CPS MSRI PRELIM PROPOSAL SECTIONS

(Tanja) Project Summary. (1-page maximum) Please follow guidance in the NSF PAPPG. The first line of the Project Summary should list the most relevant Directorate(s)/Division(s) for review of the proposal. NSF reserves the right to assign proposals to programs that are deemed to be the most appropriate for review. PI selection of a Division(s) for review is advisory to NSF.

(Tanja, Gabriel, Bogdan, …) Project Description (10-pages maximum), including the following: (Required section headings are highlighted in boldface).

- **(Tanja)** A statement of which of the categories of Mid-scale RI-1 is most appropriate for this proposal as the first sentence.
- Any project-related activities that are anticipated to have significant environmental and/or cultural impacts should be noted at the beginning of the Project Description.
- **(Tanja, Gabriel)** Along with the **Intellectual Merit**, describe the **Scientific Justification**, including the unique research capabilities and lack of general availability of the requested infrastructure and its potential to significantly advance the Nation's research infrastructure.
- **(Tanja)** Along with the **Intellectual Merit,** include a description of the **Research Community Priority** of the infrastructure, i.e., evidence, such as workshop reports or other publicly available indicators, that the infrastructure is a priority for a research community or important for a recognized NSF priority area such as one of NSF's research Big Ideas.
- **(Tanja, Gabriel,…)** Along with the **Broader Impacts**, include a discussion of student training, increased participation of underrepresented groups and a description of tangible benefits to the wider U.S. research community (access, data products, technology, etc.).
- **(Bogdan, Tanja…?)** Preliminary proposals *must* include an <mark>outline of ongoing operations and maintenance plans</mark>, including an estimate of any needs for ongoing, NSF-supported operations and maintenance that may be requested outside of the Mid-scale RI program.
  - **Preliminary Activities Accomplished**: For Implementation projects, include relevant activities that have prepared the infrastructure project to be implemented, including identification of the primary scientific, technical and system performance requirements, and associated designs and specifications. For all proposals, if Conceptual, Preliminary and or Final Designs are available, include them as part of the Special Information and Supplementary Documents section.
  - **Implementation Plan**: Discuss the management and technical activities that will be accomplished to prepare, initiate, execute and conclude the project. This section should include a summary of the management plan including a description of technical readiness and project management, and an organizational chart or list of key personnel and their roles (see Supplementary Documents).
  - **Operations and Utilization Plan**: For Implementation projects, discuss the overall plan for operating the infrastructure including as a minimum management/governance plans, strategy for access and utilization of the infrastructure by the target research communities, and planned metrics and evaluation of the success and impact of the NSF investment in this infrastructure.

This section must also identify the anticipated sources of operations and maintenance funding, including any needs for ongoing, NSF-supported operations and maintenance (O&M) that may be requested outside of the Mid-scale RI-1 program. Only if requested in the full-proposal invitation, an itemized budget for O&M, outside of the Mid-scale RI-1 budget, may be included as a supplementary document.

(David H.?) Proposals with an international dimension should include a description of the foreign collaborator's role in the project. Biographical Sketches for foreign collaborators and letters of commitment from foreign institutions or organizations should be included as supplemental documents to ensure commitment to the collaboration.

References Cited (2-page limit). Please follow guidance in the NSF PAPPG for instructions.

(Tanja, Gabriel, Igor, Dustin) Biographical Sketches (2 pages each). Biographical Sketches are required for the PI, all co-PIs, and any additional senior personnel at all participating organizations. See the PAPPG for details.

(Tanja, Gabriel, Igor, Dustin) Budget and Budget Justification, including budgets for any subawards. For preliminary proposals cost estimates may be preliminary estimates with the Basis of Estimates (BoE) included. Copies of vendor quotations should not be included in preliminary proposals. If the budget includes contingency, that contingency should cover the "known unknowns" and be used to mitigate identified risks.

(Tanja, Gabriel, Igor, Dustin) Facilities, Equipment, and Other Resources: In order for NSF, and its reviewers, to assess the scope of a proposed project, all organizational resources necessary for, and available to a project, must be described in this section of the proposal. Proposers should describe only those resources that are directly applicable. The description should be narrative in nature and must not include any quantifiable financial information. Proposers should include a description of the internal and external resources (both physical and personnel) that are expected to be available to the project. Such information must be provided in this section, in lieu of other parts of the proposal (e.g., Budget Justification, Project Description).

Supplementary Documents: (to be entered in the Supplementary Documents section of FastLane). 1) A list of the major team members, their affiliations, and their role in the project; 2) A list of Partner Organizations to be funded via subawards, and the role of each in the project; and 3)

An *outline* of the **Project Execution Plan (PEP)**. (See the LFM/MFG – *page 80-86 in: https://www.nsf.gov/pubs/2015/nsf15089/nsf15089.pdf*. Greater detail will be required in invited full proposals should that occur. See Full Proposal Preparation section for further information.) The following list provides the minimum required components of the PEP for a mid-scale project (see the section on components of a project execution plan in the LFM/MFG). Each of the sections should be tailored in both detail and scope to the specifics of the project. The PEP should be appropriate for the complexity of the project, and may not require all of the elements described in the LFM/MFG. Should the PI believe that some elements of the PEP are not

applicable, the specific section(s) should include a justification for exclusion. Some material may be a duplication from other sections of the Mid-scale RI-1 proposal but should nevertheless be included for completeness and reference as the project proceeds.

A. **Introduction:** Scientific Objectives, Scientific Requirements, Facility/Infrastructure, Community Outreach and Impacts
B. **Organization:** Project Governance, Project Organization, Partnerships, Roles and Responsibilities, Community Relation and Outreach
C. **Construction Project Definition:** Summary of Total Project Definition, Work Breakdown Structure, WBS Dictionary, Scope Contingency, Baseline Budget, Budget Contingency, Cost Book and Basis of Estimate, Funding Profile, Baseline Schedule, Schedule Contingency
D. **Risk and Opportunity Management:** Risk Management Plan, Risk Register, Contingency Management
E. **Configuration Control:** Configuration Control Plan, Change Control Plan, Document Control Plan
F. **Acquisitions:** Acquisition Plans, Acquisition Approval Process
G. **Project Management Controls:** Project Management Control Systems, Earned Value Management System, Financial and Business Controls
H. **Cyberinfrastructure:** Cyber Security Plan, Code Development Plan, Data Management Plan
I. **Integration and Commissioning:** Integration and Commissioning Plan, Acceptance/Operational Readiness Plan