

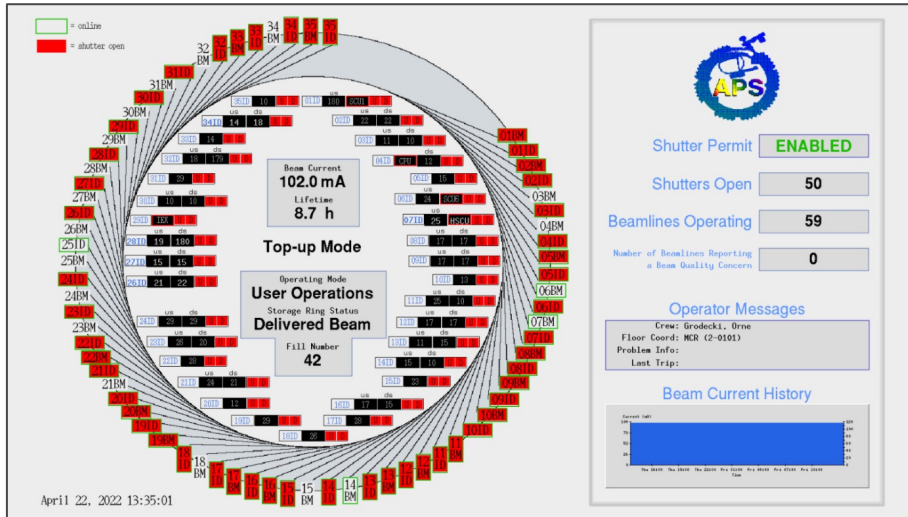
APS OPERATIONS & AES HIGHLIGHTS



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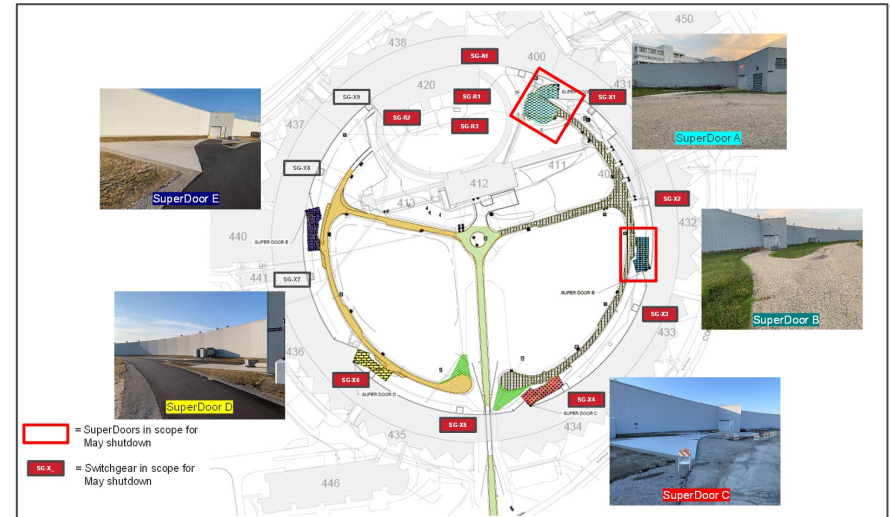
PSC All Hands Meeting
April 27, 2022

APS OPERATIONS UPDATE



APS Operations dashboard on April 22, 2022

- APS accelerator complex: 96.96% uptime, MTBF ~54 hrs
- 11 faults >2 hours
- No faults appear to be systemic other than RF4 trips
- Hosting ~180 users onsite/week
- DuPage County CDC Comm. Level moved to “Medium” Apr 21



APS Power Shutdown Scope for early May 2022

- Maintenance outage starts Apr 28; user run turnover May 31
- Power shutdown (13.2 kV) for SuperDoor A & B concrete Power off on May 3, power restored on May 6
- Completion of last 2 FEEPS upgrades
- Replacement of L2 water skid

GAP WORKSHOP (APS OPS / APS-U)

- Numerous sessions held previously across six topical discussion areas to identify gaps
- Update in mid February 2022 regarding output consolidation and chartered efforts to close gaps
- Ten focused charters developed with supporting teams to address as one PSC organization
- Current status of projects provided below; many draft or final responses to date
- Next steps will be finalization of responses, review and formalizing implementation actions

Charge Title	Lead Division / Assignee	Project Lead(s)	Status	Deliverable Date	Implementation
Injector Readiness	ASD (Byrd)	Borland	In Progress	May 31, 2022	Before dark time
Control System Software Readiness	ASD (Byrd)	Shen	Draft Report	April 29, 2022	Before SR commissioning
RF Readiness	ASD (Byrd)	Nassiri, Horan	Draft Report	April 29, 2022	Before SR commissioning
Water System Continuity	AES (Edelen)	Swetin	Final Report	March 15, 2022	Before dark time
Component Harvesting and Configuration	APS-U (Kerby, Peoples-Evans)	Erdmann	Draft Report	April 29, 2022	Before dark time
Integration Structure	APS-U (Kerby, Peoples-Evans)	Cease, Pile	In Progress	April 29, 2022	Before dark time
Experiment Hall Temperature, Vibration, Acoustic	XSD (Lang)	Preissner, Collins	In Progress	May 31, 2022	Before first experiments
Optical Component Testing	XSD (Lang)	Shi	In Progress	April 29, 2022	Before first experiments
Power and Load Adequacy	PSC (Connolly)	Doktorczyk	Draft Report	April 29, 2022	Before dark time
Preventative Maintenance and Spares Program	PSC (Connolly)	Toeller	In Progress	April 29, 2022	Before first experiments

HELIUM SUPPLY – LIQUID AND GASEOUS



▪ Liquid Helium (LHe):

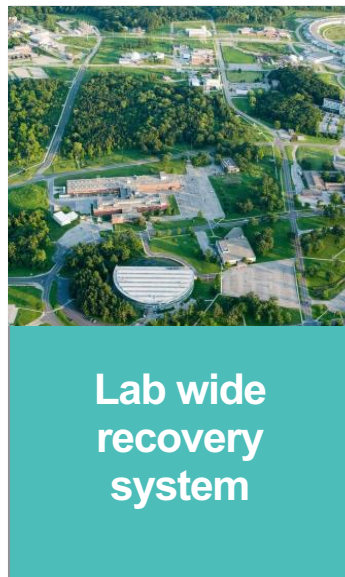
- Price increase from \$7.48 to \$13.50/L effective May 1
- Monthly allocation for Lab: 3600 L; PSC allocated 1700 L/month
- LHe provided on prioritized basis by project
- PSC opted no supplemental LHe (\$65/liter); PSE concurred
- Focus on sitewide LHe recovery system: 400-area operational by Aug 2022

▪ Gaseous Helium

- Monthly allocation for Lab: 98 cylinders; PSC allocated 82 cylinders and weekly quota
- Gaseous helium provided on prorated basis using historical consumption levels
- Pursuing certification that could increase vendor supply

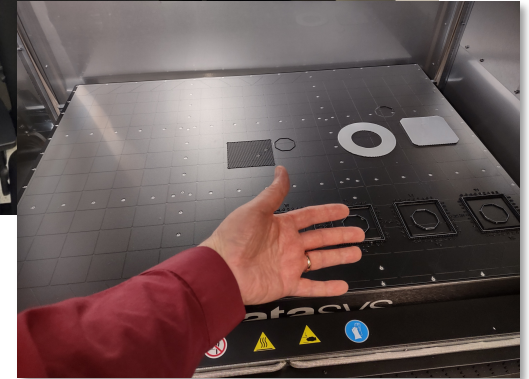
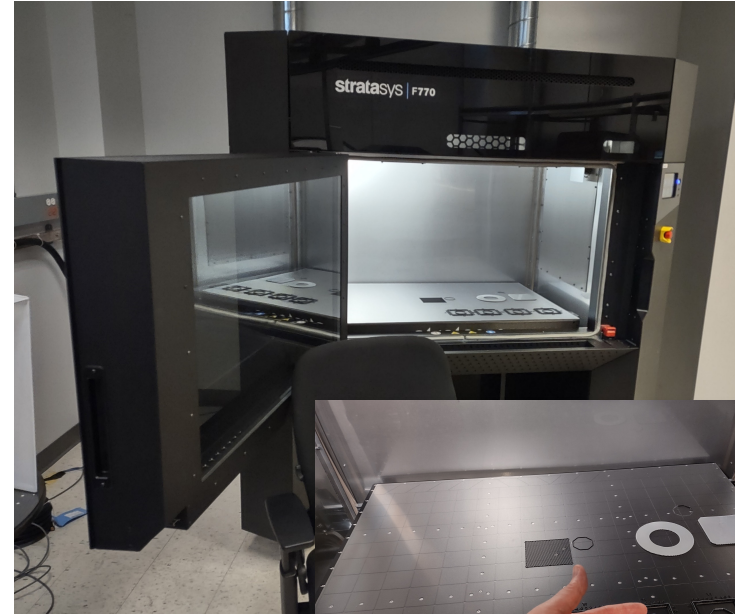
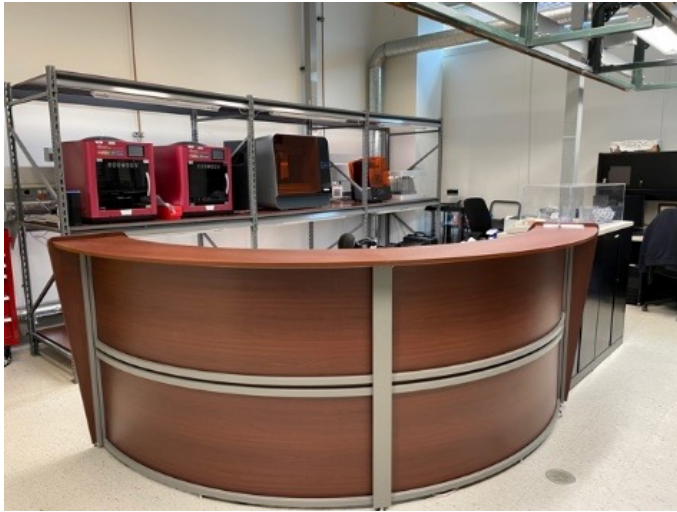
HELIUM CRISIS

- Helium shortage (liquid, gas)
- Threat to operations
- PSC- ANL coordinating strategies



DESIGN AND DRAFTING GROUP – ADDITIVE MANUFACTURING FACILITY

- Produced >3000 parts in last year
 - 75% for beamlines
- Stratasys F770 – extra large format FDM to print items up to 1 meter long



INFORMATION TECHNOLOGY

- Fiber infrastructure upgrade
- Sector 16 network updates



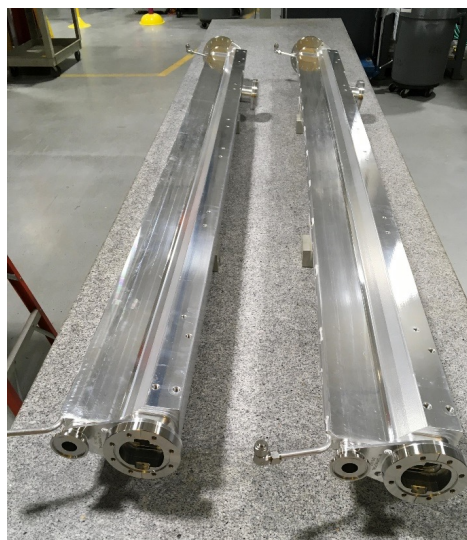
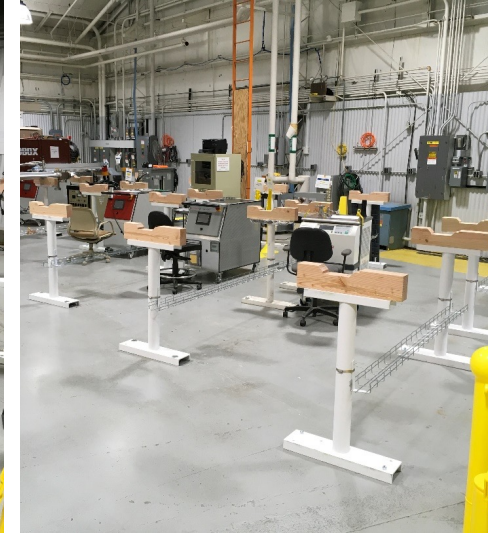
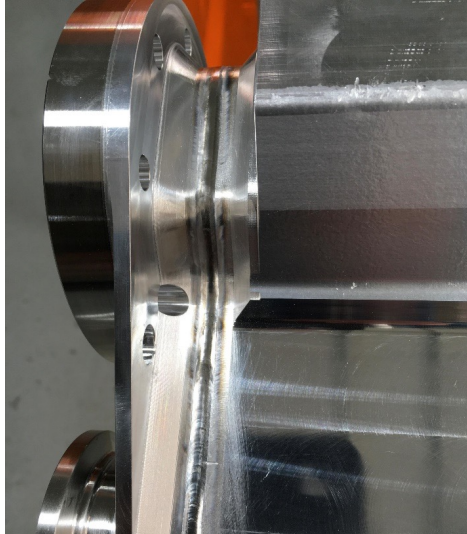
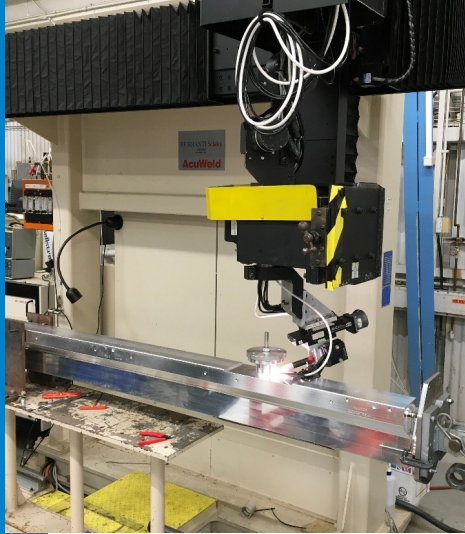
Fiber shelves in APS datacenter for accelerator, beamlines, LOMs



Accelerator Cluster disk storage – two HPE nimble storage chassis



S16 network isolation boxes



L-BEND VACUUM CHAMBER PRODUCTION FOR APS-U

- 5 different styles of vacuum chamber, total of 180
- Production includes assembly, welding, cleaning, bakeout, vacuum certification
- 4 chambers completed
- 19 chambers welded; undergoing processing

INFORMATION SOLUTIONS

- New initiatives include:
 - ORCID integration
 - Beamline scheduling system deployed
 - Argonne Single Sign ON for Business Objects
 - Upgrade ICMS repository
 - Universal Proposal Management System collaboration w/BNL, SLAC

