# Low Temperature Plasma Research Facility User Proposal Template

*Use this template to write your proposal by addressing each of the following sections and questions. Entire text with references is limited to three pages. You can remove all instructional text in italics but leave the headings in bold. Use font no smaller than 10 point.*

*The proposal will be evaluated against the following criteria: 1)* *Scientific and Technical Merit of the Project; 2) Appropriateness of the Proposed Method or Approach; 3) qualification of use principal investigator (PI) and PI team; 4) Availability of Appropriate Research Capabilities at the Facility.*

*For questions regarding your proposal and the Facilities, it is suggested that you contact the Facilities at the Princeton Plasma Physics Laboratory (PPPL) and Sandia National Laboratory (SNL). The contact information is provided in the solicitation and in Section III.*

## **Section I: Proposal Information**

1. **Proposal Title**
2. **Principal Investigator**

*Provide name of the proposals point of contact, Home institution, email address, and phone number.*

1. **Proposed Research Goal**

*Provide a meaningful summary of the proposal indicating main research goals. If this proposal is approved, its abstract, title and PI’s name will be posted on the facility website. Limit: 300 words*

1. **Background and Motivation**

*This section should address scientific and/or technical merit of the project. Briefly describe the current status in the field. Explain scientific, technical and/or the industrial importance of the proposed research and its broader impact if applicable. Include the main scientific question(s) being addressed in this project including the connection to plasma science? Limit: 200 words*

1. **Potential Impact**

*Briefly describe what is (are) the expected impact(s) of this user project. How would the project impact the direction and the thinking in the field? What is anticipated broader impact? It is important for the PI to explain why the Facility is needed for the proposed research? and How the PI is planning to disseminate results of the research (e.g. publications, presentations, outreach) Limit: 200 words*

1. **Qualification of PI/PI team**

*Briefly describe expertise and experience of the PI and PI team (if applicable) relevant to the proposal and research tools proposed for the use in the proposal? Limit: 100 words*

1. **Previous Facility Use**

*Applicants who have previously been allocated Facility access and are seeking a new allocation to continue the same project should provide a status report on the results of the prior effort. Provide references to any presentations or publications that have resulted from the previous effort.* *These references should be included in Reference section of the proposal. Limit: 100 words*

1. **References**

**Section II: Site Specific Information**

**Proposed Facility Project**

*Use this section to (i) specify which Facility (PPPL or SNL) to which you are proposing this research, (ii) very briefly describe the proposed work (experimental or computational), (iii) indicate anticipated deliverables (e.g., peer-reviewed publications, proprietary intellectual property), (iv) indicate a preferred and an alternate period of performance for the project to occur, and (v) address the questions pertaining to specific scope of work below.*

|  |  |
| --- | --- |
| Target Facility |  |
| Nature of work (Experimental/Computational) |  |
| Anticipated deliverable |  |
| Preferred period of performance |  |
| Alternate period of performance |  |

**What experimental hardware/computational resources will be brought by the applicant to the Facility for the project?**

*For experimental projects, (i) provide details on the experimental setup including overall dimensions and weight, input parameters (e.g. gas, pressure, voltage, current), (ii) highlight potential hazards and safety concerns associated with the equipment and the proposed experiment, (iii) list the required utilities (e.g. power, water cooling etc.) for operation of the setup which will need to be provided by the Facility.*

*For computational and experimental projects, (iv) provide the list of applicant’s software which will need to be on Facility computers or will be installed on applicant computers linked to the Facility computer network and (v) identify the requirements for the data storage associated with the project.*

**What diagnostics/computational capabilities/ theory support are needed for the project?**

*For experimental projects, describe the plasma parameters that will be measured as well as the temporal and spatial resolution required. Use the list**of diagnostics available at the selected facility to indicate the desirable diagnostic tool/s for these measurements. Is other equipment needed (e.g., plasma sources, RF amplifiers)?*

*For computational projects, please identify the capabilities (codes, post-processors, data analysis) you anticipate using.*

*A description of available diagnostic tools, equipment, plasma sources, numerical codes and computational resources are available at the websites of PPPL and SNL Facilities.*

**What specific work will need to be performed at the specified facility and/or collaborator’s home institution, in preparation for, or in support of, the proposed project?**

*Use this section to describe, for example, mechanical or electrical adapters that would need to be made in order to integrate your experimental hardware with the selected Facility diagnostic setup (e.g. place and fix it on the optical table), safety requirements, or shipping. Indicate the anticipated total expenses (US$) associated with these preparations at the Facility.*

**What specific tasks will be performed by the applicant at the selected Facility?**

*For each task, include task duration, expected task outcome, requested diagnostic/code/theory support and Facility staff engagement.*

*Indicate anticipated challenges with using the diagnostic or computational methods in the proposed tasks. Can you suggest potential ways to mitigate\overcome those challenges?*

**Personnel**

*List the name/s of researchers, who will be working on this project at the Facility. Very briefly describe their role in the project, experience and skills. Also indicate if the visitors have U.S. Citizenship.*

## **Section III: Contact information**

|  |  |
| --- | --- |
| Dr. Shane Sickafoose (SNL)smsicka@sandia.govprf-snl@sandia.govSandia National LaboratoriesPlasma Research Facility Applied Optical and Plasma SciencesPhone: (505) 845-8362  | Dr. Yevgeny Raitses (PPPL)yraitses@pppl.govpcrf.pppl.govPrinceton Plasma Physics LaboratoryPrinceton Collaborative Research Facility (PCRF)Plasma Science and Technology DepartmentPhone: (609) 243-2268 |

*The PPPL PCRF is supported by the US Department of Energy, Office of Science, Fusion Energy Sciences, under contract DE-AC02-09CH11466. The SNL PRF is supported by US Department of Energy, Office of Science, Fusion Energy Sciences. Sandia National Laboratories is a multimission laboratory managed and operated by National Technology & Engineering Solutions of Sandia, LLC, a wholly owned subsidiary of Honeywell International Inc., for the U.S. Department of Energy’s National Nuclear Security Administration under contract DE-NA0003525. SAND2021-10911 O*

  