

Process for the preparation of the project specification for ITRF Preliminary Activity 2

This document sets out the process, steps and timeline for the preparation of the detailed project plan to be carried out under ITRF Preliminary Activity 2 (PA2). Through the process the key stakeholders, including STFC Department Directors, the LhARA collaboration management, the collaborating institutes, and the ITRF Project Board and Advisory Committee will be kept informed. The stakeholders will be able to monitor progress against the timeline agreed for the preparation of the detailed PA2 project plan. This document will be updated as necessary as the process progresses.

10 Background

The proposal for a second Preliminary Activity (PA2) in Infrastructure Fund Wave 4, “Ion Therapy Research Facility (ITRF) Preliminary Activity 2”, was submitted to STFC on the 21st July 2023 [1]. If successful, this proposal will define an envelope of £21.5M for the execution of a four-calendar-year project, funded over five financial years, to prepare for the construction of the Laser-hybrid Accelerator for Radiobiological Applications (LhARA) to serve the ITRF. The present Preliminary Activity (PA1) will end in September 2024, PA2 is scheduled to start in October 2024 and complete at the end of September 2028.

The programme to be executed in PA2 is based on years 3–5 of “The Laser-hybrid Accelerator for Radiobiological Applications R&D proposal for the preliminary, pre-construction phases” [2, 3]. In addition to the programme for years 3–5 of [2, 3], the PA2 proposal included provision for a programme of radiation biology targeted at preparing the collaboration for scientific exploitation of the facility and modest provision for essential clinical engagement and outreach.

In parallel to the STFC Visions process, by which the PA2 proposal is being considered for submission to the UKRI Infrastructure Fund, it is essential to develop a detailed project plan for the execution of PA2. The PA2 project must be structured to address the principal risks to the successful construction of LhARA to serve the ITRF. A bid to the UKRI Infrastructure Fund for the funds to carry out the construction project will be made as part of the PA2 project.

Formal steps that the PA2 project-development programme must serve

The steps in the STFC Visions process that culminate in submission of the PA2 proposal by STFC to the UKRI Infrastructure Advisory Committee are [4, 5]:

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| 30 | 21Jul23 | Deadline for submission to STFC |
| | Late Aug23 | Visions Panel |
| | 14Sep23 | Deadline for submission to STFC after the Visions Panel |
| | Late Sep23 – min Nov23 | Review of proposals by STFC SB and TAAB |
| | Min Nov23 | Outcomes/feedback to proposal authors |
| | Late Nov23 – early Dec23 | Final proposal drafting/iteration with STFC infrastructure team; |
| | Early Dec23 | Proposal submission to IAC |

In addition to the technical work necessary to develop the detailed PA2 project plan, the following formal steps must be carried out in parallel with and following the Visions Process:

1. STFC and HEI bid reviews;
2. Review of PA2 proposal and detailed project plan by ITRF Project Board and Advisory Committee;
3. Initial independent review of project plan, cost, schedule, and risk.

Process by the Preliminary Activity 2 (PA2) project will be defined

40 The development of the PA2 project plan will be guided by the STFC Project Management Framework to ensure the project offers value for money and successful, timely and cost-effective delivery and is consistent with best practice across UKRI and UK Government Research. This will ensure that the risks are managed appropriately within a proportionate, effective governance structure. The project plan, resource allocations, and risk register will be fully integrated to ensure successful and timely mitigation of the key risks.

45 The first step in the process will therefore be to update and further develop the risk register presented in [2, 3]. This process will be led by the LhARA Project Manager in conjunction with all the work-package managers, those currently in place in PA1 and those who will take responsibility for the execution of PA2. The updated risk register will be a key document in the development of the full PA2 project plan and would benefit from external review. Once complete, the risk register must be kept up to date and will be essential input to both
50 internal and external reviews of the PA2 proposal and to the project-management team as the project developed.

The following process will be adopted to ensure that the management risks critical to the success of the project are appropriately prioritised:

1. The risk register presented in [2, 3] will first be reviewed and updated to reflect progress made in PA1 to date and the additional project elements included in the PA2 proposal. The risk register will be kept under
55 review during the preparation of the PA2 project plan, updates to the risk register will trigger review of resource allocations as the PA2 programme development proceeds.

The review of the risk register will be responsibility of the LhARA Project Manager in consultation with the LhARA Executive and Project Management Boards and the ITRF management team.

2. Following the first pass of the review of the risk register, the LhARA work package managers will develop
60 fully costed project plans that prioritise the mitigation of the key risks. The full PA2 project plan will be assembled from the project plans developed by the individual work-package managers.

3. The full project plan will then be reviewed by the LhARA Project Management and Executive Boards together with the ITRF management team.

4. Once complete, the PA2 project plan will be subjected to review by an independent expert panel and
65 presented to the ITRF Project Board and Advisory Committee. The review will include consideration of the cost and schedule.

Timeline

The Visions Process culminates in the submission by STFC of selected proposals to the UKRI Infrastructure Committee in December 2023. The preparation of the detained PA2 project plan must therefore be scheduled
70 to complete by the end of October 2023. To meet this requirement, the process defined above will be executed in line with the following timeline:

1. 31 August 2023: Initial review of risk register complete;
2. 15 September 2023: initial, fully costed work-package programmes complete;
3. 20 September 2023: presentation of the full programme at the LhARA collaboration meeting and ITRF
75 12 Month Design Review;
4. 30 October 2023: documentation of full PA2 programme complete and ready for independent review.

Version history

| Version | Date | |
|---------|---------|-------------------|
| Draft 0 | 04Aug23 | K. Long, C. Whyte |

References

- 80 [1] **LhARA** Collaboration, LhARA Executive Board, N. Bliss, J. Clarke, M. Noro, and H. Owen, “Wave 4 STFC Preliminary Activity proposal form ‘Ion Therapy Research Facility (ITRF) Preliminary Activity 2’,” Tech. Rep. LhARA-Gov-EB-2023-01, 2023. <https://ccap.hep.ph.ic.ac.uk/trac/raw-attachment/wiki/Research/LhARA/Documents/LhARA-Gov-EB-2023-01-2023-07-20-ITRF-PA2-Wave-4-STFC-Preliminary-Activity-proposal-Final-r1.pdf>.
- 85 [2] The LhARA collaboration, “The Laser-hybrid Accelerator for Radiobiological Applications: R&D proposal for the preliminary, pre-construction phases,” Tech. Rep. CCAP-TN-10, The Centre for the Clinical Application of Particles, Imperial College London, 2022. <https://ccap.hep.ph.ic.ac.uk/trac/raw-attachment/wiki/Communication/Notes/CCAP-TN-10.pdf>.
- 90 [3] The LhARA collaboration, “The Laser-hybrid Accelerator for Radiobiological Applications: Scope of work to be carried out under the ITRF Preliminary Activity,” Tech. Rep. CCAP-TN-10 Annex, The Centre for the Clinical Application of Particles, Imperial College London, 2022. <https://ccap.hep.ph.ic.ac.uk/trac/raw-attachment/wiki/Communication/Notes/CCAP-TN-10-LhARA-ITRF-proposal-annex.pdf>.
- [4] “Guidance for Submissions to the STFC Infrastructure Prioritisation process: Wave 4 Preliminary Activities,” July, 2023. Unpublished.
- 95 [5] “STFC Visions Concept Guidance.” <https://www.ukri.org/wp-content/uploads/2022/09/STFC-220922-VisionsConceptGuidance.pdf>, September, 2022. Accessed: 2023-07.