

LhARA design and integration plans and schedule

J. Pasternak

WP6 Tasks

1. Lattice optimisation, aperture estimation, parameter list and schematic diagram update;
2. Preliminary design of the MA RF cavity;
3. Preliminary design of the FFA magnet;
4. Preliminary design of a solenoid capture and focusing system to mitigate the risks associated with WP3;
5. Preliminary design of the bulk shielding, beam dump and radioprotection requirements;
6. Preliminary design of the diagnostic system;
7. Preliminary design of the control and feedback systems;
8. Mechanical design of accelerator system and integration;
9. Preliminary design of the building and infrastructure requirements;
10. Preliminary design of the vacuum system;
11. Preliminary design of the mechanical supports including the vertical arc;
12. Estimation of the power consumption and cooling requirements;
13. Finalise the Conceptual Design (all systems);
14. Complete contributions to LhARA CDR (24 months).

WP6 Schedule

ID	Task Name	Work Package	Start	2022												2023												2024											
				2022			Half 1, 2023			Half 2, 2023			Half 1, 2024			Half 2, 2024			2024			2024			2024														
				O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D									
558	WP6 System design	WP6	Mon 03/10/22	[Gantt bar from 03/10/22 to 03/10/24]																																			
559	Year 1&2	WP6	Mon 03/10/22	[Gantt bar from 03/10/22 to 03/10/23]																																			
560	1. Lattice optimisation, aperture estimation, parameter list and schematic dia	WP6	Mon 03/10/22	[Gantt bar from 03/10/22 to 03/10/22]																																			
561	2. Preliminary design of the MA RF cavity	WP6	Wed 01/02/23	[Gantt bar from 01/02/23 to 01/02/23]																																			
562	3. Preliminary design of the FFA magnet	WP6	Wed 01/02/23	[Gantt bar from 01/02/23 to 01/02/23]																																			
563	4. Preliminary design of the mitigating solenoid	WP6	Wed 01/02/23	[Gantt bar from 01/02/23 to 01/02/23]																																			
564	5. Preliminary design study of bulk shielding, beam dump and radioprotection requirements	WP6	Mon 27/11/23	[Gantt bar from 27/11/23 to 27/11/23]																																			
565	6. Preliminary design of the diagnostic system	WP6	Wed 01/02/23	[Gantt bar from 01/02/23 to 01/02/23]																																			
566	7. Preliminary design of the control and feedback systems	WP6	Mon 02/10/23	[Gantt bar from 02/10/23 to 02/10/23]																																			
567	8. Mechanical design of accelerator system and integration	WP6	Wed 01/02/23	[Gantt bar from 01/02/23 to 01/02/23]																																			
568	9. Preliminary design of the building and infrastructure requirements	WP6	Mon 02/10/23	[Gantt bar from 02/10/23 to 02/10/23]																																			
569	10. Preliminary design of the vacuum system	WP6	Mon 30/10/23	[Gantt bar from 30/10/23 to 30/10/23]																																			
570	11. Preliminary design of the mechanical supports including the vertical arc	WP6	Mon 08/01/24	[Gantt bar from 08/01/24 to 08/01/24]																																			
571	12. Estimation of the power consumption and cooling requirements	WP6	Mon 27/11/23	[Gantt bar from 27/11/23 to 27/11/23]																																			
572	13. Finalise the Conceptual Design (all systems)	WP6	Wed 03/04/24	[Gantt bar from 03/04/24 to 03/04/24]																																			
573	14. Write CDR	WP6	Thu 25/07/24	[Gantt bar from 25/07/24 to 25/07/24]																																			
574	Year 3-5	WP6	Tue 01/10/24	[Gantt bar from 01/10/24 to 01/10/24]																																			
606	Reporting / Milestones	WP6	Mon 03/10/22	[Gantt bar from 03/10/22 to 03/10/24]																																			
607	Internal Reporting / input to LhARA progress reports	WP6	Mon 03/10/22	[Gantt bar from 03/10/22 to 03/10/22]																																			
608	Milestones	WP6	Mon 03/04/23	[Gantt bar from 03/04/23 to 03/04/24]																																			
609	year 1&2	WP6	Mon 03/04/23	[Gantt bar from 03/04/23 to 03/04/23]																																			
610	M6.1: Early review of R&D work towards LhARA CDR (6 months)	WP6	Mon 03/04/23	[Milestone diamond at 03/04/23]																																			
611	M6.2: Interim review of R&D work towards LhARA CDR (12 months)	WP6	Mon 02/10/23	[Milestone diamond at 02/10/23]																																			
612	M6.3: Final review of R&D work towards LhARA CDR (18 months)	WP6	Tue 02/04/24	[Milestone diamond at 02/04/24]																																			