

APS-U PROJECT UPDATE

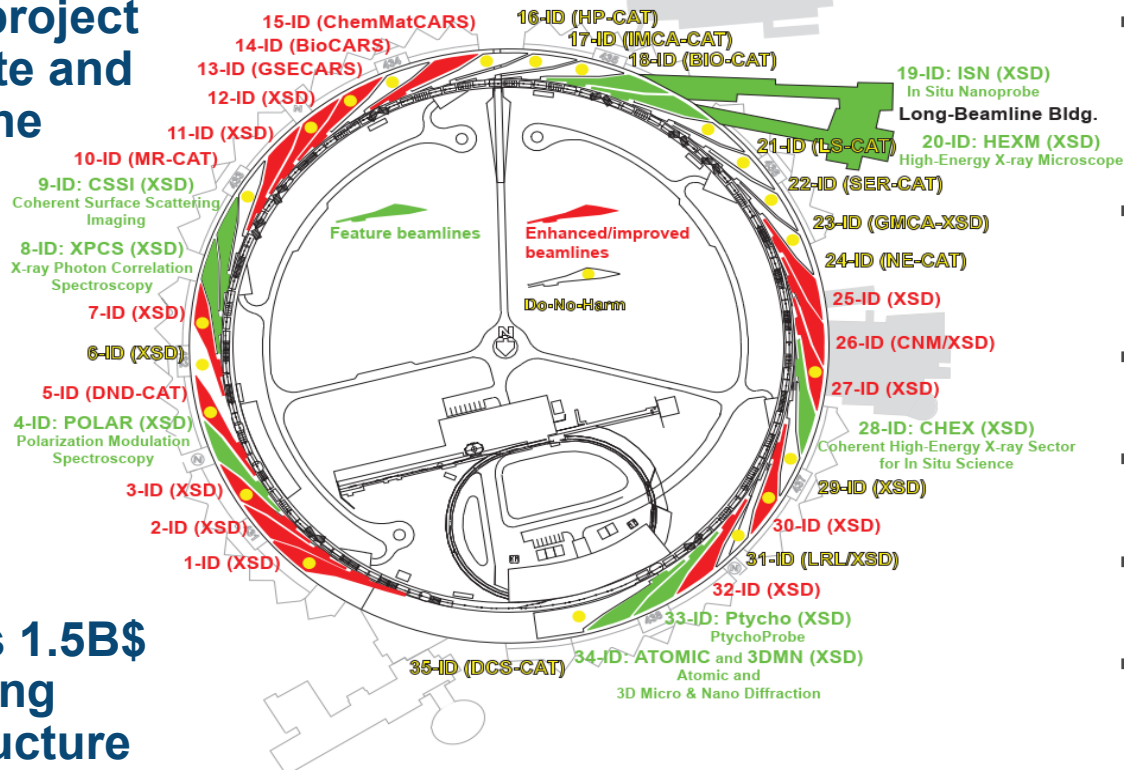


Jim Kerby, Interim Project Director
Elmie Peoples-Evans, Interim Project Manager
PSC All Hands Meeting
January 26, 2022

APS-U PROJECT SCOPE

815M\$ project to update and renew the facility

Re-uses 1.5B\$ in existing infrastructure

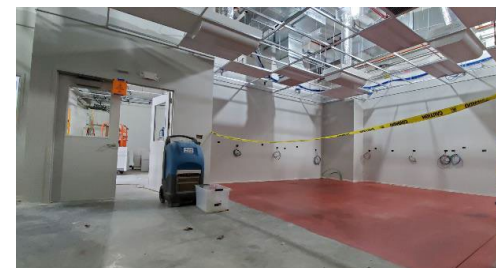


- New storage ring: 42-pm emittance @ 6 GeV, 200 mA
- New and updated insertion devices, including superconducting undulators (SCUs)
- Combined result in brightness increases of up to 500x
- 9 new feature beamlines + Long Beamline Bldg.
- 15 enhanced and improved beamlines
- “Do no harm” beamlines; realign 17 bend magnet lines
- Exploit high-performance computing, AI



RECENT SUCCESSES

- An APS-U Plinth was successfully moved (and removed) from the storage ring enclosure during the recent shutdown
- 1st QMQ module was assembled in 981
- L-Bend vacuum chamber welding is underway in Building 382
- The Long Beamline Building construction is well advanced
- Vendors continue to make progress in production efforts



NEWS AND UPDATES

COVID and Supply Chain effects continue to affect all of us; your health and safety is the most important thing

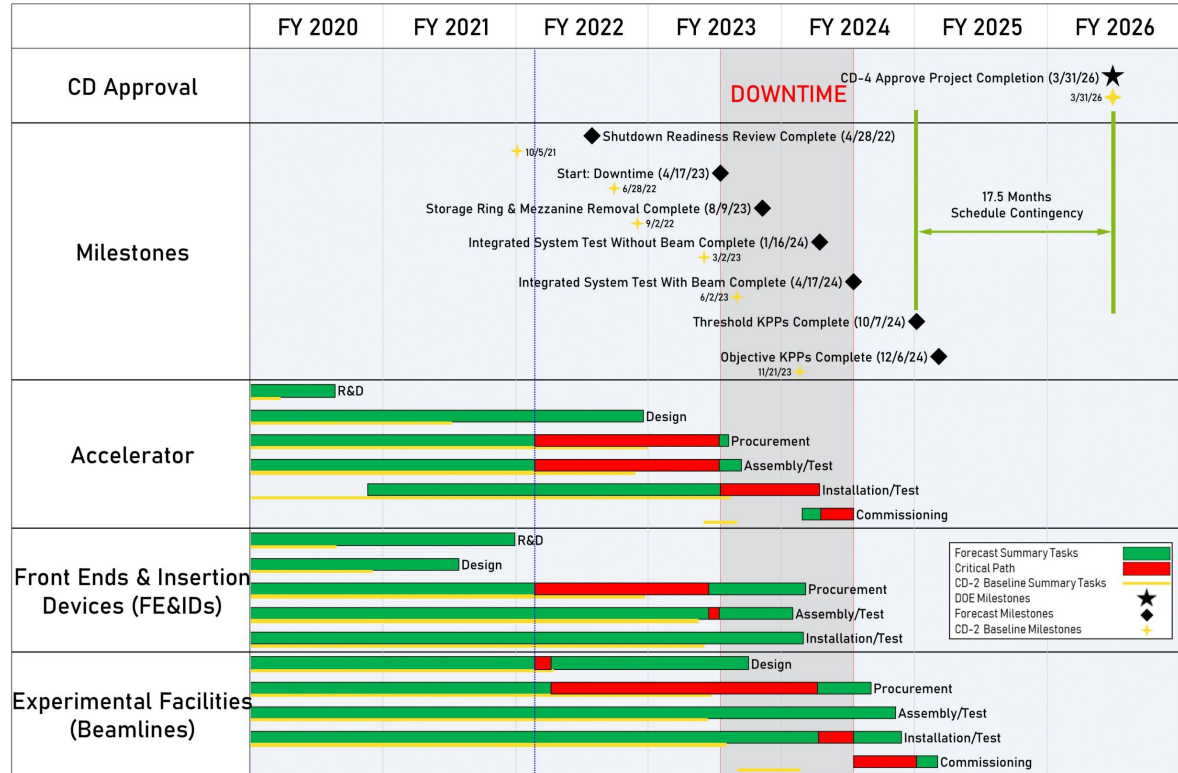
At the highest level, this continues to affect the cost and schedule contingency of the project

All parties...DOE, Argonne, Photon Sciences...are committed to the success of the APS-U, and Photon Sciences; the Advanced Photon Source will continue to be a world-leading hard x-ray facility

All avenues are being discussed to achieve that success, and no decisions have as yet been made

APS-U PROJECT STATUS

- Project is 63% complete; cumulative CPI 0.97, SPI 0.95 (December)
- The start of the shutdown is driven by the accelerator and front-end assembly work; completion of the project is driven by beamline completion
- Contingency continues to be marginal and is being closely watched
- All parties...DOE, Argonne, Photon Sciences...are committed to the success of the APS-U
- All parties also appreciate the great efforts of APS-U staff to continue to deliver in the face of the pandemic and supply chain effects



TEAM EFFORT

- Completing designs → Bids → Better understanding of cost and schedule needs
 - Notify management if a decision is required or something is stuck, our goal is to help
- Working with procurement on quality issues, schedule delays (no matter how small), etc.
 - Procurement can help us enforce contract agreements
 - Reporting all delays helps the team identify trends and work towards strategic responses
- Frequently providing latest forecasts for cost and schedule needs

SUMMARY

- APS-U Project is working to the baseline – contingency is a concern
 - Total project scope, cost, and completion (CD-4) remain unchanged since CD-2
 - Project has shifted from design to full receipt and assembly
 - COVID and associated supply chain ripples having continued effects
- Contingency situation remains marginal; project, Laboratory, and Program watching closely.
- Thanks for your continued efforts

COMMUNICATIONS

APS Upgrade web pages

- <https://www.anl.gov/aps-upgrade>
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The screenshot shows a web browser displaying the APS Upgrade website. The browser's address bar shows [aps.anl.gov/APS-Upgrade](https://www.aps.anl.gov/APS-Upgrade). The website has a top navigation bar with links for ABOUT, SAFETY, ORGANIZATION, USER INFO, BEAMLINES, MACHINE STATUS, APS-U, MEDIA CENTER, and DEI. Below this is a secondary navigation bar with links for Long-Range Schedule, Publications, Science Highlights, APS Highlights Book, APS Brochure, APS/User News, Telecommuting, Directory, Search, and Useful Links. The main content area features a 'Contacts' section, a sidebar for 'APS-U' with links to various resources, and a main article titled 'The APS Upgrade: Building a Brighter Future'. The article text describes the future of the Advanced Photon Source and encourages visitors to learn more about upgrade features and schedules. A light blue box contains a section titled 'FROM THE APS UPGRADE PROJECT DIRECTOR' with a paragraph about the year-long storage ring installation period. At the bottom right, there is a video player with the title 'Upgrading the Advanced Photon Source: Researchers...' and a play button.