

RESTARTING BEAMLINE SCIENCE

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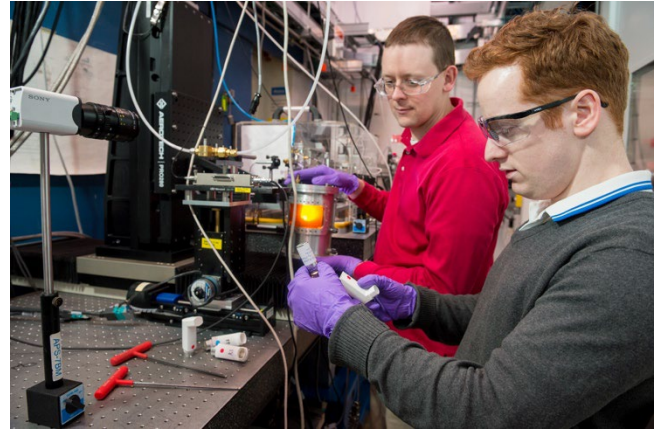
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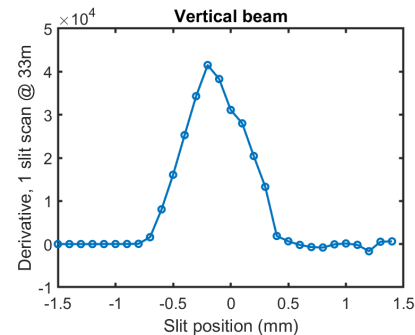
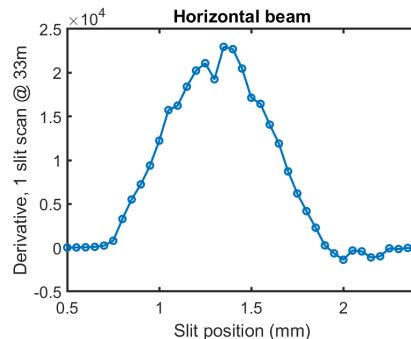
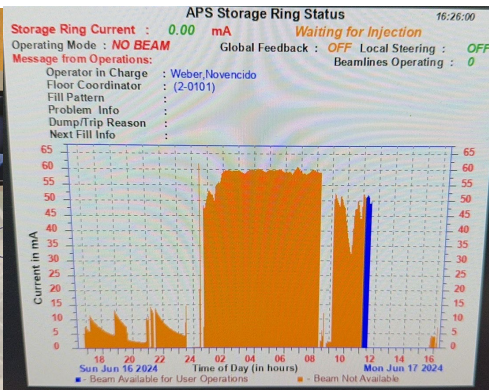
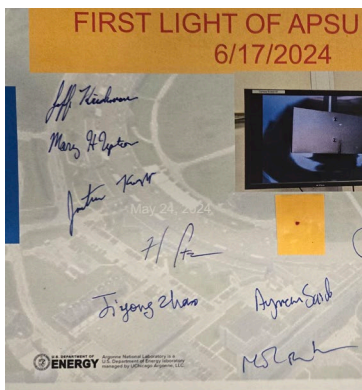
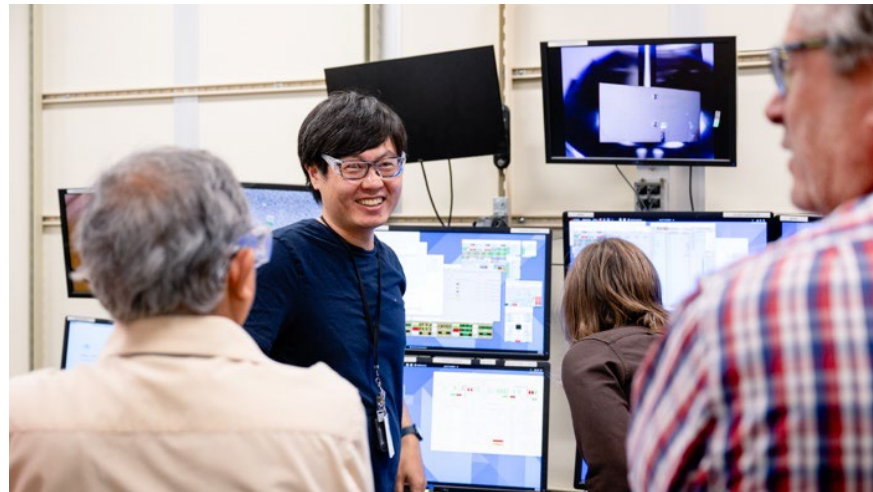
All beamlines need to meet pre-beam requirements and undergo commissioning before returning to general user operations

- **PDRC* Review** – Examines final beamline design and radiation safety (new ray tracings)
- **Test & check-out** – Testing of new equipment, systems without beam
- **Ops commissioning** – First beam and shielding verification (serial process). 2+ months to complete
- **Technical commissioning** – Testing of the beamline with beam. 4 weeks for most BLs
12 weeks for new BLs
- **Scientific commissioning** and early experiments. 4 weeks for all non APS-U feature BLs
- **General user program** can restart on beamline



BEAMLINE COMMISSIONING UPDATE

First beam at 27-ID, Monday June 17, 2024



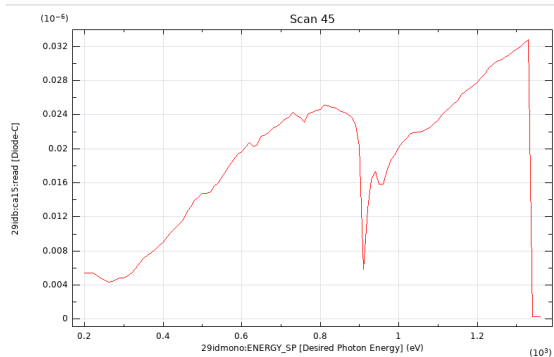
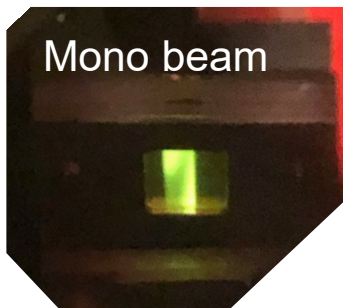
~45 minutes of beam on Monday, before power failure in zone F
Phase 1 & 2 commissioning finished on Wednesday

BEAMLINE COMMISSIONING UPDATE

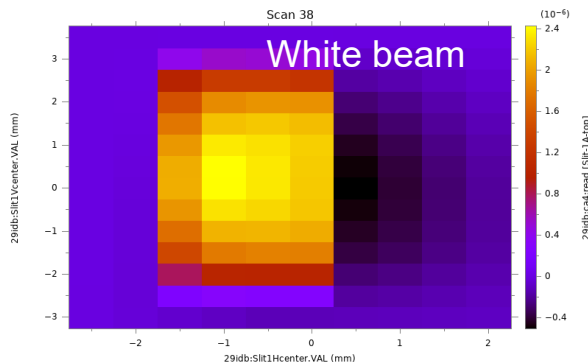
First beam at 29-ID, Wednesday June 19, 2024



Beamline team at 29-ID



Copper L_{2,3} edge absorption



Beam profile, smaller than expected

Adjusting grid-BPM aperture & finish comm. (Wed./Thurs.)

Will use diagnostic in 29-ID-A to verify beam emittance

BEAMLINE COMMISSIONING UPDATE

First beam at 25-ID, Friday June 21, 2024



Steve Heald opening shutter



Commissioning team at 25-ID



Completing ops commissioning Wed./Thurs.

Outboard beam

Inboard beam

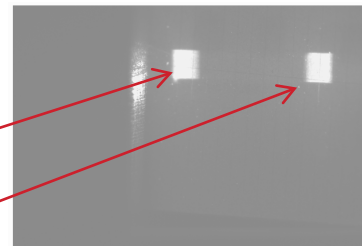


Image on diamond beam position monitor

BEAMLINE COMMISSIONING UPDATE

Continuing to refine schedule based on beamline readiness

Updating weekly & posting to Box

SectorID	Affiliation	FY24 Q3											FY24 Q4					
Fiscal Year Quarter		21	22	23	24	25	26	27	28	29	30	31	32	33				
Weeks of the calendar year		5/20	5/27	6/3	6/10	6/17	6/24	7/1	7/8	7/15	7/22	7/29	8/5	8/12				
35 BM	ASD																	
29 ID	XSD																	
27 ID	XSD																	
25 ID	XSD-ASL																	
8 ID	XSD-XPCS																	
24 ID	NE-CAT																	
16 ID	HP-XSD																	
1 ID	XSD																	
11 ID	XSD																	
26 ID	CNM																	
13 BM	GSECCARS																	

CRRT Ops Commissioning Schedule

Date 6/20/24 * - if needed
Version 2

Access/Machine Studies
Maintenance

June

	Monday 6/17/24	Tuesday 6/18/24	Wednesday 6/19/24	Thursday 6/20/24	Friday 6/21/24	Saturday 6/22/24	Sunday 6/23/24
Morning	27-ID Phase 1		29-ID Phase 1	n/a	25-ID Phase 1	25-ID If needed Beamline Ops	Beamline Ops
Afternoon	27-ID Phase 1		29-ID Phase 1 27-ID Phase 2	29-ID Cont.	25-ID Phase 1	25-ID If needed Beamline Ops	Beamline Ops

	Monday 6/24/24	Tuesday 6/25/24	Wednesday 6/26/24	Thursday 6/27/24	Friday 6/28/24	Saturday 6/29/24	Sunday 6/30/24
Morning			25-ID Phase 2	8-ID Phase 1	26-ID Phase 1	8-ID Phase 2	Contingency
Afternoon			25-ID Phase 2 29-ID Cont.	8-ID Phase 1	26-ID Phase 1	8-ID Phase 2	Contingency

July

	Monday 7/1/24	Tuesday 7/2/24	Wednesday 7/3/24	Thursday 7/4/24	Friday 7/5/24	Saturday 7/6/24	Sunday 7/7/24
Morning	26-ID Phase 2	8-ID Phase 3	16-ID B branch Phase 1		n/a	n/a	n/a
Afternoon	26-ID Phase 2	8-ID Phase 3	16-ID B branch Phase 1		n/a	n/a	n/a

	Monday 7/8/24	Tuesday 7/9/24	Wednesday 7/10/24	Thursday 7/11/24	Friday 7/12/24	Saturday 7/13/24	Sunday 7/14/24
Morning	8-ID Phase 4		13-BM	16-ID B Phase 2	13-BM (if needed)		Contingency
Afternoon	8-ID Phase 4		13-BM	16-ID B Phase 2			Contingency

Planning schedule (order, HP availability, ...)

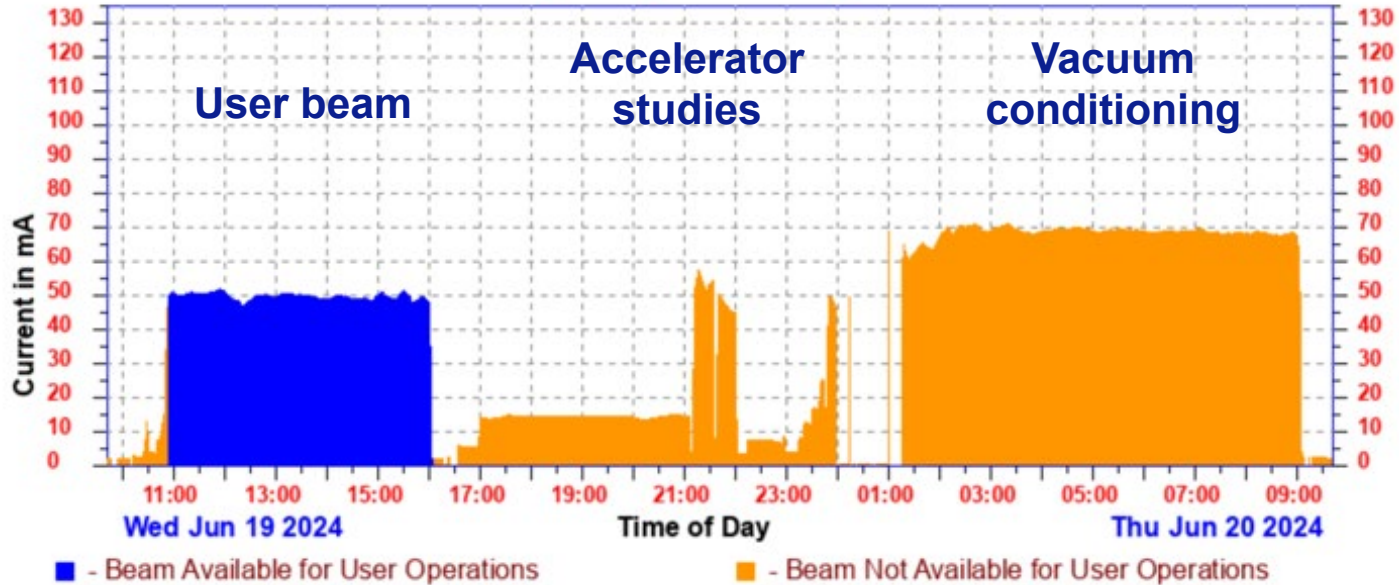
Detailed schedule sets days will be at beamlines

- Shielding validation requires multiple visits. Follow up work at 27-ID, 29-ID, & 25-ID (Weds.)
- First beam expected at 8-ID XPCS (Thurs.) & 26-ID (Fri.); Scheduled: 16-ID & 13-BM
- Next beamlines up: 1-ID; 3-ID; 7-ID; 9-ID (CSSI), 10-ID (MR); 21-ID (LS-CAT); 24-ID (NE); 30-ID
- Assessing readiness to get additional beamlines scheduled prior to August 12 shutdown

BEAMLINE COMMISSIONING UPDATE

APS Storage Ring Current History

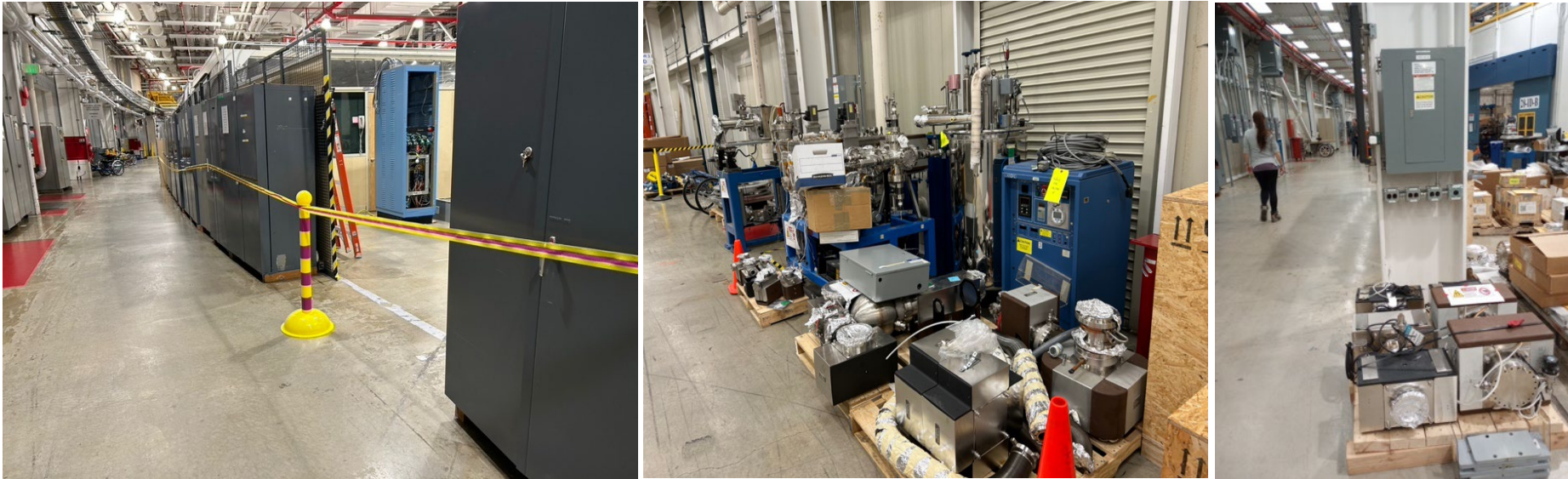
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- Operations schedule for next few weeks.
 - “User beam” ~9 a.m. - 5 p.m. each day
 - Accelerator studies evening
 - Vacuum conditioning night shift

BEAMLINE UPDATES

Need to clean up clutter as transition back to operations



- Seeing progress in some areas but other areas need work (experiment hall hallway)
- Excess old equipment if not being used! Keeping items has costs:
 - Space: \$37 ft²/yr. → one pallet ~\$600/yr. + time to inventory items