APS-U PROJECT UPDATE

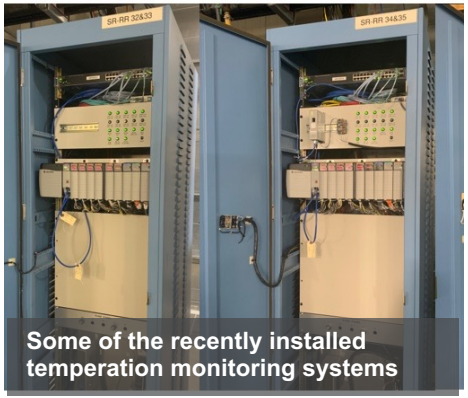
Jim Kerby
APS Upgrade Project Manager
PSC All Hands Meeting

October 26, 2022

x500

$815M

$1.5B



Some of the recently installed temperation monitoring systems

Bunch Lengthening System Assembly

All of the DLM and QMQ chamber supports in storage

The CSSI Grand Tube under manufacture in Spain

A BUSY FEW MONTHS!

Project / PSC reviews completed and upcoming:

a. Shutdown Preparation Readiness Review: August 16-18
b. Experimental Systems Advisory Committee (ESAC): each morning of August 17 and 24
c. Argonne EVMS Surveillance Review: August 23-25
d. Beamline Radiological Review: September 12
e. Accelerator Readiness Review Update: September 21
f. Director's Review: October 4-6
g. Machine Advisory Committee (MAC): October 13-15
h. Accelerator Radiological Review: October 28
i. OPA Review of the APSU: November 15-18
j. Scientific Advisory Committee Meeting: November 16-17

Extraordinary lift by staff, with special thanks to our external reviewers on each committee.

Very positive and constructive conversations to help us make the most robust plan possible going forward to – and beyond -- the upgrade

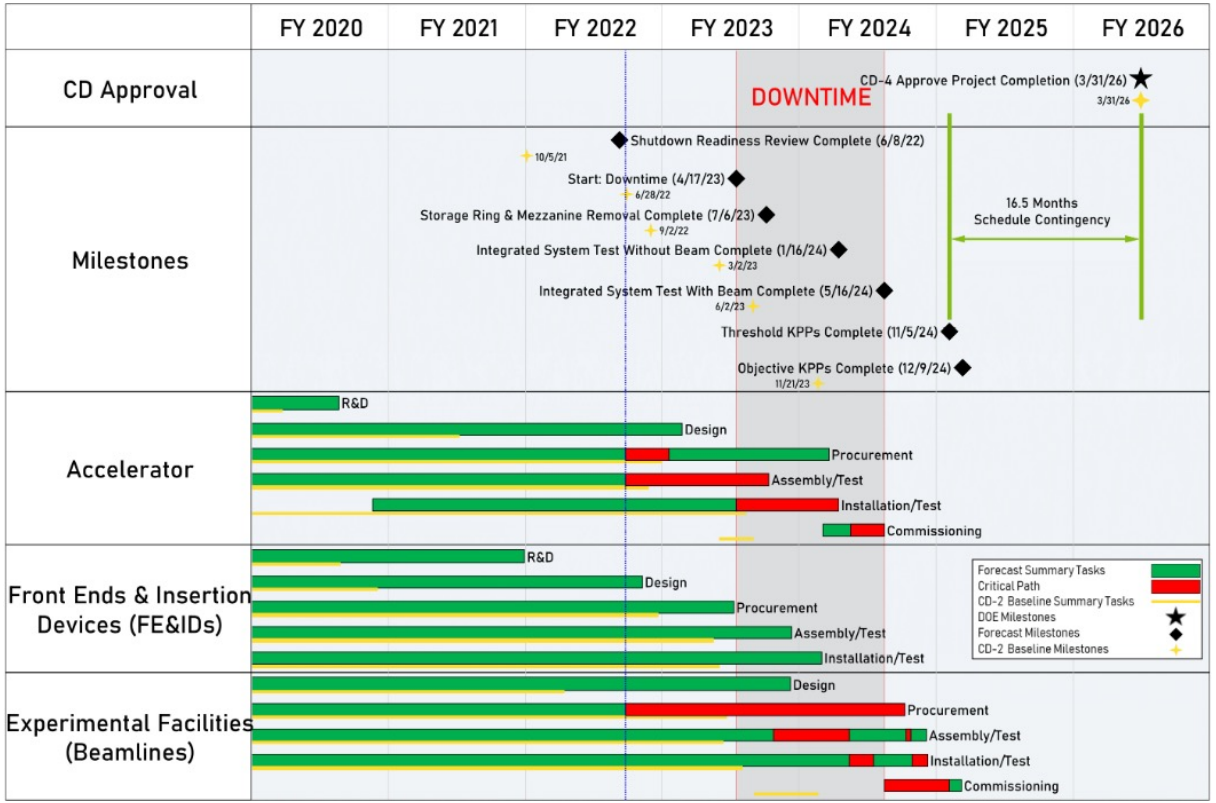
CURRENT STATUS AND SCHEDULE

User operations scheduled to end April 17, 2023
Accelerator shutdown April 24, 2023

- Plans vetted by shutdown preparedness readiness review

Accelerator component delivery, acceptance and assembly drive the shutdown.

Supply chain and inflation impacts continue; close work with vendors to hold schedule, including finding parallel sources for components



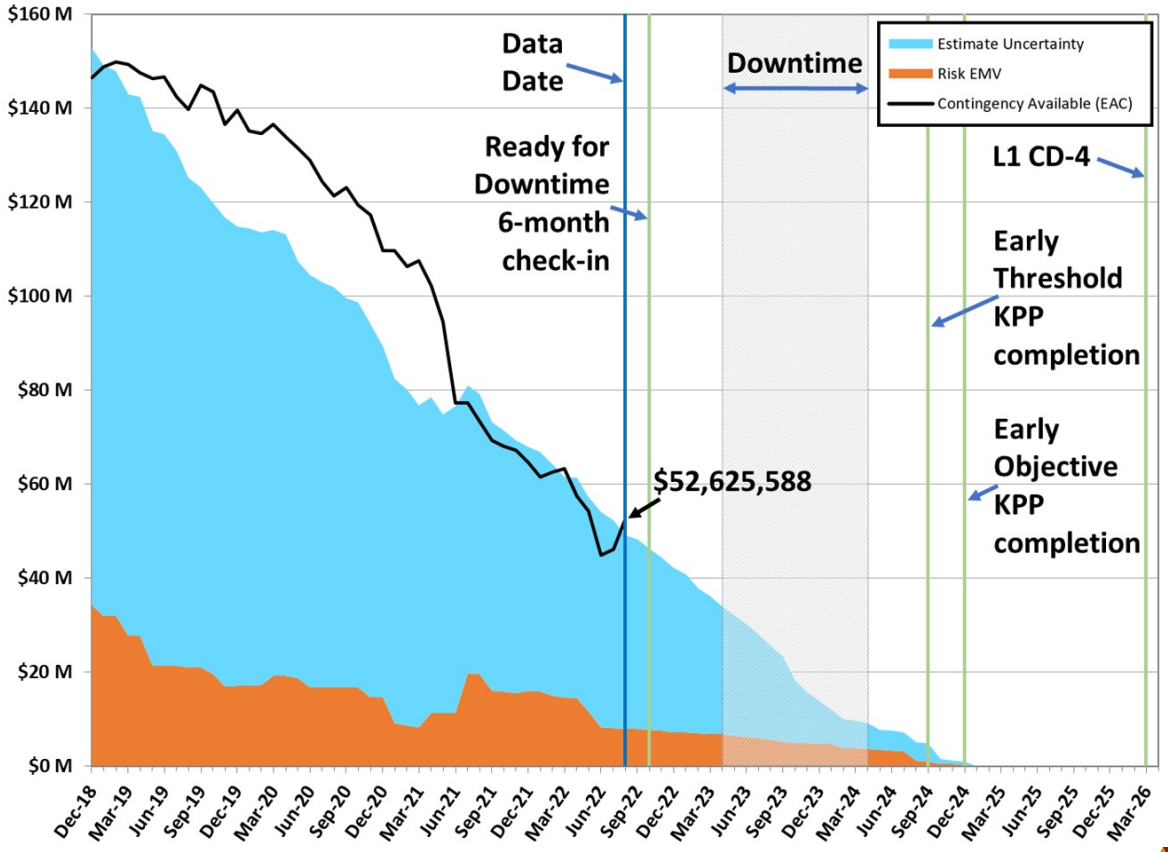
PROGRESS AND CONTINGENCY

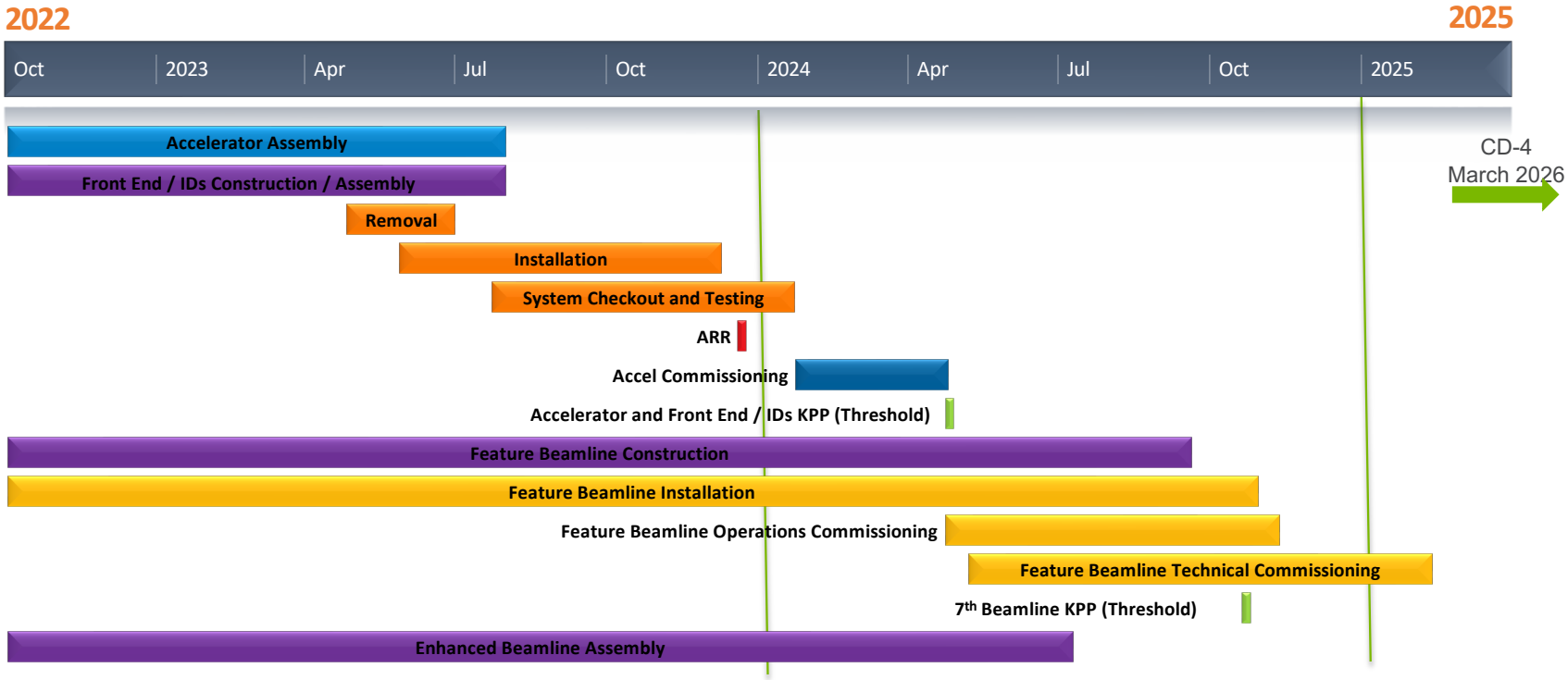
Project exercised scope options to increase cost contingency to adequate level - 24% of work to go - without affecting delivery of Objective KPPs

- "Major Item of Equipment" and other means under development to enable full realization of facility capabilities
- New and future capabilities matrix available on through web page

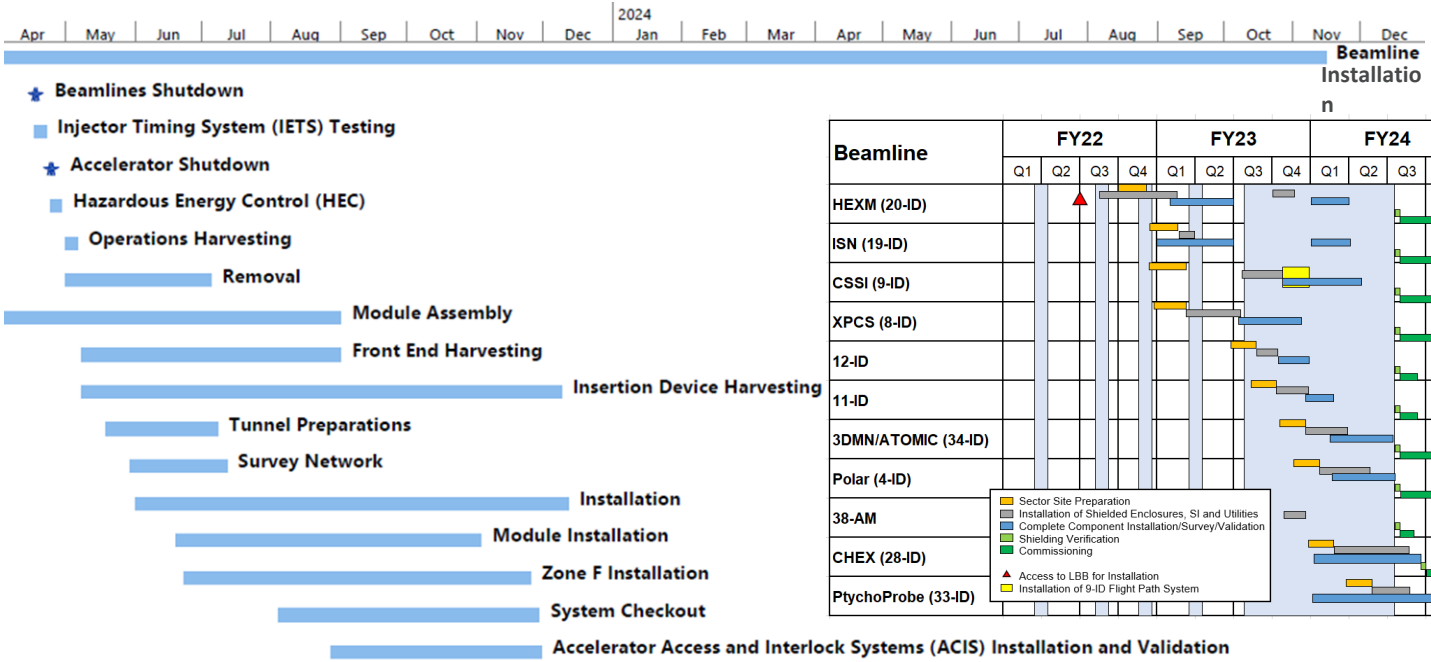
Schedule to the shutdown is the short term priority

Close interactions w/ our industrial partners is critical





INSTALLATION SCHEDULES



- R&I planning has been redone, bottoms up, accounting for parallel work in sectors around the ring

BEAMLINE COMMISSIONING

Integrated Plan for ALL beamlines in development

Most effective return to User operations across the facilty is the overarching goal

Feature Beamlines largely driven by construction / deliveries

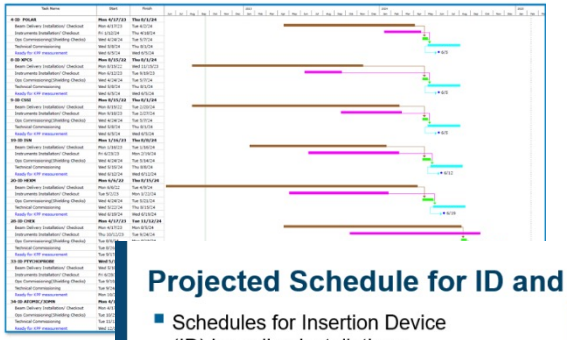
Schedule of the remainder of beamlines to be set based on readiness, complexity, …

XSD / APSU leading development of planning

- Review of resource needs and leveling
- Integration with accelerator commissioning plan

Beamline Installation Schedule

- Beamlines will be built in series using dedicated technician teams
- Technician teams need to be coordinated (example: installation of RSS components requires multiple tech types working together)



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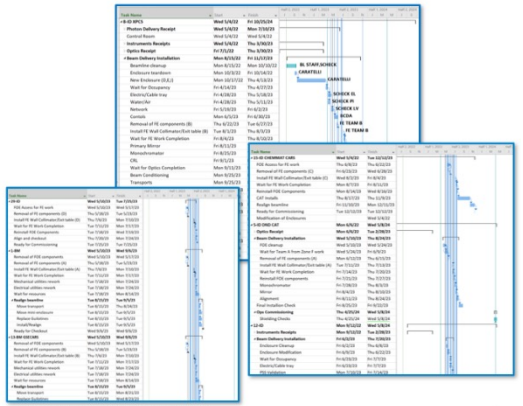
Projected Schedule for ID and BM Beamlines

- Schedules for Insertion Device (ID) beamline installations designed around shielded enclosure installation (component delivery) dates from vendors
- ID front-end and BM work based on dark time schedule
- APS-U responsible for beamline component technical verifications
- Operations handles beamline commissioning and preparation for user operations



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Director's Review of APS-U October 4-6, 2022

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SUMMARY

172 days to go! We will continue to communicate updates on a monthly basis (check the web page!)

The reviews have confirmed and helped our planning to become more robust. The strength of the team is noted by all.

Planning for ‘APS after the Upgrade’ is under way. More news to come.

Upcoming Reviews

- Accelerator Radiological Review: October 28
- OPA Review of the APSU: November 15-18
- Scientific Advisory Committee Meeting: November 16-17

Thank you for your continued interest in, support of, and safe work conducted on behalf of the Lab, PSC and the Upgrade

COMMUNICATIONS

APS Upgrade web page on the APS website

- https://www.aps.anl.gov/APS-Upgrade

APS Upgrade web page on the Argonne website

- https://www.anl.gov/aps-upgrad

172 days to the shutdown!