



Project Narrative Template

Funding Opportunity Number: NAT-RD-25-0001

April 14, 2025

Revision History

Date	Author	Change
04/14/2025	Program Staff	Initial release
04/29/2025	Program Staff	Edited Task Area Applicability on Cover Page

Instructions for Completing the Project Narrative and Appendices

To assist proposers in completing the Project Narrative and all appendices for the CFP, this document provides comprehensive instructions. The following sections will guide you through preparing the required documentation, including 2 appendices: the Statement of Work (SOW) and Milestone Payment Summary. Please adhere to the formatting guidelines and submission requirements detailed in CFP Appendix B and C to ensure your proposal package meets the necessary standards.

Formatting Requirements:

- **Naming Convention:** Include the [OpenWater Application #].
- **Font:** Use Arial, Times New Roman, or Calibri (12pt+), or Aptos or Computer Modern fonts (11pt+). Tables and figures should be in 10pt.
- **Line Spacing:** Single.
- **Margins:** One (1) inch on all sides.
- **Page Layout:** Portrait orientation.
- **File Format:** Typed, in English, in .docx or .pdf format.
- **Page Limit:**

Section	Page Limit	Additional Details
Base Proposal	20 pages	Includes: executive summary, goals and impact, management plan, technical plan, fundamental research declaration, proposed international collaborations, and IPMP sections
Appendices (Refer to CFP Section 7.3.2)	Not counted	Excluded from page limit
Multiple Focus Areas	Separate Proposals required	Separate proposals must be submitted for each Focus Area
Multiple Solutions per Task Area	No additional pages allowed	Clearly delineate each subtask within the proposal

Required Documents

See section 7.3.1 in the CFP for further clarification.

Table 1. Required Documents and their listed References in the CFP

Reference in CFP	Required Document	Page Limit	Natcast Template (Yes/No)
C.1	Cover Page	1 page	Yes; See Section C.1 below.
C.2	Executive Summary	No Limit	Yes; See Section C.2 below.
C.3	Goals and Impact	No Limit	Yes; See Section C.3 below.
C.4	Management Plan	No Limit	Yes; See Section C.4 below.
C.5	Technical Plan	No Limit	Yes; See Section C.5 below.
C.6	Fundamental Research Declaration	No Limit	Yes; See Section C.6 below.
C.7	Proposed International Collaborations	No Limit	Yes; See Section C.7 below.
C.8	IPMP	No Limit	Yes; See Section C.8 below.
C.9	Table of Abbreviations and Acronyms	No Limit	No
C.10	Bibliographic List of References	Limit to 1 page	No
C.11	Table of Subawardees (Funded Participants) and Unfunded Collaborators	No Limit	No
C.12	Statement of Work (SOW) – Refer to Section	No Limit	Yes; See Section C.12 below.
C.13	Budget Workbook	No limit	Yes; See separate Budget Workbook at https://natcast.org/research-and-development/smap

			<i>[to be submitted separately as PPT or PDF on OpenWater]</i>
C.14	Milestone Payment Summary	No limit	Yes; See Section C.14 below.
C.15	Table of Cost Share and Contributors	No limit	No
C.16	Domestic Production Plan	No limit	No
C.17	Letters of Commitment	No limit	No
C.18	Quad Summary	1 PPT slide	Yes; See separate Quad Summary template at https://natcast.org/research-and-development/smap <i>[to be submitted separately as PPT or PDF on OpenWater]</i>
C.19	Research Security Packet: <i>[to be submitted separately as PDF on OpenWater]</i>		
	Research Security Capabilities	No limit	No
	Research Security Overview	Limit to 3 pages	No
	Resume/CVs (PI and Co-PI only)	5pg Max per Resume / CV	No; but NSF-format biosketches exported from SciENcv are preferred with ORCID#
	Current and Pending Support forms (PI and Co-PI only)	No limit	No; Exporting the CPSF from the NSF SCV system or https://forms.office.com/g/HscpN1n8Wz .

C.1 Cover Page [Not included in Page Count]

[Insert Company Logo]

Opportunity Name	
Opportunity Number	
Focus Area	
<i>Task Area (if applicable)</i>	[Not applicable for SMAP]
Reference Number	
Name of Proposer	
Technical POC	Name Title address / phone number / e-mail address
Subcontractors and/or subawardees (if applicable)	
Proposal Title	
Administrative POC	Name Title address / phone number / e-mail address
Total Funds Requested	
Total Cost Share	
Fundamental Research	Yes / No
International Collaborations	Yes / No

Disclosure Statement: This document contains...

[Any statement regarding confidentiality, including proprietary or sensitive business information, if applicable]

C.2 Executive Summary

[High level explanation of work to be completed, relation to the current state of the art technologies, and underlying program management strategy]

- Project Objectives: (max. 1 paragraph summary)

[Provide a concise overview of program goals and how to achieve these expectations from the results of the proposer's project. Include desired end results. It does not need to include a description of deliverables or requirements since these will be included in the "Appendices" section below.]

- Methods to be employed / Approach
- Potential impact of the proposed project (i.e. benefits, outcomes, etc.)

C.3 Goals and Impact

[Begin with a clear problem statement that demonstrates understanding of current technical challenges and market needs]

[Define specific, measurable project outcomes that align with funding opportunity goals and contribute to evaluation criteria]

[Include preliminary data or previous work to support feasibility and validate team capabilities]

[Articulate broader impacts including:

- *Benefits to the semiconductor ecosystem*
- *Advancement of scientific knowledge*
- *Practical applications*
- *Compare proposed solution to existing approaches*
- *Identify technical innovations that advance beyond current state of practice]*

C.4 Management Plan

Summary of Team Expertise / Personnel Resources (Limit to 1 page) - *[Overview of key qualifications and relevant experience of team]*

Project Organization and Management Overview - *[Explain management structure and decision-making process]*

Organizational Experience - *[Highlight relevant past performance and capabilities]*

Organization Chart - *[Visual representation of team structure and reporting relationships; it is recommended that the proposer indicate, in the chart, what teams are aligned with specific Task Areas or Phases]*

Prime [Proposer] Capabilities - *[Detail unique qualifications and resources of lead organization]*

Specialized Facilities - *[Description of key equipment, labs, or facilities to be used]*

Detailed Coordination Plan - *[Explain how team members will collaborate and communicate]*

Key Personnel Table - *[Name, Brief Biography, Task Responsibilities, LOE (%) by Phase]*

Risk Management Approaches - *[Include Risk / Mitigation Table]*

C.5 Technical Plan

Technical Challenges and Solutions - *[Describe the technical challenges inherent in your approach and potential solutions. Include risk mitigation strategies and your plan to overcome potential problems.]*

Task Area Approach - *[For each Task Area and Phase, provide:]*

- Specific technical approach
- Individual budget requirements
- Unique milestones and deliverables *[List measurable milestones (quantitative where possible) at intermediate stages of the research. Include timeline, progress metrics, and success criteria for each milestone.]*

Note: Each Task Area must be proposed and budgeted independently to allow for selective funding.

Transition Plan - *[Detail your plan for transitioning project results to NSTC, including:*

- Productivity gains for semiconductor ecosystem stakeholders
- Integration with key programs (CHIPS Manufacturing USA Institute, CHIPS Metrology Program, DoD Commons)
- Software/modeling transition strategy
 - Deployment methods
 - User accessibility plans
 - Maintenance approach
 - Handling of proprietary dependencies]

C.6 Fundamental Research Declaration

[Identify which of the proposed research activities, if any, the proposer believes NSTC should consider as fundamental research and the rationale for that determination. For any proposed fundamental research, proposers should identify the involved project team member(s).]

C.7 Proposed International Collaborations

[Provide written justification for any required foreign partnerships, facilities, or personnel involvement] – Refer to Section 7.1.2 Proposed International Collaborations for further guidance.

C.8 Intellectual Property and Rights Management Plan [IPMP]

- Permitted Exceptions and Limitations: The license may exclude certain specifically identified Pre-Existing Technology in or relating to any Project Deliverables, or the license with respect to such specifically identified Pre-Existing Technology is limited, in each case as set forth below:
 - **Table 2.** Program Deliverables, Developed IP, Pre-existing Technology, and any Licenses for Pre-existing Technology

Program Deliverable	Expected Developed IP	Pre-existing Technology	Licenses for Pre-existing Technology
<i>[Enter type of Program Deliverable]</i>	<i>[Explain what you expect to develop and make available under the Developed Deliverables License, if you are excluding anything you develop with Award Funds, please provide an explanation.]</i>	<i>[Describe any (1) Pre-Existing Technology and (2) Dependency (e.g., Project Deliverable won't work without the background IP and how background IP is or isn't separable from Project Deliverable)]</i>	<i>[License that Performer is willing to grant to Natcast for the Pre-Existing Technology]</i>

- Exclusions or Limitations:

[Describe with specificity the exclusion or limitation that will apply to the Affected Pre-Existing Technology (e.g., existing exclusive license on Pre-Existing Technology precludes license to Natcast/NSTC)]

- Encumbrances:

[If there is an exclusion or limitation, explain how the exclusion or limitation is not inconsistent with, and would not adversely affect, the stated aims of the Project, as set forth in the CFP or otherwise described in writing by Natcast]

- IP Benefits and Alternative IP Terms:

[Specify not-to-exceed pricing or licensing and other commercial terms under which Performer would license the Affected Pre-Existing Technology to Natcast and NSTC members for Commercial utilization (or, if Performer is unwilling to commit to license and make available the Affected Pre-Existing Technology for Commercial utilization to Natcast and NSTC members, expressly state the refusal to do so. Specify if a non-commercial license to Pre-Existing Technology is granted].

- **Additional Commercial Terms:** Neither Natcast nor the NSTC members will be required to make any additional payments to Performer or any third party (other than the milestone payments required to be made under this Agreement) for the license and other rights contemplated by this Agreement, except as follows:

[Specify any agreed-upon commercial terms for Commercial utilization of the Project Deliverables or Pre-Existing Technology or for manufacturing commitments.]

- **Permitted Third-Party IP:** The Permitted Third-Party IP, if any, is as follows:

[Identify any Third-Party IP that will be included in or utilized in the development of the Project Deliverables or to which the Project Deliverables will be subject.]

- **Publication and Public Dissemination:**

(a) Publication

Performer has indicated in its response to the CFP that it wishes to publish, or have its faculty members or researchers publish, certain results and findings expected from its R&D work in connection with the Project (e.g., peer-reviewed journals, academic or white papers, or technical reports) to share knowledge and contribute to advancements in the field, as follows:

[Describe any results and findings of R&D that Performer wishes to publish and whether and why Performer expects the R&D to be Fundamental Research.]

(b) Other Public Dissemination

Performer has indicated in its response to the CFP that wishes to disseminate publicly the following software, documentation or other subject matter, expected to result from its R&D work on the Project, under an open-source license, public copyright license, or other arrangement resulting in public dissemination:

[Describe any subject matter resulting from the R&D that Performer wishes to disseminate publicly and whether and why Performer expects the R&D to be Fundamental Research.]

- **Domestic control:**

Performer sets forth the following domestic control plan:

[Please describe how your planned ownership and management of patents and patentable inventions developed under the NSTC R&D program will enable compliance with the domestic control requirements of the CHIPS Act, including your plans to protect such IP from access or use by foreign adversaries.]

Appendices

[For the required appendices, only the C.12 and C.14 Templates have been included below. See section 7.3.1 in the CFP for further clarification.]

C.12 Statement of Work (SOW)

*Include a detailed statement of work that captures and defines all the work management aspects of your project. This should feature a more detailed breakdown aligned with the major tasks outlined in the CFP and should include, but not be limited to, key tasks and activities necessary to achieve the project objectives, research methods and experimental designs to be used, and the expected outputs, such as reports, publications, datasets, software, and prototypes. Include start and end dates for each phase or key activity. The budget workbook should align with the structure of the SOW through consistent **task numbering** and <Titles>. Proposers must ensure that each element in the SOW corresponds directly to a budget workbook line item using the same numerical designation (e.g., SOW Task 2.3 correlates to Budget Item 2.3).*

1. Task 1 <Title>

[Task Description]

1.1. Task 1.1 – <Title>

[Task Description and Deliverable]

1.2. Task 1.2 – <Title>

[Task Description and Deliverable]

[Capture additional subtask as appropriate for each major task]

2. Task 2 <Title>

[Task Description]

2.1. Task 2.1 – <Title>

[Task Description and Deliverable]

2.2. Task 2.2 – <Title>

[Task Description and Deliverable]

[Capture additional subtask as appropriate for each major task]

3. Task 3 <Title>

[Task Description]

3.1. Task 3.1 – <Title>

[Task Description and Deliverable]

3.2. Task 3.2 – <Title>

[Task Description and Deliverable]

[Capture additional subtask as appropriate for each major task]

4. Task 4 <Title>

[Task Description]

4.1. Task 4.1 – <Title>

[Task Description and Deliverable]

4.2. Task 4.2 – <Title>

[Task Description and Deliverable]

[Capture additional subtask as appropriate for each major task]

5. Task 5 <Title>

[Task Description]

5.1. Task 5.1 – <Title>

[Task Description and Deliverable]

5.2. Task 5.2 – <Title>

[Task Description and Deliverable]

6. Task 6 <Title>

[Task Description]

6.1. Task 6.1 – <Title>

[Task Description and Deliverable]

6.2. Task 6.2 – <Title>

[Task Description and Deliverable]

[Capture additional tasks and subtasks as appropriate for each major task.]

C.14 Milestone Payment Summary

[Milestone schedule and their key Deliverables]

Proposers must articulate proposed programmatic milestones tied to their use of funds. Milestones will be used to negotiate payments and payment schedules with Natcast, if selected. Proposers may include proposed milestones to stand up programs, such as an initial advance, quarterly, and final payments. Each milestone should represent significant operational achievements or deliverables (i.e. key technical deliverables, reports, etc.) and major performance outcomes that align with the proposed scope, as described in their submission.

[Describe precisely the items to be delivered, both during the period of performance and at completion of the project. Deliverables should be labeled according to the ID naming convention listed in Appendix D in the CFP, the Deliverables Table.]

Table 3. Milestone Payment Summary schedule and their key Deliverables

Schedule	Associated Tasks / subtasks	Deliverable	Milestone Payment