



**SUBMISSION INSTRUCTIONS AND EVALUATION OVERVIEW
FOR PROPOSALS IN TECHNOLOGY DEVELOPMENT/DEMONSTRATION**

International Space Station U.S. National Laboratory
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1 PREFACE

The International Space Station (ISS) is a one-of-a-kind laboratory that enables research and technology development not possible on Earth. As a public service enterprise, the ISS National Lab allows researchers to leverage this multiuser facility to improve quality of life on Earth, mature space-based business models, advance science literacy in the future workforce, and expand a sustainable and scalable market in low Earth orbit. Through this orbiting national laboratory, research resources on the ISS are available to support non-NASA science, technology, and education initiatives from U.S. government agencies, academic institutions, and the private sector. The Center for the Advancement of Science in Space (CASIS) manages the ISS National Lab, under Cooperative Agreement with NASA, facilitating access to its permanent microgravity research environment, a powerful vantage point in low Earth orbit, and the extreme and varied conditions of space. To learn more about the ISS National Lab, visit www.ISSNationalLab.org.

2 PROPOSAL PREPARATION AND CONTENT

The objective of the CASIS proposal submission and evaluation process is to solicit and identify, in a clear and transparent manner, proposals that demonstrate an appropriate and effective application and use of the ISS National Lab, a publicly funded asset with unique capabilities, resources, and limited capacity. To make this determination on the many and diverse types of proposals received, these instructions are provided to each proposing entity to assist in their development of a proposal that clearly defines a technology development goal, experimental design, execution plan, and support requirements.

Proposals are evaluated along four “lines of business,” key programmatic focus areas of the ISS National Lab: 1) in-space production applications, 2) technology development/demonstration, 3) fundamental science, and 4) STEM engagement and educational outreach. These instructions are for the technology development/demonstration line of business for applied research and development (R&D), technology demonstration, and technology readiness level (TRL) maturation, to improve products and/or processes that will produce positive economic impact. All projects with an expressed commercial purpose or intent are included.

Full proposals shall contain five sections: cover page, abstract, technical section, budget (cost) section, and appendices. Each section is described in detail in this instruction guide. The proposal shall be submitted as one document unless noted “as attached file” (see Appendix A).

Proposals shall be prepared in accordance with the following:

- Proposals must be single-spaced, with no less than 0.75" margins and 11-point Arial or Calibri typeface (black type only).
- Number all pages of the proposal consecutively. The cover page should not be numbered. The budget section should begin at the top of its own page following the technical section.
- The technical section should address the response elements in Section 2.3 of these instructions. The budget section of the proposal should follow the guidance in Section 2.4 of these instructions. If any sections are not included, the proposal may be deemed nonresponsive and ineligible for consideration.
- Avoid using columns in text. Proposals may include graphics, which must fit within the

designated page limits except as noted.

- A table of contents, introduction, executive summary, or any other elements not prescribed by this guidance are neither required nor desired.
- Except where noted, submit the proposal and all text attachments in Portable Document Format (PDF). Spreadsheets containing calculations, such as the project budget, must be submitted in the same file format as the template, (i.e., Microsoft Excel).

Proposals should be submitted by a principal investigator (PI) or proposing organization. Any individual business entity or institution capable of executing the proposed research may submit a proposal. However, CASIS will NOT consider proposals requiring funded or unfunded agreements between the ISS National Lab and any non-U.S. entity (business or individual).

2.1 Cover Page (1 page)

The proposal must have a cover page that adheres to the content guidance found in Appendix B. The form is to be completed, in its entirety, by the offeror. Mark any items as NA if they are not applicable or TBD if they are to be determined. The cover page is excluded from the page count.

Please limit the use of corporate or institutional logos and other identifying marks for your organization on the cover page.

2.2 Proposal Abstract (1 page)

On one page, provide a summary of the proposed activity. The abstract is not included in the page limitation. The abstract should include:

- A brief description of the need for, and objective of, the proposed research, emphasizing its relevancy to the ISS National Lab mission and why the proposed work requires microgravity, the space environment, or the ISS National Lab's specific vantage point.
- A concise summary of the technical approach and a brief description of the tasks and methods (e.g., modeling, ground experiments, or ISS flight experiments).
- A brief description of the expected benefits. Summarize anticipated outcomes and how the results will contribute to potential future applications and/or public benefits if the project is successful.

The abstract shall contain no proprietary information.

2.3 Technical Section (No more than 15 pages)

A detailed description of the technology development/demonstration project to be undertaken shall be submitted as part of the proposal's technical section and conform to four technical subsections outlined below: Scientific and Technical Merit, Implementation Feasibility, Operations/ISS Utilization, and Business and Economic Merit. The technical section of the proposal should be *no more than 15 pages total in length*. Exceeding the page limit does not affect the proposal score; however, concise and readable proposals that focus on the technical approach are highly recommended. In the appendices (not included in the page count), provide literature citations for any material cited in the technical section and related financial/operations and business plans.

The paragraph numbering for the response elements in the following sections align with the proposal evaluation criteria and scoring rubric in the CASIS Proposal Evaluator Instructions and Evaluator Workbook. These documents are available for reference on our website ISSNationalLab.org or by contacting us at PM@issnationallab.org. The response elements can be addressed in any order in your final proposal.

2.3.1 Technical Section I: Scientific and Technical Merit

CASIS will evaluate the merit of the technology development/demonstration project based on the degree to which the project would promote, enable, and facilitate applied research and development, technology demonstration, and technology readiness level maturation to improve products or processes that will generate positive economic impact.

Response Elements:

- A-1 Clearly defined science/technology question addressing expected advancement(s):* For technology development/demonstration projects, what technology development goals will be addressed? Goals should be specific, addressing measurability and achievability. Summarize the expected relevance of the expected technology development outcomes, including when outcomes may be achieved and how the project will advance the starting technology readiness level (TRL). Identify steps needed to affect the envisioned ending TRL. (weight = 0.2)
- A-2 Compelling nature and priority of the science or technology objectives:* Why is the project of a compelling nature? How are the high-priority technology maturation objectives addressed in a strategy (e.g., external industry objectives or internal corporate strategy)? (weight = 0.1)
- A-3 Innovation, multidisciplinary integration, and novelty of approach:* Explain how the project challenges and seeks to shift current technology paradigms. How innovative is the technology being demonstrated, and does it involve new concepts, approaches, or implementations to be developed or used or advantages over existing methods and implementations? Does the approach integrate multiple disciplines in novel ways? What “inherent value” does the project have compared with the existing state of the art? Alternatively, the offeror may focus the response to this criterion on how the project relates to internal corporate strategy. (weight = 0.15)
- A-4 Programmatic value of proposed project:* Describe how the project advances a new or unique technology in the context of ongoing or planned space station research. Referencing related work, does the proposed project leverage prior ISS National Lab research? Or, does the project extend Earth-based technology to the space station in ways that will be leverageable by future efforts? Describe how these activities interface with the proposed project and discuss any planned coordination with outside sources. (weight = 0.1)
- A-5 Likelihood of science or technology advancement success:* How likely is the proposed project to meet the technology maturation goals and objectives? Are the proposed mission requirements appropriate for guiding development and ensuring success? Is the technology maturation itself likely to lead to success? (weight = 0.25)

A-6 Merit of data results/analysis plan: Describe the proposed project’s data collection, analysis, and interpretation plan. Identify how data collected will be fully adequate to assess the project’s success. Does in-process data analysis allow for monitoring during project execution to allow for in-flight adjustments? Do you anticipate publishing and or presenting project results? Discuss whether project outcomes will be public domain or proprietary. (weight = 0.1)

A-7 Basis and justification for exploitation of microgravity, the extreme environments of space, or the unique vantage point of the ISS: Describe the role and necessity of space-based research in general and ISS-based research specifically. Describe how the project will benefit from the space environment, such as:

- a. Persistent exposure to the LEO environment (e.g., vacuum, atomic oxygen, radiation, debris, or hot/cold cycling)
- b. Persistent microgravity
- c. A specific influence on an organism or material’s behavior
- d. Unique ISS vantage point—remote sensing and aerospace test bed/TRL raising applications

Identify why the proposed project could not achieve substantively the same results on the ground, via sounding rocket, high-altitude balloon, reduced gravity aircraft testing, or other mechanisms. (weight = 0.1)

2.3.2 Technical Section II: Implementation Feasibility

CASIS will evaluate the proposed project based on the quality and feasibility of the implementation approach, including design and plan for operations, suitability for addressing objectives, management approach, schedule, cost, proposer expertise and prior performance, risk, and whether the implementation would overcome strategic and operational barriers to increase the offeror’s access to space-based facilities.

Response Elements:

B-1 Adequacy and robustness of the investigation design and plan for operations: Describe how the proposed implementation design of the project addresses the experiment goals and science objectives. How does the project’s success criteria for experimental conduct and operation demonstrate the necessary and sufficient evidence to complete the project? (weight = 0.2)

B-2 Suitability of proposed hardware, software, and facilities to address objectives: Describe the selected flight hardware, software, and facilities, clearly stating the design requirements, critical components, requisites, and verification approach for each. Outline product development steps, including manufacturing timelines. List hardware and software alternatives, where applicable, and relate selection criteria to impact on experiment or technology maturation success. (weight = 0.15)

B-3 Adequacy and robustness of the management approach and schedule: Identify the proposed project’s key personnel, such as a principal investigator (PI) or a project manager (PM). Describe the project’s organizational structure. If multiple co-performers are proposed,

describe their responsibilities within the project and provide the management plan for coordinating all performers. Provide a timeline of activities (Gantt chart, flow chart, diagrams, etc.) required to successfully execute the preflight, flight, and postflight phases of the project. (weight = 0.15)

B-4 Well-defined and credible cost of the investigation: Discuss the basis of estimate for the proposed project's costs (Note: The budget itself is to be placed in Section 2.4). Identify management reserves, and the philosophy for releasing them. Describe sources of funds to cover those costs. If applicable, include sponsorship or commitment letter(s) supporting the project as an appendix to the proposal. (weight = 0.15)

B-5 Offeror's experience, expertise, and record of performance: Describe the proposed project team's experience, expertise, and history, including the Implementation Partner. How is the offeror's past performance relevant to the project's proposed science investigation or technology maturation? Does the Implementation Partner (if applicable) have experience with similar ISS flight projects? Define roles and responsibilities of key performers and/or collaborators. In an appendix to the proposal, provide a biographical sketch for each PI or co-investigator (Co-I) and other key personnel, along with their citizenship status. (weight = 0.1)

B-6 Uniqueness of implementation as compared to other R&D tools available to offeror: Identify how the selected research tools are uniquely capable of achieving the science investigation or technology maturation goals. Why would alternate ground-based R&D tools, for example simulation or artificial intelligence, be inadequate? Note that tool selection (this criterion) is different from justification for use of the ISS (criterion A-7). (weight = 0.15)

B-7 Implementation risk assessment and mitigation: Identify anticipated implementation risks associated with any project milestones. Based on the offeror's knowledge and experience, describe possible mitigations relative to the project's planned procedures, situations, and materials. (weight = 0.1)

2.3.3 Technical Section III: Operations and ISS Utilization

CASIS will evaluate the proposed project based on its readiness for operations and appropriate utilization of scarce ISS resources, including power, mass, volume, and interface requirements; installation and operations impact on ISS crew time; hazards; regulatory compliance; data collection and downlink needs; and whether the project offramp or completion criteria are defined and consistent with ISS operations sustainability.

Response Elements:

C-1 Potential ISS hazards are identified and a mitigation plan is provided: Clearly identify potential ISS hazards along with a relevant basis for identification. This criterion includes contribution by the Implementation Partner. Provide potential hazard mitigation activities with known schedule and cost impacts. (weight = 0.1)

C-2 Installation and operations impacts on ISS crew time are defined and sustainable: Working

with the Implementation Partner (where applicable), estimate the crew time required for installation and operation. Provide estimates of these times, substantiated by a basis of estimate where possible. Crew time estimates can be addressed in a Preliminary Experiment Requirements Document (P-ERD) appendix (see Appendix C). (weight = 0.25)

- C-3 *Operational status and suitability of support equipment, logistics, and consumables*: Identify needed support equipment, logistics, and consumables (if relevant). Identify why each item is necessary, particularly if return samples require ground analysis. (weight = 0.15)
- C-4 *Mass, volume, power, and interface requirements are defined and sustainable*: Identify and substantiate ISS mass, volume, power, and interface requirements. Requirements should be supported by specific basis of estimates where possible. Identify downmass requirements (if needed). These implementation requirements can be documented in the Preliminary Experiment Requirements Document (P-ERD) (see Appendix C). (weight = 0.2)
- C-5 *Regulatory policies are identified and addressed*: Identify necessary regulatory policies (e.g., biomedical, human tissue, Earth observation, etc.) and provide your plans for regulatory approval. (weight = 0.1)
- C-6 *Data collection/downlink plan is defined and sustainable*: Identify data collection and data downlink plans, including data volumes and frequency of collection. Describe how they support the science investigation objectives. (weight = 0.1)
- C-7 *Offramp/completion criteria are defined and consistent with ISS operations sustainability*: Identify criteria for offramping and/or project completion. What are the minimum success criteria? Are there continuation and/or early disposal alternatives for project disposition? (weight = 0.1)

2.3.4 Technical Section IV: Business and Economic Merit

CASIS will evaluate the market potential and application leverage of the proposed project, including market scalability and leveragability, market disruption, incremental revenue, financial commitments, and whether the project has a feasible commercialization plan and customer engagement.

Response Elements:

- D-1 *Project outcomes can be deployed to serve sizable addressable markets (scalability)*: Discuss the impact of the solution/product resulting (directly or indirectly) from this project in terms of its Total Addressable Market (TAM)—the overall revenue opportunity that is or is expected to be available to a product or service if 100% market share is achieved. Identify the method of estimation used (e.g., top-down, bottom-up, etc.), the expected value, and any third-party sources used to develop these estimates. (weight = 0.1)
- D-2 *Ability to leverage project outcomes across multiple applications, customers, or needs*: Describe whether (and if so, how) this product/solution development and/or technology maturation is designed with regard to a capability to address **each or some of the following**: multiple applications, needs, customers, and markets. The highest-scoring proposals will be leverageable in several of these dimensions. (weight = 0.1)

D-3 *Project results in technology/products/solution innovation and/or market disruption:* Describe how the project represents or materially supports a unique innovation that will likely disrupt the targeted markets discussed in D-1. Provide supporting evidence that products or solutions developed as a result of this project will likely gain significant competitive advantage and have high potential to win significant market share. (weight = 0.2)

D-4 *Project leads to incremental revenue after completion:* Quantify the expectations and provide supporting information for estimated incremental revenues resulting from solutions/products developed as a result of this project, as discussed in criteria D-1 through D-3. Revenue expectations should be stated by expected incremental annual revenues and the time to achieve such revenues (e.g., incremental revenues of \$X/year, achieved in Y years). (weight = 0.2)

D-5 *Sufficient internal/partner resource commitment is available:* Identify funding available for this project. Provide applicable commitment letter(s) as attachments. CASIS will separately assess cost realism in criterion B-4. Discuss funding needed to complete and commercialize the results of this project and identify additional quantifiable and committed capital sources (whether internal or partner-provided) to meet this funding need. (weight = 0.2)

D-6 *Project has feasible commercialization and customer engagement:* Summarize the offeror organization's customer engagement progress and capabilities, as well as the commercialization strategy. This discussion may be supported by including a summary of the financial/operational plan and/or a business plan in the proposal appendices. (weight = 0.2)

2.4 Budget Section (Not included in page count)

The budget template consists of an Excel file with worksheets labeled Instructions, Glossary, Summary, Year 1, Year 2, and Year 3. Offerors may modify this file, as needed and with appropriate notation, to include additional cost elements, years, worksheets, etc. The Excel file **must be completed and submitted with the final proposal**. In addition, offerors must provide a copy (or link) of the budget summary table from the template in the Budget section of the proposal. For competitive ISS National Lab Research Announcements, the budget template will be available on the solicitation webpage.

The budget is an estimate of the total resources necessary to achieve the desired goals and objectives, applications, or impacts for the funded life of the project. CASIS requires sufficient detail in the budget and schedule to determine adequacy of preflight development and testing resources, time to flight, and time to complete the project. CASIS requires details regarding the project's development costs and the sources of funds to cover those costs to verify that the proposal has adequate resources committed to the project. If applicable, include sponsorship or commitment letter(s) supporting the project as an appendix to the proposal.

Travel Cost Reimbursement: The offeror may include the cost of travel in the CASIS portion of the budget request; however, this cost will not be included in the value of the grant. If the budget request is approved, a not-to-exceed value for travel will be referenced in the grant or user agreement in Paragraph 4(b), and the actual cost of funded travel must be approved in writing in advance, on a case by case basis. Instructions for obtaining travel approval will be included in the agreement as well as in

the Principal Investigator Guide provided by the CASIS Operations project manager after award.

If you have any questions about template use, please contact the CASIS Customer Relationship Manager or email PM@ISSNationalLab.org.

Indirect Rates Justification

If applicable, provide a copy of (or provide electronic access to) the offeror's most current indirect rate agreement approved by a federal agency. CASIS shall recognize and apply to all grant agreements any approved federally recognized indirect cost rate that has been negotiated between the offeror and a U.S. government agency. If no such rate has been negotiated with a U.S. government agency, CASIS shall apply a de minimis rate of 10 percent to the grant agreement. However, if a sub-recipient voluntarily chooses to waive indirect costs or charge less than the full de minimis indirect cost rate, CASIS may allow this, although CASIS cannot encourage or coerce a sub-recipient to do so. In all grant agreements, CASIS will identify the applicable indirect cost rate.

2.5 Alternative Sections (Optional, not included in page count)

Follow-on Activities: For planning purposes, it is helpful to know as soon as practical if follow-on activities or additional project iterations are anticipated. Assuming the project outcomes are successful, the offeror is welcomed to describe the types of anticipated follow-on activities that are not already included in the proposed project by providing an overview of next steps, anticipated costs, and any dependencies or efficiencies that exist between the main project and the follow-on effort.

Alternative Cost Estimates: The cost for the alternatives or follow-on activities should be reflected in this section and not in the narrative or summary in the main budget section of the proposal.

2.6 Proposal Attachments (Not included in page-count)

Templates for requisite attachments will be provided on the research announcement webpage.

2.6.1 Required Proposal Attachments

- A. *Biographical Sketch (two pages or less per PI/Co-I):* Supply a biographical sketch (including citizenship status) for each PI or Co-I and background on key collaborators. Include information on past success in the field of study. Specifically, note expertise relevant to addressing the scope and scale of the project from inception through completion. Address the investigator's record of success in the field of study and provide relevant publications, commercial examples, patents, or technology implementation experience. If the project is collaborative (e.g., multiple institutions or Co-Is), describe the roles and responsibilities of each partner and the experience each has for that role. Please include educational history, professional experience, publications, and current grant funding.
- B. *Literature Cited:* Provide literature citations for any material cited in the technical section or any other references supporting the proposal.
- C. *Completed Budget (Excel spreadsheet)*

- D. *Approved Indirect Rate Agreement (as applicable)*: See Section 2.4 above.
- E. *Copy of IACUC Approval (as applicable)*: Proposals involving animals or humans require an assurance of compliance with appropriate oversight boards and their required provisions. All proposals must include a statement from the offeror's institution certifying that the proposed work will meet all federal and local human subject requirements and animal care and use requirements. If Institutional Review Board or Institutional Animal Care and Use Committee (IACUC) certification is already approved at proposal submission, attach a copy of the certification. If this certification is pending, the offeror must submit a copy to CASIS within 90 days after notice of award.
- F. *PI Profile and Certifications form*: Provide information about the Principal Investigator using the PI Profile and Certifications form and attach it to the submission email.
- G. *Implementation Partner Proposal*: Attach to proposal appendices.

2.6.2 Optional Proposal Attachments

- A. *Letters of Support*: If the offeror has received letters of commercial support or letters of commitment from collaborators, the offeror is strongly encouraged to attach them to the proposal. Identify the contribution the collaborator intends to make along with a commitment to perform the work. Up to three professional references may also be included.
- B. *Co-Principal Investigator Profile and Certifications form*: If the project has a Co-PI, complete the Co-PI Profile and Certifications form and attach it to the submission email.
- C. *Preliminary Experiment Requirements Document (P-ERD)*: Include any known investigation and/or project operations concepts that would be helpful to CASIS during the operational feasibility review. Include as many science, engineering, and/or technology requirements that may be known at this stage.
- D. *Supporting Plans and Technical Data (limited to 5 pages)*: Include data sheets, charts, and excerpts from referenced research as well as plans, such as a data management plan.

3 PROPOSAL EVALUATION FACTORS AND PROCESS

3.1 Evaluation Factors and Process

A peer review evaluation process will be used to evaluate the proposal. This type of evaluation relates directly to the CASIS mission to identify projects that maximize the return on investment for the ISS platform. Benefits are captured through each of the evaluation categories in Section 2 by using a rubric-based sheet to form a provisional score for that category. Criteria within those categories are weighted based on the expected strength of that criteria for the specific line of business (i.e., technology development/demonstration). In addition, overall strengths and weaknesses, as well as any notable features, are documented by evaluators. This information is used by evaluators to synthesize an “adjectival rating,” as shown in Table 1 below:

Table 1: Adjectival rating descriptions

Score	Adjectival Rating	Strengths and Weaknesses
0-50	Poor	A non-selectable proposal. Few if any strengths and many weaknesses, some of which may include uncorrectable noncompliant criteria responses.
51-65	Fair	A marginal proposal. Weaknesses outweigh strengths (perhaps significantly). The evaluation may identify noncompliant criteria responses, but these should be correctable with additional effort by the proposer or Implementation Partner.
66-75	Good	An acceptable proposal. Weaknesses and strengths are essentially balanced. Any noncompliant criteria responses are easily correctable. A proposal rated as “Good” in all categories would be “on the cusp” for selection.
76-85	Very Good	A better-than-average proposal. Strengths outweigh weaknesses, and there are no meaningful noncompliant criteria responses. A proposal of this rating would have attractive features noted in strengths that would easily justify selection.
86-100	Excellent	A truly outstanding proposal. Few, if any, weaknesses are noted, and there are many strengths. A proposal with this rating should be compelling and a top-tier effort.

The adjectival ratings and strengths and weaknesses identified by the proposal evaluators are used by the CASIS final determination committee and executive director to determine which proposals will be selected for award.

Prior to evaluation, the CASIS Portfolio Management team will review the proposal to ensure that major elements have been completed satisfactorily based on the provided guidelines. An attempt will be made to resolve any findings with the PI teams before beginning a formal review.

Subject matter experts will evaluate your proposal using the following steps:

1. **Technical Evaluations:** Peer reviews by Subject Matter Experts augmented by relevant external evaluators to determine the adjectival rating of each technical category.
2. **Compliance and Budget Review:** The CASIS Contracts and Compliance department will review the offeror's completed forms and budget estimate for risks, limitations, and contracting concerns for consideration during final determination.
3. **Evaluation Integration:** The team of evaluators representing operations, science, and economics will integrate individual category adjectival ratings, collate notable features, assess resource requirements, synthesize an overall risk assessment, and prepare a recommendation for the CASIS final determination committee and executive director. This team will also convey feedback to proposers on request.
4. **Final Determination:** The CASIS executive director and chief scientist will perform the final prioritization and award determination (project selection), initiating discussions with members of the operations, science, and economic review teams and CASIS senior staff, as necessary.

All information contained in a proposal and any presentation material will be treated as confidential and reviewed only by CASIS personnel or third-party subject matter experts providing technical reviews. Please ensure your proposal includes an appropriate confidentiality disclaimer (and appropriate regulatory disclaimers; e.g. ITAR or EAR) on all pages.

CASIS has overall responsibility for conducting proposal evaluations but will rely on external constituents under contract with the CASIS and with relevant expertise to determine category adjectival rating. Note: All non-USG SMEs are required to sign a confidentiality agreement and a conflict of interest form with the ISS National Lab.

3.2 Final Determination

In the final determination meeting, the CASIS executive director, chief scientist, chief operating officer, director of business development, director of operations, and director of portfolio management review eligible projects for selection. If unable to attend, these directors may designate a representative from their department to serve as their delegate in the meeting. The executive director considers all input and makes the final determination of project funding and priority. In addition to the proposal evaluation results, ISS resource allocation priorities, current strategic priorities, budget availability, and overall programmatic risk are major considerations in determining which projects are either sponsored for flight, set aside for future consideration, or not selected.

Projects identified to be sponsored are issued a nonbinding notice of intent to award and subsequently moved to agreement drafting, negotiation, and award. Selected projects must meet minimum eligibility requirements, such as readiness for an increment, secured funding, and an agreement with an Implementation Partner, if appropriate. Projects that pass the review process but are not selected for sponsorship are set aside for up to six months to be targeted for external funding when possible. Offerors whose proposals are not selected will be notified and given feedback on proposal weaknesses.

3.3 Revision/Resubmission Limit

Proposals not selected can be revised based on feedback and resubmitted to a subsequent research announcement of similar scope.

3.4 Appeals

CASIS will notify the PI of project selection or non-selection by email. Anyone who is adversely affected by the decision made by CASIS and would like to appeal shall submit a written appeal to the CASIS executive director within 10 calendar days from the date of notification. This appeal consists of a written statement of up to 10 pages stating the basis for the appeal. The appeal will be considered by a member of CASIS senior management who was not involved in the final determination. Failure to file an appeal within the prescribed time constitutes waiver of right to appeal.

3.5 Proposals Submitted as Part of an Agreement with an External Organization

Proposals originating as part of an agreement with a U.S. government agency or an outside organization are reviewed in the same manner as all other proposals. However, the final selection and prioritization of these proposals, including award determination, may rely on review criteria defined by the U.S. government agency or external organization. CASIS may also choose by written agreement with a U.S. government agency or an outside organization to supplant the CASIS scientific or economic review process for proposals with the review process that is applied by the U.S. government agency or external organization. All other aspects of the CASIS review process remain the same.

4 CONTRACTS

These terms and conditions contain flow downs from the NASA Cooperative Agreement and will apply to all grant agreements (funded).

These terms and conditions contain flow downs from the NASA Cooperative Agreement and will apply to all user agreements (unfunded)

Appendix A Summary of Required and Optional Documentation for Proposal Submissions

Name of Section or Form	Format	Limitation	Inclusion Location	Instruction Page
Cover Page	PDF form	1 page	As first page of proposal	2, 14
Abstract	PDF	1 page	Proposal Page 1	2
Technical Section	PDF	15 pages	Proposal Body	2
Budget Section	PDF	No limit	Proposal Body	7
Budget	CASIS template (spreadsheet)	No limit	Attach to submission email	7
Approved Indirect Rate Agreement (if applicable)	PDF	No limit	Attach to submission email (or provide electronic access)	8
Biographical Sketch	PDF	2 pages per PI/ Co-I	Proposal Appendix	8
Literature Citations	PDF	No limit	Proposal Appendix	9
Copy of IACUC Approval (if applicable)	PDF	No limit	Proposal Appendix	9
PI Profile and Certifications	PDF form	No limit	Attach form to submission email	9
Implementation Partner Proposal	PDF	No limit	Proposal Appendix	9
Co-PI Profile and Certifications (if applicable)	PDF form	No limit	Attach form to submission email	9
Preliminary Experiment Requirements Document	PDF	No limit	Proposal Appendix	9, 15
Letters of Support, Letters of Reference (optional)	PDF	No limit	Proposal Appendix	9
Supporting Technical Data (optional)	PDF	5 pages	Proposal Appendix	9

Note: All documentation is required unless otherwise noted as “optional,” “as applicable,” etc.

Appendix B Proposal Cover Page



Project Proposal Submission

Solicitation Title and Number

Project Name:		
Proposal #:	Revision #:	Submission Date:
Principal Investigator (PI):		Email:
Contract Manager:		Email:
Organization Name:		
Implementation Partner:		
Total Project & Implementation Cost (\$):		
ISS National Laboratory Funding Requested (\$):		

Trade Compliance

The Proposing Organization agrees to comply with all applicable U.S. export control laws and regulations, specifically including, but not limited to, the requirements of the Arms Export Control Act, 22 U.S.C.2751- 2799, including the International Traffic in Arms Regulation (ITAR), 22 C.F.R. 120-130.; and the Export Administration Act, 50 U.S.C. app. 2401-2420, including the Export Administration Regulations, 15 C.F.R. 730-774; including the requirement for obtaining any export license or other approval.

To the extent permitted by applicable state law, the Proposing Organization shall indemnify and hold CASIS harmless for all damages, costs, fines, penalties, attorney fees, and all other expenses arising from any claim or demand that the Proposing Organization failed to comply with export laws in connection with this proposed project. A representative from the Proposing Organization must address the following questions, and if applicable, ensure all pages of this proposal are properly annotated:

Does this proposal contain information and/or data that is subject to *Export Administration Regulations (EAR)*? YES NO

If yes, provide the ECCN Reference Number: _____

Does this proposal contain information and/or data that is subject to *International Traffic in Arms Regulations (ITAR)*? YES NO

If yes, provide the USML/CML Reference Number: _____

Appendix C Preliminary Experiment Requirements Document



ISS U.S. National Laboratory Preliminary Experiment Requirements Document (P-ERD)

Operations Concept

Include any known investigation and/or project operations concepts that would be helpful to CASIS during the Operational Feasibility Review. Please include as many science, engineering, and/or technology requirements that may be known at this stage of the proposal development phase. Offerors are encouraged to work closely with their Implementation Partner to address these requirements where applicable.

Factors to consider may include:

- Crew time estimates
- Ascent and descent requirements
- Proposed hardware to be used/built/modified
- Materials list
- Proposed model organisms
- Any known design requirements
- Any known volume, mass, or other size specifications
- Any known specific stowage requirements (e.g., conditioned, passive, temperature ranges, etc.)
- Any investigation timing requirements (e.g., timing of addition of new media, fixation agents, etc.)
- Any specific late load or early return requirements
- Any ground control requirements