



PIP-II

Project Director Report

November 2021



Project Highlights

- CD-3 Director's Review concludes "The project is ready to proceed to CD-3"
- Notice to Proceed for PIP-II Site Work was issued Nov 29
- PIP-II team hosts University of Chicago President Paul Alivisatos
- International PIP-II Sustainability Workshop is December 16–17

Upcoming Events

1 Sept–31 Jan '22	ASPIRE Fellowship application period
15 Dec	10 th Project Executive Board (P2PEB) Meeting
16–17 Dec	PIP-II Sustainability Workshop
1–3 March 2022	DOE CD-3 IPR

The Project is ready to proceed to CD-3

The FNAL Director's Review of the PIP-II Project readiness for DOE Critical Decision 3, Start of Construction, was conducted remotely November 30 – December 2. The review committee, chaired by Jim Yeck (BNL), assessed the project's status and progress, identified issues potentially affecting project success, and most importantly evaluated project readiness for a DOE CD-3 review planned for March 2022.

The committee assessed that there is excellent progress across the project, and the level of international engagement and ownership in the success of PIP-II is impressive. They offered advice on final preparation activities and constructive "messaging" on key points.

The committee responded "Yes" to the charge question: "Is the project ready to proceed to CD-3?"

PIP-II Site Work construction started

The Notice to Proceed for the Site Work construction was issued November 29, 2021, and the contractor has started mobilizing. Construction complete is scheduled for October, 2022. This is the second of the two major contracts of the Early Conventional Facilities (ECF) subproject.

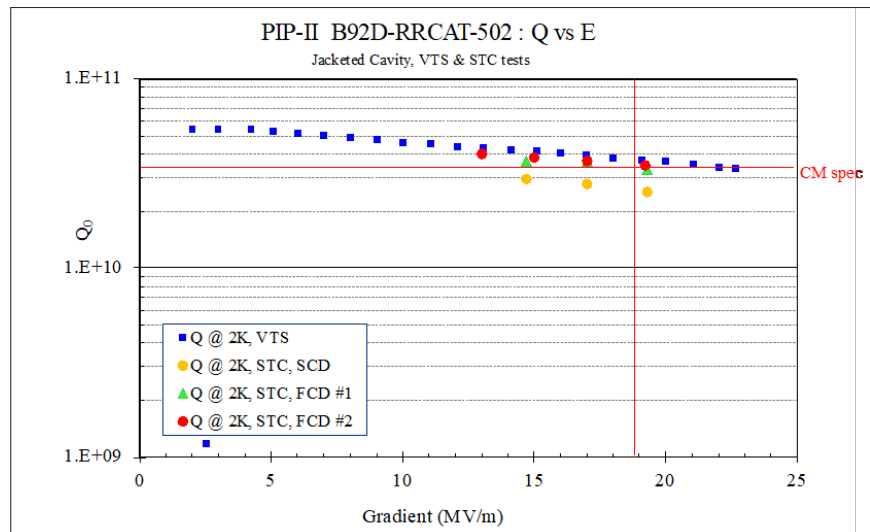
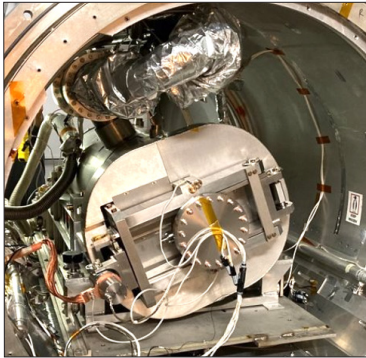
First Single Spoke Resonator 2 (SSR2) cavity manufacturing



The first SSR2 bare cavity is ready for its final weld at Zanon. The cavity will then be mated with its titanium helium vessel and is expected to be completed (fabricated and fully processed) and ready to be shipped to IJCLab for cold testing (with unity coupler and tuner) by end of February 2022.

HB650 prototype cryomodule progress

- B92D-RRCAT-502 HB650 cavity successfully completed horizontal tests at STC (Spoke Test Cryostat). The cavity will undergo an HPR cycle before being prepared for string assembly. Test highlights include:
 - Specification values were achieved for tuner and cavity performance
 - Fast cooldown was successfully performed and showed increased Q performance (see Q vs. E plot below)



- The HB650 team is getting ready for the 6-cavity string assembly that will be inserted in the first HB650 prototype cryomodule. Procedures are being checked through mockups. String assembly to start in early December.



Two-cavity string assembly mockup

PIP-II hosts University of Chicago President Paul Alivisatos

University of Chicago President Paul Alivisatos toured Fermilab on November 19. At CMTF, President Alivisatos interacted with PIP-II scientists and engineers who are building the lab's new leading-edge superconducting linear accelerator.

