnel on writing and presenting papers at appropriate conferences and workshops.

(b) The terms “award” and “Recipient” mean “cooperative agreement” and “Recipient of cooperative agreement,” respectively, wherever the language appears in terms and conditions included in this agreement.

(c) NASA's ability to participate and perform its collaborative effort under this cooperative agreement is subject to the availability of appropriated funds and nothing in this cooperative agreement commits the United States Congress to appropriate funds therefore.

[End of Term and Condition]

GCAM Appendix D24. Performance Goals and Performance Measurement (OCT 2022)

Per 2 CFR § 200.208, Specific Conditions, NASA must ensure that award terms and conditions are consistent with the program design reflected in 2 CFR § 200.202, Program planning and design, and the Grant and Cooperative Agreement Manual (GCAM) section 5.0, Program Planning and Design. NASA must also ensure that terms and conditions include clear performance expectations of recipients per 2 CFR § 200.301, Performance measurement, and GCAM section 7.0, Performance Measurement.

[End of Term and Condition]

GCAM Appendix D25. Period of Performance, Budget Period, and Multiple Year Awards (OCT 2022)

Period of Performance

This award's total period of performance is 7/6/2023 to 7/5/2025. This period of performance does not commit NASA to fund the award beyond the currently approved budget period stated below.

Budget Period

This award's budget period is 7/6/2023 to 7/5/2025. This budget period denotes the time interval of the funded portion of this award during which the recipient is authorized to expend the funds awarded, including any funds carried forward pursuant to 2 CFR 200.308, Revision of budget and program plans.

[End of Term and Condition]

GCAM Appendix D29. Designation of New Technology Representative and Patent Representative (OCT 2022)

- (a) For purposes of administration of the term and condition entitled “New Technology,” or “Patent Rights” whichever is included, the following named representatives are hereby designated by the Grant Officer to administer such term and condition—
- New Technology Representative
 - Patent Representative
- (b) Reports of reportable items, and disclosure of subject inventions, interim reports, final reports, utilization reports, and other reports required by the term and condition, as well as any correspondence with respect to such matters, should be directed to the New Technology Representative, with notification to the Grant Officer, unless transmitted in response to correspondence or request from the Patent Representative. Inquires or requests regarding disposition of rights, election of rights, or related matters should be directed to the Patent Representative. This term and condition shall be included in any subaward/subcontract hereunder requiring a “New Technology” term and condition or “Patent Rights—Retention by the Contractor (Short Form)” term and condition unless otherwise authorized or directed by the Grant Officer. The respective responsibilities and authorities of the above named representatives are set forth in the Grants and Cooperative Agreement Manual.

[End of Term and Condition]

GCAM Appendix D33. Indirect Costs (OCT 2022)

Unless otherwise directed in 2 CFR 200, if during the course of this award, the approved indirect cost rate is revised, changed or removed, that rate must be applied, as allowed, to the covered direct costs that are expended during the time frame of that rate agreement. Any corrections, either up or down, to the approved budget submitted with the awarded application must be reflected in the awardees' records of costs and should be audited as such.

[End of Term and Condition]

GCAM Appendix D34. Access to Research Results (OCT 2022)

- (a) This award is subject to the requirements of the, “[NASA Plan: Increasing Access to the Results of Scientific Research](#),” which covers public access to digital scientific data and peer-reviewed publications. For purposes of this term and condition, the following definitions apply:
- (1) Awardee: Any recipient of a NASA grant or cooperative agreement, its investigators, and subrecipient (subaward or contract as defined in 2 CFR 200.1, Definitions) at any level.
 - (2) Final Peer-Reviewed Manuscript: The final text version of a peer-reviewed article disclosing the results of scientific research which is authored or co-authored by the Awardee or funded,

- in whole or in part, with funds from a NASA award, that includes all modifications from the publishing peer
- (b) review process, and all graphics and supplemental material prepared by the awardee.
 - (c) The recipient shall:
 - (1) Comply with their approved Data Management Plan submitted with its proposal, and as modified upon agreement by the recipient and NASA from time to time during the course of the period of performance.
 - (2) Ensure that any Final Peer-Reviewed Manuscript is submitted to the NASA-designated repository within one year of completion of the peer review process. NASA's instructions for completing the submission process are available on the NASA Scientific and Technical Information (STI) Program website at <https://sti.nasa.gov/>
 - (3) Ensure that any publisher's agreements entered into by an Awardee will allow for the Awardee to comply with these requirements including submission of Final Peer-Reviewed Manuscripts to the NASA-designated repository, as listed in paragraph (b)(2) of this term and condition, with sufficient rights to permit such repository to use such Final Peer-Reviewed Manuscript in its normal course, including rights to permit users to download XML and plain text formats.
 - (4) Hereby represent and warrant that Awardee has secured for recipient the right to submit the Final Peer-Reviewed Manuscript to the NASA-designated repository for use as set forth herein.
 - (5) Include in annual and final reports a list of Final Peer-Reviewed Manuscripts covered by this term and condition.

[End of Term and Condition]

GCAM Appendix D35. Restrictions on the Use of the NASA Seal, Insignia, Logotype, Program Identifiers, or Flags (OCT 2022)

- (a) In accordance with 14 CFR Part 1221, the NASA Seal, NASA Insignia, NASA Logotype, NASA Program Identifiers, and the NASA Flags are protected and shall be used exclusively to represent NASA, its programs, projects, functions, activities, or elements.
- (b) The use of these devices by recipients shall be governed by the requirements and restrictions set forth at 14 CFR §§ 1221.109-113. Requests for use of these devices by recipients shall be subject to the prior written approval of the NASA Grant Officer in conjunction with the NASA Headquarters, Office of Communications.
- (c) The use of these devices by recipients for any purpose other than as authorized by NASA regulations shall be prohibited. Their misuse shall be subject to the penalties authorized by statute, as set forth in 14 CFR §1221.115 and shall be reported as provided in 14 CFR §1221.116.

[End of Term and Condition]

GCAM Appendix D36. Prohibition on certain telecommunications and video surveillance services or equipment. (Oct. 2022)

- (a) Grant and cooperative agreement recipients and subrecipients are prohibited from obligating or expending grant funds to:
 - (1) Procure or obtain,

- (2) Extend or renew a contract to procure or obtain; or
- (3) Enter into contract (or extend or renew contract) to procure or obtain equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Pub. L. 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).
 - i. For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
 - ii. Telecommunications or video surveillance services provided by such entities or using such equipment.
 - iii. Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise, connected to the government of a covered foreign country.

[End of Term and Condition]

GCAM Appendix D38. Requirement to Obtain a Quotation from Small and/or Minority Businesses, Women's Business Enterprises, or Labor Surplus Area Firms (OCT 2022)

Pursuant to the requirements in 2 CFR § 200.321, Contracting with small and minority businesses, women's business enterprises, and labor surplus area firms, grant and cooperative agreement recipients shall, to the extent practicable, obtain at least one quotation in response to a recipient-issued Request for Quotation (RFQ) from a small and/or minority business, women's business enterprise, or labor surplus area firm when the acquisition of goods or services exceeds the simplified acquisition threshold (SAT) as defined in the Federal Acquisition Regulation (FAR) part 2.101, Definitions (currently the SAT is \$250,000). In the event that recipients are unable to obtain at least one quote from a small and/or minority business, women's business enterprise, or labor surplus area firm, a written justification indicating why this was not possible must be maintained in the recipient's records.

[End of Term and Condition]

GCAM Appendix D39. Conflict of Interest Policy Requirements (DEC 2023)

All NASA grant and cooperative agreement recipients shall comply with the conflict of interest policy and notification requirements in section 3.3, Conflicts of Interest Policy, of the *NASA Grant and Cooperative Agreement Manual* (GCAM), as amended by Grant Information Circular 23-07, Conflict of Interest Policy.

[End of Term and Condition]

- A. NF 1687, Block 3, Period of Performance, is changed to “7/6/2023 to 7/5/2025”.
- B. NF 1687, Block 12, Administrator is changed to “Racheal Down”.
- C. NF 1687, Block 12, Technical Officer is changed to “Ali Shaykhian”.
- D. NF 1687, Block 13, is updated to reflect the addition of the following applicable authorities:
 - 2CFR200
 - NASA and Grant Cooperative Agreement Manual.

REQUIRED PUBLICATIONS AND REPORTS
IN ACCORDANCE WITH 2 CFR 200, 2 CFR 1800, and the GCAM

Reports are valuable to ensure that NASA grant and cooperative agreement programs are efficient and effective. The recipients must keep such records and submit timely, complete, and accurate reports to the responsible NASA official or designee.

The recipient shall submit the publications and reports indicated below:

Acronyms used in this section:

CC – Closeout Contractor
e-NTR – NASA’s New Technology Reporting system
FMO – Financial Management Office
FSRS – Federal Funding Accountability and Transparency Act Subaward Reporting System
GO – Grant Officer
HHS/PMS – Department of Health and Human Services/Payment Management System
IPO – Industrial Property Officer
NESS – NF 1018 Electronic Submission System
NTR – New Technology Representative or New Technology Report
PO – Patent Counsel Office
STIPO – Scientific and Technical Information Program Office
TO – Technical Officer

	REPORTS	REPORT DUE/FREQUENCY	NASA REVIEWERS
X	Semi-annual Federal Financial Reports (FFR) <i>(Required for all grants and cooperative agreements except awards where invoicing is required per the terms and conditions of award)</i>	Within 30 days following the end of each NASA reporting period. (Ref. GCAM – Appendix D8) Submit reports to: HHS PMS (https://pms.psc.gov/)	GO
X	Annual Inventory Report of Federally-owned Property in Custody of the Recipient <i>(Required for all grants and cooperative agreements issued to nonprofit recipients not subject to exemptions in 2 CFR § 1800.312)</i>	No later than October 15 of each year. NOTE: Negative reports are not required. (Ref. GCAM – Appendix D9) Submit reports to: GO, IPO, FMO	FMO, IPO, GO

X	Performance Reports <i>(Required for all grants and cooperative agreements, unless period of performance is less than one year.)</i>	Annually, 60 days prior to the anniversary date of the grant/cooperative agreement (except final year). (Ref. GCAM – Appendix D3) Submit reports to: GO, TO, and NTR	TO, GO, NTR
X	Disclosure of Subject Inventions/Reportable Items (New Technology Report (NTR)) <i>(Required for all grants and cooperative agreements, except for those issued solely to support education programs.)</i>	Within 2 months after inventor discloses it to recipient. (Ref. GCAM - Appendix D10, Appendix D28 and Appendix D29) See e-NTR (https://invention.nasa.gov/) and term and condition D29 for submission instructions.	PO, TO, GO, NTR
X	Election of Title to a Subject Invention <i>(Required for all grants and cooperative agreements)</i>	Within 2 years of disclosure of a subject invention being elected, except in any case where publication, sale, or public use of the subject invention being elected has initiated the one-year statutory period wherein valid patent protection can still be obtained in the United States, then at least 60 days prior to the end of the statutory period. (Ref. GCAM - Appendix D10 and Appendix D28) See term and condition D29 for submission instructions.	PO, TO, GO
X	Interim New Technology Summary Report (NTSR) <i>(Required for all grants and cooperative agreements, except for those issued solely to support education programs.)</i>	Every 12 months from the grant/cooperative agreement's period of performance start date. (Note: Negative reports are required.) (Ref. GCAM –Appendix D10, Appendix D28, and Appendix D29) See e-NTR (https://invention.nasa.gov/) and term and condition D29 for submission instructions.	GO, NTR
X	Notification of Decision to Forego Patent Protection <i>(Required for all grants and cooperative agreements)</i>	As applicable, not less than 30 days before the expiration of the response period required by the relevant patent office.	PO, TO, GO

		(Ref. GCAM – Appendix D10 and Appendix D28) See term and condition D29 for submission instructions.	
X	Utilization of Subject Invention/Reportable Items (Required for all grants and cooperative agreements, except for those issued solely to support education programs.)	Every 12 months from the date a subject invention is elected. Note: Negative reports are required. (Ref. GCAM – Appendix D10 and Appendix D28) See term and condition D29 for submission instructions.	PO, TO, GO
	Annual NASA Form 1018 Property in the Custody of Contractors (Required for all grants and cooperative agreements with for-profit organizations)	Due not later than October 15 of each year. Note: Negative reports are required. (Ref. GCAM – Appendix D30) Submit reports to: NF 1018 Electronic Submission System (NESS)	FMO, IPO, GO
X	Federal Award Accountability and Transparency Act (FFATA or Transparency Act) Subaward Reporting (Required for all grants and cooperative agreement recipients that issue first-tier subawards above \$30,000) <i>EXEMPTION: If, in the previous tax year, the recipient or subrecipient had gross income, from all sources, under \$300,000, they are exempt from the requirements to report subawards.</i>	No later than the end of the month following the month in which the obligation was made. (For example, if the obligation was made on November 7, 2020, the obligation must be reported by no later than December 31, 2020.) (Ref. GCAM – Appendix D4) Submit reports to: FSRS (https://www.fsrs.gov/)	GO
X	FFATA or Transparency Act Executive Compensation Reporting Required for all grants and cooperative agreement recipients and subrecipients that meet the following criteria:	Recipients – Report by the end of the month following the month in which this award is made and annually thereafter. See example in the row above. Subrecipients – Report to the recipient by the end of the month following the month during which you make	GO (For prime awards only)

<p><i>i. The total Federal funding authorized to date under a Federal award equals or exceeds \$30,000 as defined in 2 CFR §170.320;</i></p> <p><i>ii. in the preceding fiscal year, you received—</i></p> <p><i>(A) 80 percent or more of your annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR § 170.320 (and subawards), and</i></p> <p><i>(B) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR § 170.320 (and subawards); and,</i></p> <p><i>iii. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at http://www.sec.gov/answers/execomp.htm.)</i></p> <p><i>EXEMPTION: If, in the previous tax year, the recipient had gross income from all sources under \$300,000, they are exempt from the requirements to</i></p>	<p>the subaward. See example in the row above.</p> <p>(Ref. GCAM – Appendix D4)</p> <p>Submit reports to: FSRS</p> <p>(https://www.fsrs.gov/)</p>	
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	<i>report the total compensation of the five most highly compensated executives of any subrecipient.</i>		
X	Data and Research Reporting (<i>Required for all grant and cooperative agreement recipients subject to the “Access to Research Results” terms and conditions</i>)	Recipients shall comply with the data reporting requirements described in their approved Data Management Plan. Final peer-reviewed manuscripts (accepted for publication) shall be submitted within one year of peer-review or publication by a journal, whichever is earlier. (<i>Ref. GCAM, Appendix D34, Access to Research Results</i>) Submission instructions: Submit to the NASA-designated repository per instructions found at https://sti.nasa.gov/submit-to-pubspace/	TO, STIPO
	FINAL REPORTS	REPORT DUE/FREQUENCY	NASA REVIEWERS
X	Final New Technology Summary Report (NTSR) (<i>Required for all grants and cooperative agreements, except for those issued solely to support education programs.</i>)	Within 120 days after the expiration date of the grant/cooperative agreement. (Note: Negative reports are required.) (<i>Ref. GCAM Appendix D10, Appendix D28, and Appendix D29</i>) See e-NTR (https://invention.nasa.gov/) and term and condition D29 for submission instructions.	PO, GO, NTR
X	Properly Certified Final Federal Financial Report (FFR) (<i>Required for all grants and cooperative agreements</i>)	Within 120 days after the expiration date of the grant/cooperative agreement. (<i>Ref. GCAM – Appendix D8</i>) Submit reports to: GO and nssc-closeout@mail.nasa.gov	FMO, GO
X	Final Performance Report (e.g., Summary of Research, Education Activity Report, etc.) (<i>Required for all grants and cooperative agreements</i>)	Within 120 days after the expiration date of the grant/cooperative agreement. (<i>Ref. GCAM – Appendix D3</i>) <i>For research related training program grants, the summary</i>	TO, GO, NTR

		<i>of research report is completed by the student.</i> Submit reports to: GO, TO, and NTR	
X	Final Inventory Report of Federally-owned Property <i>(Required for all grants and cooperative agreements issued to nonprofit recipients not subject to exemptions in 2 CFR § 1800.312).</i>	Within 120 days after the expiration date of the grant/cooperative agreement. <i>(Ref. GCAM – Appendix D9)</i> Submit reports to: GO, FMO, IPO	FMO, IPO, GO
	Final NASA Form 1018 NASA Property in the Custody of Contractors <i>(Required for grants and cooperative agreements with for-profit organizations)</i>	Within 120 days after the expiration of the grant or cooperative agreement. <i>(Ref. GCAM – Appendix D30)</i> Submit reports to: NF 1018 Electronic Submission System (NESS)	FMO, IPO, GO

For additional information, go to https://www.nsf.gov/bfa/dias/policy/fedrtc/appendix_a.pdf

(The National Science Foundation hosts the Federal RTC website).

	Reference	RTC Overlay	NASA
Prior Written Approval (prior approval).	200.407		
Use of grant agreements (including fixed amount awards), cooperative agreements, and contracts	200.407(a)		
Changes in principal investigator (PI), project leader, project partner, or scope of effort.	200.201(b)(5)	Required	Required
Cost sharing or matching	200.407(b)		
Use of unrecovered indirect costs, including indirect costs on cost sharing or matching.	200.306(c)	Waived	Waived
Use of current fair market value to determine the value of non-Federal entity donations of services and property for the purposes of cost sharing or matching.	200.306(d)(2)	Waived	Waived
Costs of the fair market value of equipment or other capital assets and fair rental charges for land when the Federal award supports activities that require use of equipment, buildings or land.	200.306(h)(2)	Required	Required
Program Income	200.407(c)		
Use of program income during the period of performance (additive method).	200.307(e)(2)	Waived	Waived ²⁰
Revision of budget and program plans	200.407(d)		
Change in the scope or the objective of the project or program.	200.308(c)(1)	Required	Required
Change in a key person specified in the application or Federal award.	200.308(c)(2)	Required	Required
Disengagement from the project for more than three months, or a 25 percent reduction in time devoted to the project by the approved Project Director (PD) or PI.	200.308(c)	Required	Required ²¹
Inclusion, unless waived, of costs that require prior approval in accordance with Subpart E -- Cost Principles.	200.308(c)(4)	Required	Required
Transfer of funds budgeted for participant support costs to other categories of expense.	200.308(c)(5)	Required	Required
Subawarding, transferring or contracting out of any work under a Federal award, including fixed amount subawards as described in 200.333. This provision does not apply to the acquisition of supplies, material, equipment or general support services.	200.308(c)(6)	Required	Required
Changes in the approved cost-sharing or matching provided by the non-Federal entity.	200.308(c)(7)	Required	Required
Need for additional Federal funding to complete the project.	200.308(c)(8)	Required	Required
Incur project costs 90 calendar days before the Federal awarding agency makes the award.	200.308(d)(1)	Waived	Waived
Incur project costs more than 90 calendar days pre-award.	200.308(e)(1)	Required	Required
Initiate a one-time extension of the period of performance by up to 12 months.	200.308(e)(2)	Waived	Waived
Subsequent no-cost extension or extension of more than 12 months.	200.308(e)(2)	Required	Required
Carry-forward of unexpended balances to subsequent funding periods.	200.308(e)(3)	Waived	Waived
Transfer amounts budgeted for indirect costs to absorb increases in direct costs, or vice versa.	200.308(e)(4)	Waived	Waived
Restrict the transfer of funds among direct cost categories or programs, functions and activities for Federal awards in which the Federal share of the project exceeds the simplified acquisition threshold and the cumulative amount of such transfers exceeds or is expected to exceed 10 percent of the total budget as last approved by the Federal awarding agency.	200.308(f)	Waived	Waived ^{22,23}
Making any fund or budget transfers between construction and non-construction work	200.308(h)(5)	Required	Required
Real Property	200.407(e)		
Encumber real property acquired with Federal funds.	200.311(b)	Required	Required
Transfer of title to the Federal awarding agency or to a third party.	200.311(c)(3)	Required	Required
Special arrangements and alterations costs incurred specifically for a Federal award.	200.462(a)	Required	Required
Equipment	200.407(f)		
Encumber equipment acquired with Federal funds.	200.313(c)(1)	Required	Required

Fixed amount subawards		200.407(g)		
	Subawards based on fixed amounts at any dollar amount, provided the subawards meet the requirements for fixed amount awards in 200.201.	200.33	Required	Required
Direct Costs		200.407(h)		
	Direct charge the salaries of administrative and clerical staff if all conditions in 200.413 are met, excluding 200.413(c)(3).	200.413(c)	Waived	Waived
Compensation -- personal services, paragraph (h)		200.407(i)		
	Directly charge payments of incidental activities for which supplemental compensation is allowable under written institutional policy (at a rate not to exceed institutional base salary).	200.430(h)(1)(ii)	Waived	Waived
	Faculty salary in excess of Institutional Base Salary (IBS).	200.430(h)(2)	Required	Required
	Intra-IHE faculty consulting on a Federal award that exceed a faculty member's base salary.	200.430(h)(3)	Waived	Waived
Compensation -- fringe benefits		200.407(j)		
	Severance payments to foreign nationals employed by the non-Federal entity outside the US that exceed the amounts customary in the US.	200.431(i)(4)	Required	Required
	Severance payments to foreign nationals employed by the non-Federal entity outside the US due to termination of the foreign national as a result of the closing of, or curtailment of activities by, the non-Federal entity in that country.	200.431(i)(5)	Required	Required
Entertainment costs		200.407(k)		
	Inclusion of costs of entertainment, including amusement, diversion, and social activities and any associated costs that have a programmatic purpose.	200.438	Required	Required
Equipment and other capital expenditures		200.407(l)		
	Direct charge capital expenditures for general purpose equipment.	200.439(b)(1)	Waived	Waived ^{22,24}
	Direct charge capital expenditures for buildings and land use.	200.439(b)(1)	Required	Required
	Direct charge capital expenditures for special purpose equipment over \$5,000.	200.439(b)(2)	Waived	Waived ^{22,24}
	Capital expenditures for improvements to land or buildings which materially increase their value or useful life.	200.439(b)(3)	Required	Required
Exchange rates		200.407(m)		
	Exchange rate fluctuations that result in the need for additional Federal funding, or a reduction in the scope of the project.	200.440(a)	Required	Required
Fines, penalties, damages and other settlements		200.407(n)		
	Costs resulting from non-Federal entity violations of, alleged violations of, or failure to comply with, Federal, State, tribal, local or foreign laws and regulations.	200.441	Required	Required
Fund raising and investment management costs		200.407(o)		
	Fund raising costs for the purposes of meeting the Federal program objectives.	200.442(a)	Required	Required
Goods or services for personal use		200.407(p)		
	Costs of housing (e.g. depreciation, maintenance, utilities, furnishings, rent), housing allowances and personal living expenses.	200.445(b)	Required	Required
Insurance and indemnification		200.407(q)		
	Costs of insurance or of contributions to any reserve covering the risk of loss of, or damage to, Federal Government property.	200.447(b)(2)	Required	Required
Memberships, subscriptions, and professional activity costs, paragraph (c)		200.407(r)		
	Costs of membership in any civic or community organization.	200.454(c)	Required	Required
Organization costs		200.407(s)		
	Costs such as incorporation fees, brokers' fees, fees to promoters, organizers or management consultants, attorneys, accountants, or investment counselor, whether or not employees of the non-Federal entity in connection with establishment or reorganization.	200.455	Required	Required
Participant support costs		200.407(t)		
	Transfer of funds into the participant support cost category.	200.456	Waived	Waived
	Transfer of funds budgeted for participant support costs to other categories of expense.	200.308(c)(5)	Required	Required
Pre-award costs		200.407(u)		
	Inclusion of allowable pre-award costs.	200.458	Waived	Waived
	Incur project costs 90 calendar days before the Federal awarding agency makes the	200.308(e)(1)	Waived	Waived

	Federal award.			
	Incur project costs more than 90 calendar days pre-award.	200.308(e)(1)	Required	Required
	Rearrangement and reconversion costs	200.407(v)		
	Direct charge special arrangements and alterations costs incurred specifically for a Federal award.	200.462(a)	Required	Required
	Selling and marketing costs	200.407(w)		
	Costs of selling and marketing any products or services of the non-Federal entity (unless allowed under §200.421).	200.467	Required	Required ²⁵
	Taxes (including Value Added Tax)	200.407(x)		
	Use of foreign tax reimbursement for approved activities under the Federal award.	200.470(c)	Required	Required
	Travel costs	200.407(y)		
	Inclusion of travel costs for officials covered by 200.444 General costs of government.	200.474(a)	Required	Required
	Travel costs for dependents for travel of duration of six months or more.	200.474(c)(2)	Required	Required
*	Any of the authorities may be over-ridden by a special term or condition of award.			
1	Except where specified otherwise in this matrix, the terms and conditions of award, or the applicable program solicitation or award notice.			
2	This action requires the prior written approval of the cognizant NSF Program Officer.			
3	Rearrangement and reconversion costs under \$25,000 may be approved by grantees.			
4	Unless funds are being moved into the "Other" category of participant support.			
5	Waived, funds added to the amount available for the project.			
6	Required for the PI and any other individuals specifically named in the Notice of Award.			
7	Waived, but costs not specifically covered in Subpart F are subject to the NIH Grants Policy Statement (NIHGPS).			
8	Waived, unless change in scope. For the purposes of Kirschstein-National Research Service Award (NRSA) programs, this term does not apply. NIH will continue to use the terms trainees, trainee-related expenses, and trainee travel in accordance with NRSA Regulations. Participant support costs are only allowable when identified in specific Funding Opportunity Announcements (FOAs).			
9	Waived unless change in scope and except when subrecipient is foreign.			
10	Waived except when Notice of Award indicates prior approval is required.			
11	Waived unless change in scope.			
12	Waived for alterations and renovations costing up to \$500,000, unless change in scope or rebudgeting into A&R exceeds 25% of budget period total. See Rearrangement and Reconversion Costs within NIH Grants Policy Statement Chapter 7.9.1.			
13	Required, participant support costs are only allowable when identified in specific Funding Opportunity Announcements (FOAs).			
14	This also is required for any co-PI/co-PD on the project.			
15	Only if the total amount of indirect costs charged to the project does not exceed the maximum allowed indirect costs or the institution's negotiated indirect cost rate, whichever is less.			
16	Waived except when: 1) subaward(s) would be more than 50% of the total dollars of the award or 2) subaward is to a federal agency. In these situations, prior approval is required.			
17	Except when the change is a reduction in the amount of approved cost-sharing/match in which case prior approval is required.			
18	If the cost of the equipment is appropriately prorated among the activities to be benefitted.			
19	Department of Commerce (DOC) permits non-Federal entities to own equipment upon acquisition without conditions or without obligation to the sponsor at termination of project, unless otherwise specified in a specific award condition. DOC permits trade in equipment to buy replacement equipment.			
20	With prior approval, may use to meet cost share requirement.			

21	Applies to PIs and co-PIs.			
22	Waived unless results in a change of scope.			
23	Waived unless total cost share amount is reduced from what was approved in budget.			
24	Waived if the cost of equipment is appropriately prorated among the activities to be benefitted.			
25	Pertains only to items produced under this award in which the Federal share was used for all or part of the development.			

**KSC
POINTS OF CONTACT**

Grants Officer	Attn: Grants Officer NASA Shared Services Center Procurement Office, Bldg 1111 Stennis Space Center, MS 39529 NSSC-Grant-Report@mail.nasa.gov NSSC-SF425FinancialReports@mail.nasa.gov
Technical Officer	Attn: Technical Officer NASA Kennedy Space Center Kennedy Space Center, FL 32899 See NF1687, Section 12
Industrial Property Officer	Attn: Industrial Property Officer NASA Kennedy Space Center Code TA-E1 Kennedy Space Center, FL 32899 Ksc-industrial-property-office@mail.nasa.gov
Patent Counsel Office	Attn: Patent Counsel Office NASA Kennedy Space Center Mail Code CC Kennedy Space Center, FL 32899 Shelley.Ford-1@nasa.gov
Health and Human Services Payment Management System (<i>For SF 425s</i>)	Attn: Division of Payment Management P. O. Box 6021 Rockville, MD 20852 https://pms.psc.gov/
<i>Financial Management Office (For commercial grants - invoices)</i>	Attn: FMD-Accounts Payable NASA Shared Services Center Building 1111, Jerry Hlass Road Stennis Space Center, MS 39529 NSSC-AccountsPayable@nasa.gov Phone Number: 877-677-2123 (877-NSSC123) Fax Number: 866-779-6772
Financial Management Office (<i>For inquiries</i>)	Attn: FMD-Grants NASA Shared Services Center Building 1111, Jerry Hlass Road Stennis Space Center, MS 39529 NSSC-ContactCenter@nasa.gov Phone Number: 877-677-2123 (877-NSSC123) Fax Number: 866-779-6772
Financial Management Office (<i>For Annual and Final Inventory Reports of Federally-Owned Property</i>)	Attn: Financial Management Office NASA Kennedy Space Center M6-0399:2232L Kennedy Space Center, FL 32899 Kimberly.A.Smurthwaite@nasa.gov

NASA Center for AeroSpace Information (CASI)

Attn: Document Processing Section
7121 Standard Drive
Hanover, MD 21076
eft_ftp@sti.nasa.gov

New Technology Office

Attn: Technology Transfer Office
NASA Kennedy Space Center
Mail Code UB-T
Kennedy Space Center, FL 32899
Megan.E.Victor@nasa.gov
nasa-contract-compliance-T2@mail.nasa.gov

Recipients should submit the new technology
interim and final report electronically via e-NTR
at <http://invention.nasa.gov>.

Scientific & Technical Information Office (STIO)

Attn: Truemilla Johnson
NASA Kennedy Space Center
Kennedy Space Center, FL 32899
Truemilla.A.Johnson@nasa.gov
eft_ftp@sti.nasa.gov

Closeout (*for final reports*)

Recipients should submit final reports
electronically to:
NSSC-closeout@mail.nasa.gov

NASA Office of Inspector General

NASA Office of Inspector General
1-800-424-9183
Or Write:
P.O. Box 23089
L'Enfant Plaza Station
Washington, D.C. 20026

To report suspected fraud, waste or abuse of Federal
funds go to: OIG hotline can be accessed through
<https://oig.nasa.gov/hotline.html>

Office of Diversity and Equal Opportunity

Director, Complaints Management Division
NASA Headquarters
Office of Diversity and Equal Opportunity
300 E St. SW
Rm. 6P83
Washington, DC 20546

To file a complaint regarding denial of equal opportunity
or discrimination based on race, color, national origin,
sex, disability, or age; go to:
<http://missionstem.nasa.gov/filing-a-complaint.html>