Controls SW Group Meeting
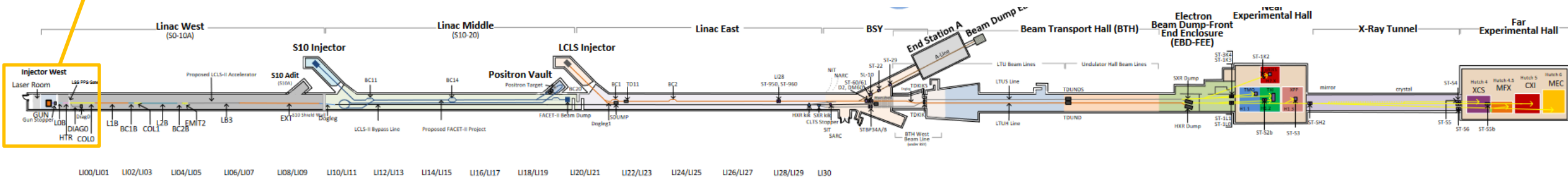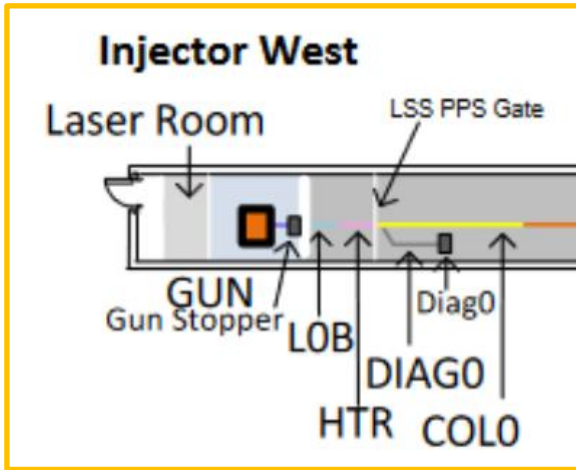
May 18th, 2023

T. Summers

SLAC NATIONAL ACCELERATOR LABORATORY

State of the Accelerators

Really close making beam again...

- Wrapping up the current PAMM today
  - K11 (S21/S22) power is back – need to restore power to crates, check NC timing
- We are turning the SC Gun on this week!
  - Friday: gun equipment restart (no beam), linac equipment turn on and measurements
  - Saturday: beam through COL0 - may need timing, MPS, diagnostic (BPM, PM) support
  - Sunday: injector tuning and optimization
  - Next week: 10 Hz beam to BSY
- Next Thursday - Cu Gun restart, verify can generate 250 pC charge

Beamline maps!
https://slac.sharepoint.com/sites/pub/Publications/Forms/AOSD%20WEST%20Search.aspx?viewid=39fc6908%2D4be5%2D4a8d%2D955e%2D9553a3d9e522

State of the Accelerators

Looking further…

- Short PAMM June 1-2, then resume SC Linac commissioning
  - Also run up LCLS Cu linac RF to check systems and identify any needing repair

- CATER buckets will be updated to reflect new schedule

Start Date ↓≡	End Date	Program	Machine Status	Description
08/01/2023	09/16/2023	All Accelerators	Downtime	2023 Summer downtime (LCLS SC, FACET, LCLS Cu)
06/01/2023	06/02/2023	All Accelerators	PAMM	6/1 single-day PAMM
05/16/2023	05/18/2023	All Accelerators	PAMM	5/16-5/18 PAMM

- BIG NEWS! Machines off starting June 14, lasting about 4 weeks
  - Details in email from John Schmerge to AD yesterday
  - Time for all remaining Ksub repairs and sector power outages
  - Controls – all remaining MC already off. Need to plan for CAMAC, VME, and ATCA. Timing will likely be down/intermittent
- When we resume, it will be with Cu beam through undulators to verify that all still works
  - Then we switch over to sending SC beam through them and achieve first light! Champagne will be served.

Looking ahead to SC Linac restart – next week

Find the schedule here:

https://calendar.google.com/calendar/u/0/embed?height=600&wkst=1&mode=WEEK&bgcolor=%2300CCDD&ctz=America/Los_Angeles&title=LCLS+SC+Linac+Schedule&src=Z285ZHZ0MmZqOWc2OTUxcXZpcDA1cGJpMzBAZ3JvdXAuY2FsZW5kYXIuZ29vZ2xlLmNvbQ&src=bnE3ajQzdHRicjY2cGU4NzFyMmVtZ2ZvcjBAZ3JvdXAuY2FsZW5kYXIuZ29vZ2xlLmNvbQ&color=%237986CB&color=%23009688
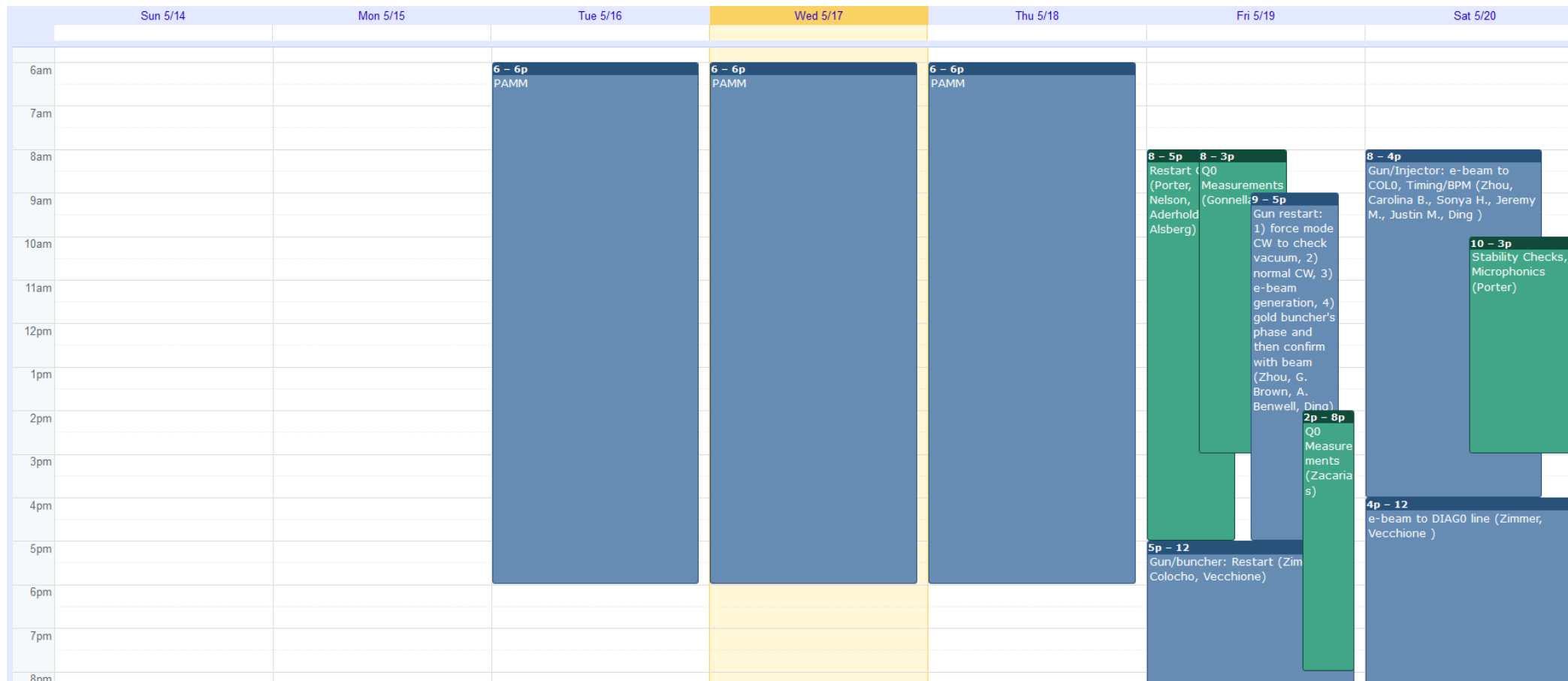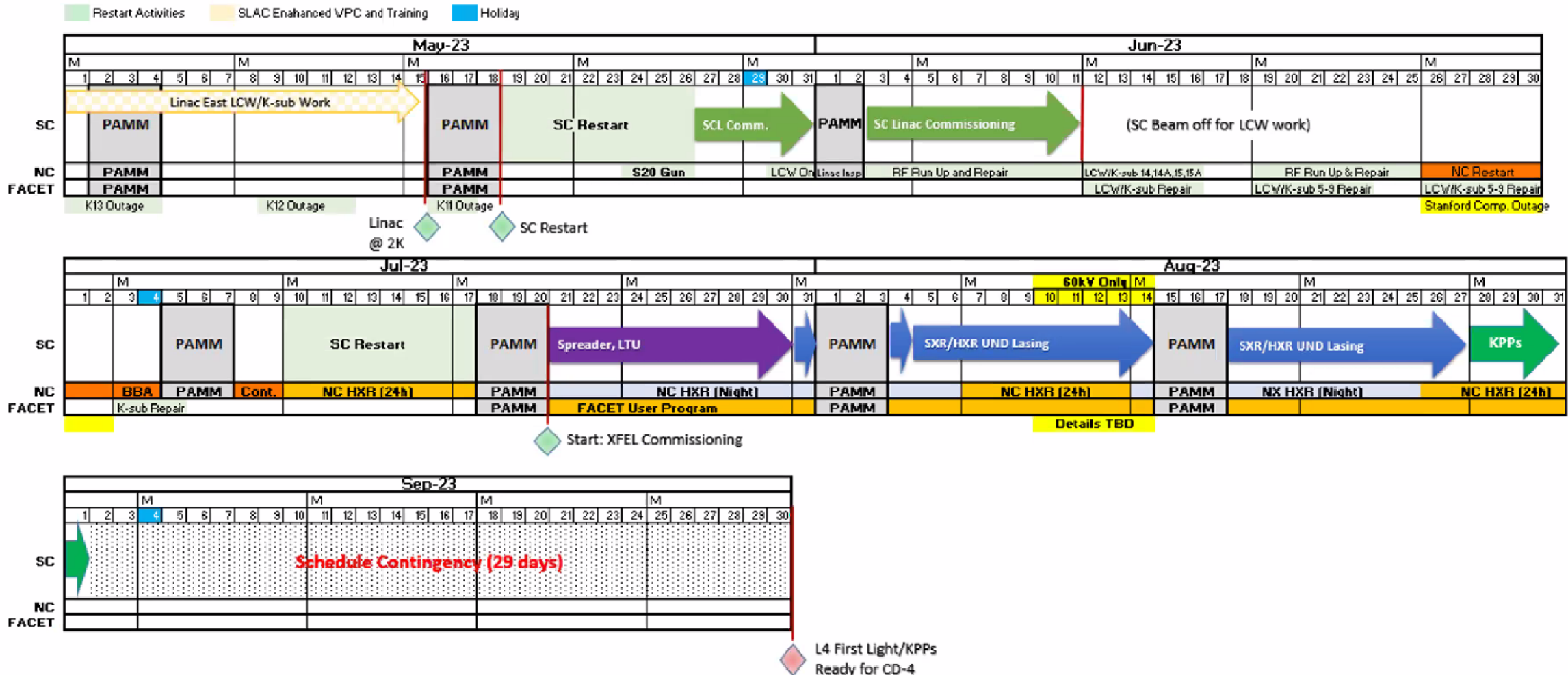

Blue is injector and beam setup

Green is SRF work

Looking ahead to SC Linac restart – following week

Day shift is 8 am – 4 pm, Swing shift is 4 pm – 12 pm. Progress & plans discussed daily at 4:15 pm meeting

	Sun 5/21	Mon 5/22	Tue 5/23	Wed 5/24	Thu 5/25	Fri 5/26	Sat 5/27
8am–4pm	8 – 4p injector emittance optimization/calibration 50pc/20pc (Osman, Zhou)	8 – 4p ACM verification with beam, burst mode (Welch, Sudar)	8 – 4p Beam to BSY 10Hz, Timing (Colocho, Ding, Carolina B, Sonya H., Jeremy M.)	8 – 4p Beam to BSY 10Hz, Timing (Colocho, Ding, Carolina B, Sonya H., Jeremy M.)	8 – 6p BLM calibration with new gain, burst mode (Sudar, Welch, Fisher, Bohler)	8 – 4p Beam to BSY alignment (Sudar, X. Huang, Decker)	8 – 4p Wire Scanner (Osman , Jacobson)
4pm–12	4p – 12 Injector tuning compromise (Zhang, Halavanau, Littleton)	4p – 12 Injector BLEN: 50pc: -20, -25, -30, -40 deg buncher with sol-1 settings; (Zhang, Tang, Fisher)	4p – 12 L1/L2/L3 phasing and calibration (Osman, Nelson)	4p – 12 Beam to BSY 10Hz, RFAL/feedback, phasing (Zimmer, Nelson)	4p – 12 Beam to BSY, orbit, linac/injector collimator vs dark current (Zhang, Zhou, Littleton)	4p – 12 Contingency for RFAL/feedback (Zimmer, Nelson)	4p – 12 Aperture scan (Cesar, Bohler)
				7p – 9p auto-steering (Zimmer)		6p – 8p auto-steering (Zimmer)	

Looking ahead – big picture for following months

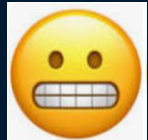*Lab's highest priority is meeting the KPPs!*

Random reminders and things

- Reminder that returning a candidate feedback form is <u>required</u> for interview attendees

- **dev-rhel7** is the new **lcls-dev3!**
  - Be aware that if you build IOCs on it you're actually building on RHEL7 – it *should* work but there could be issues. When in doubt, stick building on RHEL6 (these run on RHEL7)

- Operations is going through the new SC linac turn-on checklist
  - Apologies for the tons of caters, in some cases the checklist will need to be updated

- We're supposed to put caters for TestFac in the 'NLCTA' division
  - This is awkward, especially for jobs spanning all facilities - sorry! Don't change any existing ones.

- Reminder from operations – put updates on work in Elog (e.g. equipment shutoffs)
  - There is a sw_log (very lightly used) – should there be a more general 'controls' log?

- Recent environment issues have been solved by clearing junk out of .bashrc files
  - Only really need to source ENVS64 now. If it looks like mine it's broken!

Random reminders and things

- AD Appreciation Lunch tomorrow in the main quad (hopefully you signed up)

- Matt Gibbs has declared that we're overdue for a happy hour!
  Please join us after work today at the Gourmet House in Redwood City :)

- Monday May 29th is a holiday, and so is Tuesday July 4th (but not the Monday!)

Special Presentation

Carolina Bianchini Mattison

BSA and BSSS for Superconducting beam, an Engineering Guide for the Controls Software team

We'll address the following general questions:

-What is it?

-How do I install it into my app?

-How to acquire and access the data?