



**BROAD AGENCY ANNOUNCEMENT**

**ENABLING SUPPORT EQUIPMENT and SERVICES FOR  
INTERNATIONAL SPACE STATION (ISS) AS A NATIONAL LAB**

**REFERENCE NUMBER: NNH10CAO001K**

**PROPOSALS DUE**

**Open Proposal Period through December 31, 2011**

**Issued: April 23, 2010**

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
SPACE OPERATIONS MISSION DIRECTORATE**

## PART ONE: OVERVIEW INFORMATION

- **Federal Agency Name** – NASA (National Aeronautics and Space Administration)
- **Funding Opportunity Title** – ENABLING SUPPORT EQUIPMENT AND SERVICES FOR INTERNATIONAL SPACE STATION AS A NATIONAL LAB
- **Full Announcement** - [http://www.nasa.gov/mission\\_pages/station/science/nlab/](http://www.nasa.gov/mission_pages/station/science/nlab/)
- **Announcement Type** –Broad Agency Announcement
- **Funding Opportunity Number** – Broad Agency Announcement (NNH10CAO001K)
- **NAICS Code** - 541712 - Research and Development in the Physical, Engineering, and Life Sciences (except Biotechnology)
- **Dates**
  - Posting Date: 23 April 2010
  - White Paper Due Date: 4 PM EDT on 1 October 2011
  - Proposal Due Date: 4 PM EDT on 16 November 2011
- **Anticipated individual awards** – Multiple awards are anticipated
- **Types of instruments that may be awarded** -- Procurement contract, grant, cooperative agreement or other transaction.
- **Agency contact** - The BAA Coordinator for this effort can be reached at [jason.c.crusan@nasa.gov](mailto:jason.c.crusan@nasa.gov)

The National Aeronautics and Space Administration (NASA) is operating a share of the United States accommodations on the International Space Station (ISS) as a national laboratory in accordance with Section 507 of the NASA Authorization Act of 2005 (P.L. 109-155). NASA seeks to increase the utilization of the ISS by other federal entities and the private sector. To facilitate and increase such utilization of the ISS, NASA is providing access to the ISS for the conduct of basic and applied research, technology development and industrial processing (collectively, R&D) to U.S. federal, state and local government entities, and to U.S. private entities (including, but not limited to, commercial firms, non-profit institutions, and academic institutions) as part of the national laboratory.

NASA is soliciting these proposals from two announcements of opportunity. The first call, "OPPORTUNITY FOR THE USE OF THE INTERNATIONAL SPACE STATION BY DOMESTIC ENTITIES OTHER THAN U.S. FEDERAL GOVERNMENT AGENCIES." - NNH09CAO0030 anticipates using NASA's authority to enter into Non-reimbursable Space Act Agreements to support national laboratory activities, including providing necessary access to NASA facilities, personnel and technical information, however, there will be no provision of funds in connection with this opportunity.

This opportunity is focused on U.S private entities and is seeking proposals from domestic entities other than U.S. federal government agencies. This Broad Agency Announcement, however anticipates using NASA's authority to enter into contracts, grants, and cooperative agreements or other transactions to support national laboratory activities where funding is required. Activities related to expanding the use of the International Space Station include providing individual payload integration and operations support services, or by making available support equipment and instrumentation that expand the capabilities of the ISS.

Participation in this National Lab Opportunity will be contingent upon selection by NASA and negotiation of an appropriate Agreement between NASA and the Offeror. Concepts are sought in two (2) general mission thrust areas: Payload Integration & Operations Services, and Support Equipment and Instrumentation Capabilities for Utilization of ISS. Responses for any thrust area may be submitted at any time while this solicitation is open. NASA may publish groups of special topics as modifications to this BAA throughout the year.

This announcement is not intended to solicit concepts for ISS utilization management organizations, or ISS user development support. It is not to be confused with concepts that involve the establishment of new institutes, government corporations, non-government organizations, non-profit institutions, strategic partnerships, cooperative agreements, grants, or contracts that involve any form of management organization for ISS-based utilization. This announcement is limited to the acquisition of products and services necessary to execute specific missions under the ISS national laboratory initiative specifically to the thrust areas covered by this announcement.

## **PART TWO: FULL TEXT OF ANNOUNCEMENT**

### **I. Funding Opportunity Description**

The BAA will be posted on the NASA Acquisition Internet Service (NAIS) website, <http://prod.nais.nasa.gov/cgi-bin/eps/bizops.cgi?gr=D&pin=04>. The following information is for those responding to the BAA.

#### **A. Program Overview**

The Space Operations Mission Directorate (SOMD) of NASA is soliciting white papers and proposals that will make available support equipment and services for use of the International Space Station as a National Lab. Support equipment may include 1) integrated systems, or 2) critical systems components, or 3) new capabilities, which incorporate advanced technologies, and which enable improvements to the capability, efficiency and effectiveness of the ISS as a National Lab. Services may include project-specific payload integration and operations support on an as needed basis in response to specific requirements as they emerge.

NASA seeks white paper and proposal responses relating to two (2) mission thrust areas (“mission thrusts”):

1. Payload Integration and Operations Support Services
2. Support Equipment and Instrumentation

Responses to the thrust areas may be submitted at any time during the open period of this solicitation.

Proposers are strongly encouraged to initially submit a six page white paper describing the proposer’s concept prior to submitting a proposal. The NASA point of contact may request further information related to the idea in the white paper. This procedure is intended to minimize unnecessary effort in proposal preparation and review. Submission of a white paper is not required prior to submitting a full proposal.

Proposers are encouraged to review and monitor NASA’s public website for the National Lab at [http://www.nasa.gov/mission\\_pages/station/science/nlab/index.html](http://www.nasa.gov/mission_pages/station/science/nlab/index.html) in order to better understand past and recent ISS National Lab efforts.

The white paper(s) is an opportunity for the proposers to receive feedback regarding the relevance of their idea to the ISS as a National Lab and to have NASA personnel review their proposed technical concept.

For the purposes of this BAA, relevance to the ISS National Lab for white papers and proposals is defined as follows:

1. The proposed effort is evaluated as applicable to the thrust areas.
2. The submission is suitably structured to enable ISS National Lab projects.
3. The proposed effort would be considered within the funding availability for this BAA.

White papers will be evaluated based on relevance to the National Lab per the above criteria and on a preliminary assessment of the scientific or technical merit. Depending on the evaluation, white papers will receive a letter encouraging or discouraging the submission of a full proposal.

However, favorable response to a white paper is not an assurance that a full proposal will ultimately be selected for award.

Full proposals must first be deemed acceptable under the evaluation criteria “Relevance to the National Lab” (see Sec. V.) to receive a full review. Proposals that are determined not to be relevant to the National Lab mission will receive a “Non-Responsive” letter. Proposals deemed relevant to the National Lab mission will be fully reviewed and evaluated. The submission and review of a white paper, is not required prior to submitting a proposal.

During the open period of this solicitation, NASA may publish amendments to this solicitation which seek white papers and proposals for “Special Topics”. Proposers are encouraged to monitor the NAIS (<http://prod.nais.nasa.gov/cgi-bin/eps/bizops.cgi?gr=D&pin=04>) for such modifications to NASA NNH10CAO001K.

## **B. ISS as a National Lab Mission, Goals and Strategy**

### **1. National Lab Mission**

The ISS National Lab mission is to enable research and technology development on the ISS for the missions of other U.S. government agencies, non-profit institutions and private firms.

### **2. National Lab Goals**

- 2.a To enable use of the ISS for research and technology development for U.S. government agencies, non-profit institutions and private firms who wish to use the unique aspects of the ISS.
- 2.b To improve the access to the ISS for research and technology development for U.S. government agencies, non-profit institutions and private firms.
- 2.c To improve the capabilities of the ISS for research and technology development for U.S. government agencies, non-profit institutions and private firms.

### **3. National Lab Strategy**

- 3.a Identify the applications of the unique aspects of the ISS that provide breakthrough opportunities for U.S. government agencies, non-profit

institutions and private firms in research and technology development including:

- (i) Biotechnology
- (ii) Energy and biofuels
- (iii) Materials development
- (iv) Engineering, research and technology development, and
- (v) Remote sensing

- 3.b Enable use of the ISS by U.S. government agencies, non-profit institutions and private firms through simplified access to ISS and improved capabilities for research and technology development both on the ground and on orbit.

## **C. Overview of National Lab Thrusts**

NASA seeks technological concepts related to the National Lab Thrust Areas. The topics listed in the Thrust Areas below span the broad interests of NASA but should not be considered as the entire scope. NASA welcomes white papers and proposals in all areas relevant to the National Lab mission, not only those listed in this document.

### **1. Payload Integration and Operations Support Services**

NASA is interested in providing advanced payload integration systems to enable utilization of ISS for a broad range of research and technology development. There is an emphasis on systems or process that would enable new areas of research or production not currently available on ISS. Support services may include project-specific payload integration and operations support on an as needed basis in response to specific requirements as they emerge.

### **2. Support Equipment and Instrumentation**

NASA is interested in concepts that advance the capabilities of the ISS for utilization including 1) providing standard interfaces that simplify and enable multiple research areas, 2) expand the on orbit capabilities to allow for in-situ analysis and evaluation of payload results, and 3) expand the on orbit capabilities to allow for more sophisticated operations on board.

## **II. Award Information**

Multiple awards are anticipated. The number of awards made under this BAA will depend on the quality of the proposals received and the availability of funds.

The Government reserves the right to select for negotiation all, multiple, one, or none of the proposals received in response to this Announcement, and to make awards without discussions with proposers. The Government also reserves the right to conduct discussions if it is later determined to be necessary. If warranted, portions of resulting awards may be segregated into pre-priced options. Additionally, NASA reserves the right to accept proposals in their entirety or to select only portions of proposals for award. In the event that NASA desires to award only

portions of a proposal, negotiations may be opened with that proposer. If the proposed effort is inherently divisible and nothing is gained from the aggregation, proposers should consider submitting it as multiple independent efforts. The Government reserves the right to fund proposals in phases with options for continued work at the end of one or more of the phases.

Awards under this BAA will be made to proposers on the basis of the evaluation criteria listed below (see section labeled “Application Review Information”, Sec. V.), and program balance to provide overall value to the Government. Proposals identified for negotiation may result in a contract, grant, cooperative agreement, or other transaction depending upon the nature of the work proposed, the required degree of interaction between parties, and other factors. The Government reserves the right to request any additional, necessary documentation once it makes the award instrument determination. Such additional information may include but is not limited to Representations and Certifications. The Government reserves the right to remove proposers from award consideration should the parties fail to reach agreement on award terms, conditions and cost/price within a reasonable time or the proposer fails to timely provide requested additional information. Any requests for or assumptions regarding, Government Furnished Equipment (GFE) or Government Furnished Information (GFI) should be clearly stated in the proposal.

### **III. Eligibility Information**

#### **A. Eligible Applicants**

Participation in this BAA will be open to most categories of organizations (U.S. and non-U.S.) including educational institutions, industry, not-for-profit organizations, Federally Funded Research and Development Centers (FFRDCs). Proposals will not be accepted from NASA Centers and other Government agencies.

Foreign participants and/or individuals are eligible to be part of teams on a no-exchange of funds basis. Foreign participants and/or individuals will need to comply with any necessary Non-Disclosure Agreements, Security Regulations, Export Control Laws, and other governing statutes applicable under the circumstances.

All responsible sources capable of advancing the ISS National Lab’s needs may submit a proposal that shall be considered by NASA. Historically Black Colleges and Universities (HBCUs), Small Businesses, Small Disadvantaged Businesses and Minority Institutions (MIs) are encouraged to submit proposals and join others in submitting proposals; however, no portion of this announcement will be set aside for these organizations’ participation due to the impracticality of reserving discrete or severable areas of this research for exclusive competition among these entities.

## **IV. Application and submission information**

### **A. Address to Request Application Package**

This solicitation contains all information required to submit a proposal. No additional forms, kits, or other materials are needed. This notice constitutes the total BAA. No additional information is available, nor will a formal Request for Proposal (RFP) or additional solicitation regarding this announcement be issued. Requests for same will be disregarded.

### **B. Content and Format of Application Submission**

#### **1. Security and Proprietary Issues**

The Government anticipates proposals submitted under this BAA will be unclassified.

**Proprietary Data:** All proposals containing proprietary data should have the cover page and each page containing proprietary data clearly marked as containing proprietary data. It is the Proposer's responsibility to clearly define to the Government what is considered proprietary data.

#### **2. White Paper and Proposal Submission Information**

Proposers are strongly encouraged to submit a white paper in advance of a full proposal. The NASA POC may contact you via written letter or email to further clarify the aspects of the idea in the white paper. This procedure is intended to minimize unnecessary effort in proposal preparation and review. White papers and proposals may be submitted at any time prior to the date and time specified in Section IV. C. NASA will acknowledge receipt of all submissions and assign a control number that should be used in all further correspondence regarding these submissions.

NASA will respond to white papers with a letter encouraging or discouraging the submission of a full proposal based on the proposed effort's relevance to the National Lab mission and a preliminary assessment of the scientific or technical merit of the concept.

NASA will to reply to white papers via letter within sixty (60) calendar days of receipt. Regardless of NASA's response to a white paper, proposers may submit a full proposal. All full proposals deemed acceptable under the evaluation criterion "Relevance to the National Lab Mission," will be reviewed using the evaluation criteria and without regard to any comments resulting from the review of a white paper.

Proposers are required to submit full proposals by the time and date specified in the BAA.

The typical proposal should express a consolidated effort in support of one or more related technical concepts or ideas. Disjointed efforts should not be combined into a single proposal.

Restrictive notices notwithstanding, proposals may be handled, for administrative purposes only, by a support contractor. This support contractor is bound by appropriate nondisclosure requirements.

Proposals not meeting the format described below in the BAA may not be reviewed.

All administrative correspondence and questions on this solicitation, including requests for information on how to submit a white paper or full proposal to this BAA, should be directed to one of the administrative addresses below; e-mail or fax is preferred.

BAA Coordinator email: [jason.c.crusan@nasa.gov](mailto:jason.c.crusan@nasa.gov)

Additional information is available at:

[http://www.nasa.gov/mission\\_pages/station/science/nlab/index.html](http://www.nasa.gov/mission_pages/station/science/nlab/index.html)

NASA encourages the use of the NAIS website, <http://prod.nais.nasa.gov/cgi-bin/eps/bizops.cgi?gr=D&pin=04>, for retrieving the BAA and any other related information that may subsequently be provided.

### ***2.a White Paper Format***

White paper submissions are encouraged in advance of full proposals in order to provide potential proposers with a rapid response to minimize unnecessary effort. White papers should follow the same general format as described for Volume I Technical and Management Proposal (see below), but should only include Sections I and II described in Proposal Content below. The cover sheet should be clearly marked “WHITE PAPER” and the total length shall not exceed 6 pages, excluding cover page and official transmittal letter. A page is defined as being no larger than electronically formatted page of 8.5” by 11.0” with type not smaller than 12 point. Smaller font may be used for figures, tables and charts. The page limitation for white papers includes all figures, tables, and charts. No formal transmittal letter is required. All white papers must be written in English.

### ***2.b Full Proposal Format***

All full proposals must be in the format given below. Nonconforming proposals may be rejected without review. Proposals shall consist of two volumes. All pages shall be electronically formatted for a page of 8.5” by 11.0” with type not smaller than 12 point. Smaller font may be used for figures, tables and charts. The page limitation for full proposals includes all figures, tables, and charts. Volume I, Technical and Management Proposal, described in Proposal Content below, may include an attached bibliography of relevant technical papers or research notes (published and unpublished) which document the technical ideas and approach upon which the proposal is based. Copies of not more than three (3) relevant papers can be included with the submission. The bibliography and attached papers are not included in the page counts given below. The submission of other supporting materials along with the proposals is strongly discouraged and will not be considered for review. Volume I shall not exceed 20 pages, (40 pages if the proposal dollar value is > \$1 million) excluding the bibliography and Section I.

Maximum page lengths for each section are shown in braces { } below. All full proposals must be written in English.

### **3. Proposal Content– Proposals with a Dollar Value of \$1 Million or Less (Total all Phases)**

#### ***3.a Volume I--Technical and Management Proposal***

(Topics in **Bold** cross –reference to Evaluation Criteria)

#### Section I. Administrative {not included in the page count}

A. Cover sheet to include:

- (1) BAA number (NNH10CAO001K)
- (2) Proposal title
- (3) Lead Organization submitting proposal
- (4) Type of business, selected among the following categories: “LARGE BUSINESS”, “SMALL DISADVANTAGED BUSINESS”, “OTHER SMALL BUSINESS”, “HBCU”, “MI”, “OTHER EDUCATIONAL”, OR “OTHER NONPROFIT”
- (5) Contractor’s reference number (if any)
- (6) Other team members (if applicable) and type of business for each
- (7) BAA thrust Area Addressed: (i.e. 1.Payload Integration and Operations Support Services)
- (8) Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available)
- (9) Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available),
- (10) Total funds requested from NASA, and the amount of cost share (if any) AND
- (11) Date proposal was submitted.

B. Official transmittal letter.

#### Section II. Summary of Proposal {3}

*Note: The Summary of Proposal should not have any unique information not contained in the Detailed Proposal Information.*

- A. **Innovation.** Succinctly describe the uniqueness and benefits of the proposed research, payload accommodation, or commercial pilot program relative to the current state-of-art or alternate approaches. Provide a basic description of the potential benefit to the public, such as development of future products and services contributing to U.S. industrial capacity and economic growth or improving STEM education.
- B. **Results.** Provide a short description of the results, products, or process that may be expected at the end of the Phase.
- C. **Technical Rationale.** Provide a short description of the impact of the proposed development on National Lab mission capabilities, efficiency, or effectiveness.
- D. **Technical Approach.** Provide a short description of the technical approach and constructive plan for accomplishment of technical goals in support of claims and deliverable production.

- E. **Experience.** Provide a short general discussion of other research by corporate team members in the proposed technology area.
- F. **Cost.** Provide rationale for the proposal cost and duration for the initial phase.

### Section III. Detailed Proposal Information {17}

#### A. Statement of Work (SOW)

1. **Objectives.** Provide a general description of the proposal technical objective and a general description of each major task/activity. Provide a detailed description of the uniqueness and benefits of the proposed innovation relative to the current state of the art in Government, Industry and Academia as applicable.
2. **Technical Approach.**
  - a. Provide a detailed description of the approach to be taken to accomplish each major task/activity in support of claims and deliverable production.
  - b. Provide a top level schedule for the major tasks.
  - c. Where the effort could reasonably be partitioned into an initial and future phases, the future phases should be identified as options.
3. **Deliverables.** Define all deliverables (reporting, data, reports, hardware, software, technology, products etc.) to be provided to the Government in support of the proposed tasks/activities.

*Note: It is recommended that the SOW should be developed so that each phase of the project is separately defined distinct and does not overlap. Do not include any proprietary information in the SOW.*

#### B. Technical Rationale.

1. Provide the technical rationale for the objective requirement including technology advancements and value-added to the National Lab capabilities.
2. Provide technical rationale, scientific basis, and any supporting analysis for the technical approach for each major task/activity.
3. Provide a comparison of the technical objectives and technical approach with other ongoing research and existing state-of-the-art, indicating advantages and disadvantages of the proposed effort.
4. Describe the potential benefit to the public, such as development of future products and services contributing to U.S. industrial capacity and economic growth or improving STEM education.

#### C. Results.

1. Describe the results, products, or process and expected utilization and commercial development paths.
2. Provide a description of all proprietary claims to the results, prototypes, intellectual property, or systems. If there are no proprietary claims, this must be stated. For forms to be completed regarding intellectual property. See Section VIII. Intellectual Property. There will be no page limit for the listed forms.

- #### D. Experience.
- Describe the unique capabilities of project and corporate team members. Describe the proposer's previous accomplishments and work in closely related research or commercial areas.

E. **Facilities.** Provide a description of any unique facilities necessary for execution of the proposed effort that would be used for the proposed effort.

F. **Organization.**

1. Describe the programmatic relationship of corporate team members
2. Describe the responsibilities of corporate and project team members
3. Describe the teaming strategy among the team members
4. Identify the key personnel
5. Submit a clearly defined organization chart for the project team

Section IV. Additional Information {No page limit}

Proposals should be self contained, and include all relevant information required to review the proposed research effort. A brief bibliography should be included of relevant technical papers and research notes which document the technical ideas upon which the proposal is based. Copies of no more than three (3) relevant papers may be included in the submission as supporting information.

***3.b Volume II--Cost Proposal {No Page Limit}***

(Topics in **Bold** cross –reference to Evaluation Criteria)

Section I. Administrative

Cover sheet to include:

- (1) BAA number (NNH10CI0001K);
- (2) Proposal title;
- (3) Lead Organization submitting proposal;
- (4) Type of business, selected among the following categories: “LARGE BUSINESS”, “SMALL DISADVANTAGED BUSINESS”, “OTHER SMALL BUSINESS”, “HBCU”, “MI”, “OTHER EDUCATIONAL”, OR “OTHER NONPROFIT”;
- (5) Contractor’s reference number (if any);
- (6) Other team members (if applicable) and type of business for each;
- (7) BAA Technical Thrust Area Addressed: (i.e. 1.Payload Integration and Operations Support Services)
- (8) Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available);
- (9) Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), and electronic mail (if available);
- (10) Award instrument requested: fixed price, cost-plus-fixed-fee (CPFF), cost-contract—no fee, cost sharing contract – no fee, or other type of procurement contract (*specify*), grant, cooperative agreement, or other transaction;
- (11) Place(s) and period(s) of performance;
- (12) Total proposed cost separated by basic award and option(s) (if any);
- (13) Name, address, and telephone number of the proposer’s cognizant Defense Contract Management Agency (DCMA) administration office (*if known*);
- (14) Name, address, and telephone number of the proposer’s cognizant Defense Contract Audit Agency (DCAA) audit office (*if known*);

- (15) Date proposal was prepared;
- (16) DUNS number;
- (17) TIN number; and
- (18) Cage Code;
- (19) Subcontractor Information; and
- (20) Proposal validity period.

## Section II. Detailed Cost Proposal

### A. Cost Proposal Format and Guidance.

1. Tables included in the cost proposal should also be provided in MS Excel™ format with calculations formulae intact to allow traceability of the cost proposal numbers across the prime and subcontractors. If the PDF submission differs from the Excel submission, the PDF will take precedence.
2. The prime contractor is responsible for compiling and providing all subcontractor proposals for the Procuring Contracting Officer (PCO).
3. Subcontractor proposals should include Interdivisional Work Transfer Agreements (ITWA) or similar arrangements.
4. Where the effort consists of multiple portions which could reasonably be partitioned for purposes of funding, these should be identified as options
5. For IT and equipment purchases, include a letter stating why the proposer cannot provide the requested resources from its own funding.
6. Each cost copy must be clearly labeled with the NASA BAA number, proposer organization, and proposal title (short title recommended).

### B. **Costs.** Detailed cost breakdown to include:

1. Provide the total program cost and costs broken down by initial phase and options
2. Provide costs broken down for the initial phase including as minimum:
  - a. Direct labor including labor categories and man-hours
  - b. Cost by the prime and major subcontractors
  - c. Cost by major task/activity
  - d. Materials
  - e. Other Direct Costs (ODCs)
  - f. Overhead charges
  - g. Provide the source, nature, and amount of any industry cost-sharing
3. Identify the pricing assumptions that may require incorporation into the resulting award instrument (e.g., use of Government Furnished Property/Facilities/Information, access to Government Subject Matter Expert/s, etc.).

### C. **Supporting Cost Data.** Supporting cost and pricing information

1. Provide sufficient detail to substantiate the summary cost estimates above.
2. Include a description of the method used to estimate costs and supporting documentation.
3. All proprietary subcontractor proposal documentation shall be prepared at the same level of detail as that required of the prime and shall be provided to the Government by Email: [jason.c.crusan@nasa.gov](mailto:jason.c.crusan@nasa.gov). The subject line of the email shall contain the lead organization's proposal title, lead organization name, lead organization proposal submission date and subcontractor name.
4. Cost Notes:

- a. “Cost or pricing data” as defined in FAR Subpart 15.4 shall be required if the proposer is seeking a procurement contract award of \$650,000 or greater unless the proposer requests an exception from the requirement to submit cost or pricing data. “Cost or pricing data” are not required if the proposer proposes an award instrument other than a procurement contract (e.g., a grant, cooperative agreement, or other transaction.)

NOTE: PROPOSERS ARE CAUTIONED THAT EVALUATION RATINGS MAY BE LOWERED AND/OR PROPOSALS REJECTED IF SUBMITTAL INSTRUCTIONS ARE NOT FOLLOWED.

#### **4. Proposal Content– Proposals with a Dollar Value Greater Than \$1 Million (Total all Phases).**

(Proposals submitted with a total cost for all phases of greater than \$1 Million must meet submission format below for the proposals greater than \$1 Million).

##### ***4.a Volume I--Technical and Management Proposal***

(Topics in **Bold** cross –reference to Evaluation Criteria)

#### Section I. Administrative {not included in the page count}

##### A. Cover sheet to include:

- (1) BAA number (NNH10CAO001K)
- (2) Proposal title
- (3) Lead Organization submitting proposal
- (4) Type of business, selected among the following categories: “LARGE BUSINESS”, “SMALL DISADVANTAGED BUSINESS”, “OTHER SMALL BUSINESS”, “HBCU”, “MI”, “OTHER EDUCATIONAL”, OR “OTHER NONPROFIT”
- (5) Contractor’s reference number (if any)
- (6) Other team members (if applicable) and type of business for each
- (7) BAA Technical Thrust Area Addressed: (i.e. 1.Payload Integration and Operations Support Services)
- (8) Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available)
- (9) Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available),
- (10) Total funds requested from NASA, and the amount of cost share (if any) AND
- (11) Date proposal was submitted.

##### B. Official transmittal letter.

#### Section II. Summary of Proposal {3}

*Note: The Summary of Proposal should not have any unique information not contained in the Detailed Proposal Information.*

- A. **Innovation.** Succinctly describe the uniqueness and benefits of the proposed research, payload accommodation, or commercial pilot program relative to the current state-of-art or alternate approaches. Provide a basic description of the potential benefit to the public, such as development of future products and services contributing to U.S. industrial capacity and economic growth or improving STEM education.
- B. **Results.** Provide a short description of the results, products, or process that may be expected at the end of the Phase.
- C. **Technical Rationale.** Provide a short description of the impact of the proposed development on National Lab mission capabilities, efficiency, or effectiveness.
- D. **Technical Approach.** Provide a short description of the technical approach and constructive plan for accomplishment of technical goals in support of claims and deliverable production.
- E. **Experience.** Provide a short general discussion of other research by corporate team members in the proposed technology area.
- F. **Cost.** State the proposal cost and duration for the initial phase.

### Section III. Detailed Proposal Information {37}

#### A. Statement of Work (SOW)

1. **Objectives.** Provide a general description of the proposal technical objective and a general description of each major task/activity. Provide a detailed description of the uniqueness and benefits of the proposed innovation relative to the current state of the art in Government, Industry and Academia as applicable.
2. **Technical Approach.**
  - a. Provide a detailed description of the approach to be taken to accomplish each major task/activity in support of claims and deliverable production.
  - b. Provide a top level schedule for the major tasks.
  - c. Where the effort could reasonably be partitioned into an initial and future phases, the future phases should be identified as options.
3. **Deliverables.** Define all deliverables (reporting, data, reports, hardware, software, technology, products etc.) to be provided to the Government in support of the proposed tasks/activities.

*Note: It is recommended that the SOW should be developed so that each phase of the project is separately defined. Do not include any proprietary information in the SOW.*

#### B. **Technical Rationale.**

1. Provide the technical rationale for the objective requirement including technology advancements and value-added to the National Lab capabilities.
2. Provide technical rationale, scientific basis, and any supporting analysis for the technical approach for each major task/activity.
3. Provide a comparison of the technical objectives and technical approach with other ongoing research and existing state-of-the-art, indicating advantages and disadvantages of the proposed effort.

4. Describe the potential benefit to the public, such as development of future products and services contributing to U.S. industrial capacity and economic growth or improving STEM education.

**C. Risk.** Risk and Risk Reduction

1. Provide an initial list of critical technical, schedule, and cost risk areas.
2. Describe the formal process for identifying and tracking the risk elements that translate into critical and unique technologies, processes and system attributes associated with objective.
3. For each proposed risk reduction task:
  - a. Provide a detailed discussion of the technical objectives of each of the proposed risk reduction task as well as quantifiable success metrics.
  - b. Describe the technical approach for each risk reduction task.
  - c. Describe the value of performing the risk reduction activities during the initial phase, as opposed to deferring them until future phases.
4. Describe the process for identifying and evaluating applicable technologies available from other Government and industry R&D programs.

**D. Results.**

1. Describe the results, products, or process and expected utilization and commercial development paths.
2. Provide a description of all proprietary claims to the results, prototypes, intellectual property, or systems. If there are no proprietary claims, this should be stated. For forms to be completed regarding intellectual property. See Section VIII. Intellectual Property. There will be no page limit for the listed forms.

**E. Experience.** Describe the unique capabilities of project and corporate team members. Describe the proposer's previous accomplishments and work in closely related research or commercial areas.

**F. Facilities.** Provide a description of any unique facilities necessary for execution of the proposed effort that would be used for the proposed effort.

**G. Organization.**

1. Describe the programmatic relationship of corporate team members
2. Describe the responsibilities of corporate and project team members
3. Describe the teaming strategy among the team members
4. Identify the key personnel
5. Submit a clearly defined organization chart for the project team

**H. Project Management**

1. **Schedule.** Provide an Integrated Master Schedule (IMS) at WBS Level 3 that provides a detailed, integrated schedule of all initial phase activities including risk reduction tasks.
  - a. All tasks in the IMS shall be linked and the ability to display the critical path shall be implemented.
  - b. Top-level schedules are required for optional phases and should be based on the proposer's initial risk reduction strategy.
  - c. Measurable critical milestones should occur every 2 (two) to 3 (three) months after start of effort. Additional interim non-critical management milestones are also highly encouraged at regular intervals.
  - d. Include key events and demonstrations as appropriate for the technology concept.

- e. An electronic copy of the IMS in MS Project shall be included with proposal submittals.
- 2. **Management Plan.**
  - a. Describe program management process that will be utilized to obtain the technical objective.
  - b. Include a description of how the team will function and share technical and financial information among the team members and with the Government.
  - c. Provide short resumes for the lead personnel in key disciplines/risk areas.

Section IV. Additional Information {No page limit}

Proposals should be self contained, and include all relevant information required to review the proposed research effort. A brief bibliography should be included of relevant technical papers and research notes which document the technical ideas upon which the proposal is based. Copies of no more than three (3) relevant papers may be included in the submission as supporting information.

***4.b Volume II-- Cost Proposal {No Page Limit}***

(Topics in **Bold** cross –reference to Evaluation Criteria)

Section I. Administrative

Cover sheet to include:

- (1) BAA number (NNH10CAO001K);
- (2) Proposal title;
- (3) Lead Organization submitting proposal;
- (4) Type of business, selected among the following categories: “LARGE BUSINESS”, “SMALL DISADVANTAGED BUSINESS”, “OTHER SMALL BUSINESS”, “HBCU”, “MI”, “OTHER EDUCATIONAL”, OR “OTHER NONPROFIT”;
- (5) Contractor’s reference number (if any);
- (6) Other team members (if applicable) and type of business for each;
- (7) BAA Technical Thrust Area Addressed: (i.e. 1.Payload Integration and Operations Support Services)
- (8) Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available);
- (9) Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), and electronic mail (if available);
- (10) Award instrument requested: fixed price, cost-plus-fixed-fee (CPFF), cost-contract—no fee, cost sharing contract – no fee, or other type of procurement contract (*specify*), grant, cooperative agreement, or other transaction;
- (11) Place(s) and period(s) of performance;
- (12) Total proposed cost separated by basic award and option(s) (if any);
- (13) Name, address, and telephone number of the proposer’s cognizant Defense Contract Management Agency (DCMA) administration office (*if known*);
- (14) Name, address, and telephone number of the proposer’s cognizant Defense Contract Audit Agency (DCAA) audit office (*if known*);

- (15) Date proposal was prepared;
- (16) DUNS number;
- (17) TIN number; and
- (18) Cage Code;
- (19) Subcontractor Information; and
- (20) Proposal validity period.

## Section II. Detailed Cost Proposal

### A. Cost Proposal Format and Guidance.

1. Tables included in the cost proposal should also be provided in MS Excel™ format with calculations formulae intact to allow traceability of the cost proposal numbers across the prime and subcontractors. If the PDF submission differs from the Excel submission, the PDF will take precedence.
2. The prime contractor is responsible for compiling and providing all subcontractor proposals for the Procuring Contracting Officer (PCO).
3. Subcontractor proposals should include Interdivisional Work Transfer Agreements (ITWA) or similar arrangements.
4. Where the effort consists of multiple portions which could reasonably be partitioned for purposes of funding, these should be identified as options
5. For IT and equipment purchases, include a letter stating why the proposer cannot provide the requested resources from its own funding.
6. Each cost copy must be clearly labeled with the NASA BAA number, proposer organization, and proposal title (short title recommended).

### B. **Costs.** Detailed cost breakdown to include:

1. Provide the total program cost and costs broken down by initial phase and options
2. Provide costs broken down for the initial phase including as minimum:
  - a. Direct labor including labor categories and man-hours
  - b. Cost by major task/activity for each year of the effort delineated by the prime and major subcontractors.
  - c. Materials
  - d. Other Direct Costs (ODCs)
  - e. Overhead charges
  - f. Provide an itemization equipment purchases
  - g. Provide an itemization of any information technology (IT) purchase
  - h. Provide the source, nature, and amount of any industry cost-sharing
3. Identify the pricing assumptions that may require incorporation into the resulting award instrument (e.g., use of Government Furnished Property/Facilities/Information, access to Government Subject Matter Expert/s, etc.).

### C. **Supporting Cost Data.** Supporting cost and pricing information

1. Provide sufficient detail to substantiate the summary cost estimates above.
2. Include a description of the method used to estimate costs and supporting documentation.
3. All proprietary subcontractor proposal documentation shall be prepared at the same level of detail as that required of the prime and shall be provided to the Government by Email: [jason.c.crusan@nasa.gov](mailto:jason.c.crusan@nasa.gov). The subject line of the email shall contain the lead organization's proposal title, lead organization name, lead organization proposal submission date and subcontractor name.

4. Cost Notes:
  - a. "Cost or pricing data" as defined in FAR Subpart 15.4 shall be required if the proposer is seeking a procurement contract award of \$650,000 or greater unless the proposer requests an exception from the requirement to submit cost or pricing data. "Cost or pricing data" are not required if the proposer proposes an award instrument other than a procurement contract (e.g., a grant, cooperative agreement, or other transaction.)

NOTE: PROPOSERS ARE CAUTIONED THAT EVALUATION RATINGS MAY BE LOWERED AND/OR PROPOSALS REJECTED IF SUBMITTAL INSTRUCTIONS ARE NOT FOLLOWED.

### **C. Submission Dates and Times**

#### **1. White Paper Due Date**

White papers must be submitted on or before 4:00 p.m., EDT, 1 October 2011. White papers received after this time and date will be reviewed.

#### **2. Full Proposal Due Date**

The full proposal must be submitted on or before 4:00 p.m., EDT, 16 November 2011. Full proposals submitted after this time and date will not be evaluated.

NASA will acknowledge receipt of complete submissions via email and assign control numbers that should be used in all further correspondence regarding proposals.

Failure to comply with the submission procedures may result in the submission not being evaluated.

### **D. Intergovernmental Review**

Not Applicable

### **E. Funding Restrictions**

Not Applicable

## **V. Application Review Information**

### **A. Evaluation Criteria**

Evaluation of proposals will be accomplished through a scientific/technical review of each proposal using the following criteria: (1) Relevance to the National Lab, (2) Overall Scientific and Technical Merit; (3) Potential Contribution to the National Lab; (4) Program Management; and (5) Cost Realism. All proposals will first be rated as “Acceptable” or “Unacceptable” under evaluation criterion (1). Proposals must first be deemed “Acceptable” in order to receive a full review. For proposals deemed “Acceptable,” criteria (2) and (3) are of equal importance and more important than criterion (4). Criterion (5) is least important. Proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement.

Cost sharing and matching is strongly encouraged and any cost sharing or cost matching should be clearly identified in the proposal. Proposers should not expect that such cost sharing or cost matching shall infer any additional or exclusive data rights to the product of the research effort funded under this BAA beyond those identified by the proposer in its submission in accordance with Sec. VIII. of this BAA.

NASA’s intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons. The following are descriptions of the above listed criteria:

#### **1. Relevance to the National Lab**

The proposed technical effort is evaluated as applicable to the thrust areas. The submission is suitably structured to enable a National Lab product or process. The proposed effort would lead to a useful addition to the National Lab portfolio. The proposed effort would be considered within the funding availability for this BAA.

#### **2. Overall Scientific and Technical Merit**

The proposed technical approach is feasible, achievable, complete and supported by a proposed technical team that has the expertise and experience to accomplish the proposed tasks. The proposer's prior experience in similar efforts must clearly demonstrate an ability to deliver products that meet the proposed technical performance. The technical rationale behind the technical approach is supported by a good foundation in science and provides merit for the approach. Task descriptions and associated technical elements provided are complete and in a logical sequence. The proposal team organization supports the major tasks/activities. The proposer’s experience, key personnel and facilities provide sufficient support for successful technology development.

### **3. Potential Contribution to the National Lab**

The magnitude of the potential contributions of the proposed effort to the National Lab will be evaluated. Specifically, The National Lab's mission is to enable research and technology development on the ISS for the missions of other U.S. government agencies, non-profit institutions and private firms. The proposal's potential transition paths to enhance commercial National Lab capabilities, and the extent to which any intellectual property rights limitations create a barrier to transition, will be evaluated.

### **4. Program Management (only for proposals over \$1M)**

The proposed management team has the expertise to manage the proposed cost and schedule. The integrated master schedule is realistic, and has enough detail to successfully execute the project and allows the Government to understand the sequence of events and how they are tied to budget and project risk. The organization structure and key personnel strongly support the major tasks/activities.

### **5. Cost Realism**

The objective of this criterion is to establish that the proposed costs are realistic for the technical and management approach offered, as well as to determine the proposer's practical understanding of the effort. The proposal will be reviewed to determine if the costs proposed are based on realistic assumptions, reflect a sufficient understanding of the technical goals and objectives of the BAA, and are consistent with the proposer's technical approach (to include the proposed Statement of Work). At a minimum, this will involve review, at the prime and subcontract level, of the cost per labor-hour and number of labor-hours proposed per task as well as the types and kinds of materials, equipment and fabrication costs proposed. It is expected that the effort will leverage all available relevant prior research in order to obtain the maximum benefit from the available funding. For efforts with a likelihood of commercial application, appropriate direct cost sharing may be a positive factor in the evaluation. The evaluation criterion recognize that undue emphasis on cost may motivate proposers to offer low-risk ideas with minimum uncertainty and to staff the effort with junior personnel in order to be in a more competitive posture. NASA discourages such cost strategies. Cost reduction approaches that will be received favorably include innovative management concepts that maximize direct funding for technology and limit diversion of funds into overhead.

NOTE: PROPOSERS ARE CAUTIONED THAT EVALUATION RATINGS MAY BE LOWERED AND/OR PROPOSALS REJECTED IF SUBMITTAL INSTRUCTIONS ARE NOT FOLLOWED.

## **B. Review and Recommendation Process**

Award(s) will be made to proposers whose proposals are determined to be the most advantageous to the Government, all factors considered, including the potential contributions of the proposed work to the overall research program and the availability of funding for the effort.

Award(s) may be made to any proposer(s) whose proposal(s) is determined selectable regardless of its overall rating.

NASA's policy is to ensure impartial, equitable, and comprehensive evaluation of all proposals and to select the source(s) whose offer(s) best meet(s) the Government's technical, policy, and programmatic goals in accordance with the evaluation criteria contained in this BAA. Pursuant to NASA FAR 1835.016 and FAR 35.016, the primary basis for selecting proposals for acceptance shall be technical, importance to agency programs, and fund availability. In order to provide this evaluation, cognizant personnel will review each submission and will convene panels of experts in the appropriate areas when necessary. The results of these reviews will be documented in the form of recommendations and will be provided to the Contracting Officer acting on behalf of NASA National Lab. These recommendations will indicate those proposers with whom negotiations or discussions will be conducted. They will also include questions arising from the reviews and, when appropriate, issues that need to be resolved prior to making awards.

Proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. NASA's intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons. For evaluation purposes, a proposal is the document described in "Proposal Information", Section IV.B. Other supporting or background materials submitted with the proposal will be considered for the reviewer's convenience only and are not considered part of the proposal. All proposals must first be deemed relevant to National Lab and likely to contribute to the National Lab mission as described in paragraph I.A. "Overview."

Restrictive notices notwithstanding, proposals may be handled for administrative purposes by support contractors. These support contractors are bound by appropriate non-disclosure requirements.

Subject to the restrictions set forth in FAR 37.203(d) and NASA FAR 1837.204, input on technical aspects of the proposals may be solicited by NASA from non-Government consultants /experts who are strictly bound by the appropriate non-disclosure requirements.

It is the policy of NASA to treat all proposals as competitive information and to disclose their contents only for the purpose of evaluation. No proposals will be returned. After proposals have been evaluated and selections made, the original of each proposal will be handled in accordance with NASA record retention policy.

## **VI. Award Administration Information**

### **A. Award Notices**

As soon as the evaluation of a proposal is complete, the proposer will be notified that 1) the proposal has been selected for funding pending contract negotiations, or 2) the proposal has not been selected. These official notifications will be sent via U.S. Mail or electronic mail (preferred method) to the Technical POC identified on the proposal coversheet.

## **B. Administrative and National Policy Requirements**

### **1. Export Control**

Should this project develop beyond fundamental research (basic and applied research ordinarily published and shared broadly within the scientific community) with military or dual-use applications the following applies:

(1) The Contractor shall comply with all U. S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120 through 130, and the Export Administration Regulations (EAR), 15 CFR Parts 730 through 799, in the performance of this contract. In the absence of available license exemptions/exceptions, the Contractor shall be responsible for obtaining the appropriate licenses or other approvals, if required, for exports of (including deemed exports) hardware, technical data, and software, or for the provision of technical assistance.

(2) The Contractor shall be responsible for obtaining export licenses, if required, before utilizing foreign persons in the performance of this contract, including instances where the work is to be performed on-site at any Government installation (whether in or outside the United States), where the foreign person will have access to export-controlled technologies, including technical data or software.

(3) The Contractor shall be responsible for all regulatory record keeping requirements associated with the use of licenses and license exemptions/exceptions.

(4) The Contractor shall be responsible for ensuring that the provisions of this clause apply to its subcontractors.

### **2. Subcontracting**

Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. 637(d)), it is the policy of the Government to enable small business and small disadvantaged business concerns to be considered fairly as subcontractors to contractors performing work or rendering services as prime contractors or subcontractors under Government contracts, and to assure that prime contractors and subcontractors carry out this policy. Each proposer who submits a contract proposal and includes subcontractors is required to submit a subcontracting plan in accordance with FAR 19.702(a) (1) and (2) should do so with their proposal. The plan format is outlined in FAR 19.704.

### **7 Employment Eligibility Verification**

As per FAR 22.1802, recipients of FAR-based procurement contracts must enroll as Federal Contractors in E-verify and use E-Verify to verify employment eligibility of all employees assigned to the award. All resultant contracts from this solicitation will include FAR 52.222-54, "Employment Eligibility Verification." This clause will not be included in grants, cooperative agreements, or Other Transactions.

## C. Reporting

The number and types of reports will be specified in the award document, but will include as a minimum monthly technical and financial status reports. The reports shall be prepared and submitted in accordance with the procedures contained in the award document and mutually agreed on before award. Reports and briefing material will also be required as appropriate to document progress in accomplishing program metrics. A Final Report that summarizes the project and tasks will be required at the conclusion of the performance period for the award, notwithstanding the fact that the research may be continued under a follow-on vehicle. Reports must be delivered to the Government and not merely posted or made available on a website/shared site.

## VII. Agency Contacts

Administrative, technical or contractual questions should be sent via e-mail to [jason.c.crusan@nasa.gov](mailto:jason.c.crusan@nasa.gov). If e-mail is not available, fax questions to (202) 358-3530, Attention: BAA Coordinator, NNH10CAO001K. All requests must include the name, email address, and phone number of a point of contact.

The administrative POC for this effort is  
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The technical POC for this effort is  
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