Controls SW Group Meeting

June 15th, 2023

T. Summers

SLAC NATIONAL ACCELERATOR LABORATORY

State of the Accelerators

All accelerators are off for KSub electrical maintenance

- Currently have no power in S29/S30 and B136
  - No radio or fire alarm system in S29/S30, and impaired radio function in all other tunnel areas

- These outages will take down NC and FACET timing
  - Dev timing was decoupled from the production RF source so the Dev NC timing can distribute triggers

- Reminder of Tuesday July 4th holiday
  - We come back from the holiday into a PAMM

Start Date	End Date	Program	Machine Status	Description
11/01/2023	12/20/2023	All Accelerators	Downtime	2023 Nov-Dec downtime (LCLS SC, FACET, LCLS Cu)
07/05/2023	07/07/2023	All Accelerators	PAMM	7/5-7/7 PAMM
06/12/2023	06/30/2023	All Accelerators	Downtime	June downtime for K-Sub outages.

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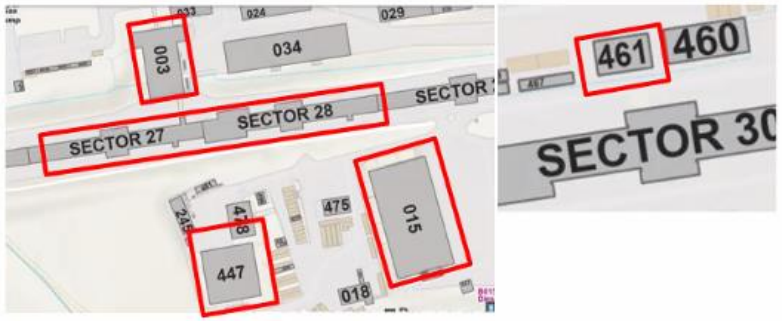
Upcoming Electrical Outages



06/19 6am to 06/23 6pm
K14/K14A substation (S27&28)
Affected Buildings/Systems:

- B015* (*planned generator for sewer metering station*)
- B003* (*planning a generator for 208V panel for PPS*)
- Waste Management
- B461 DI Water Plant* (*planning a generator*)
- LCW in 27 and 28
- VESDA (and PAD) in 27 and 28
- LINAC Tunnel Radio Amplifier in 27
- Lighting in Klystron Gallery and Tunnel

Tailgate 6-6:30am B035
Pre-Job Briefing 06/19 at 7pm *location TBC*

TBD
K5/K5A substation (S9&S10 – RF Hut)
Affected:

- S9 LCLS-II Mag System, S10 ICS/IACS (FACET-II and S10 RF Hut), ACS/WG in S10
- VESDA (and PAD) LI08-10
- Temp heaters on 30C in LI08
- LI09 Lighting inverter (will affect access into LI09 tunnel)
- Various receptacles in LI09
- Portions of lighting in LI10
- Lighting in Klystron Gallery and Tunnel

Note: 120V Generator supplied for FACET II Gun

Upcoming Stanford Research Computing Facility outage

SRCF II – Building Outage starting 06/26 at 9am until Thursday 06/29 at 5:30pm
Work involves Contractors EATON and Sprig, SLAC HV/LV Electricians and FCM.

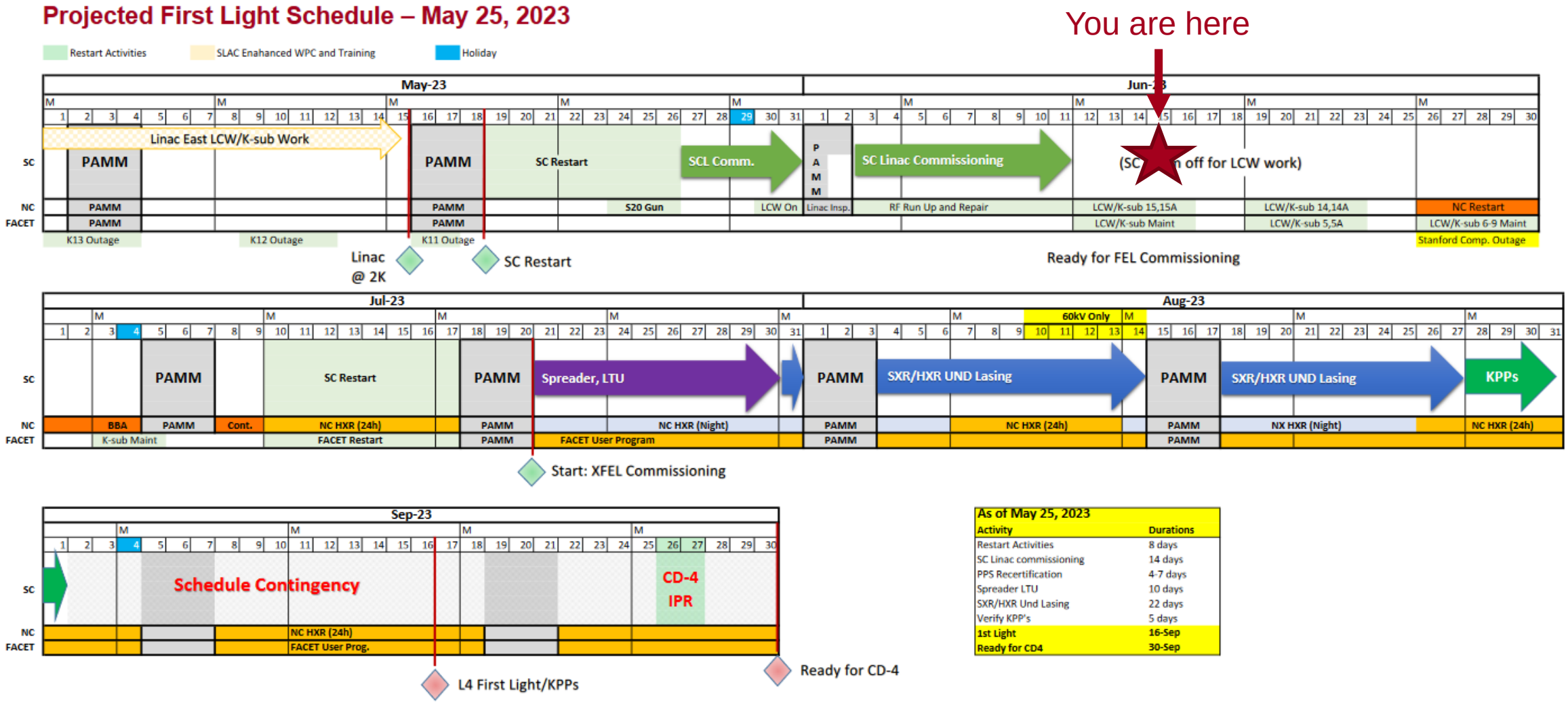
Impacts of Power Outage:

- LCLS 2 data systems and analysis machines
- Network equipment – controls and DAQ will be unavailable
- ASC with similar controls and DAQ will be unavailable
- UED PCDS-systems

NOTE: Friday 06/30 when power has been restored – systems on the network that were affected need to be checked

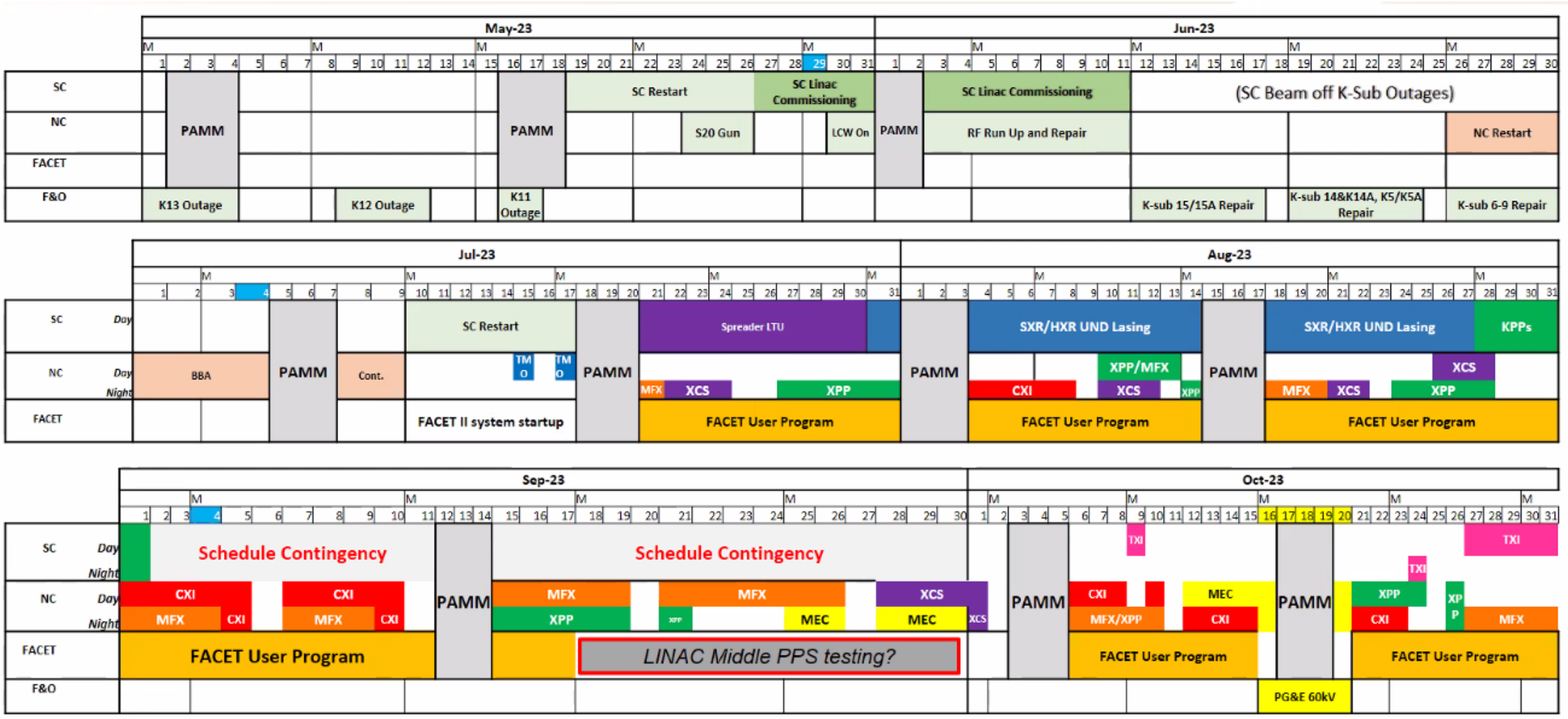
From Sharon's weekly downtime planning meeting

Looking ahead – big picture for following months



As of May 25, 2023	
Activity	**Durations**
Restart Activities	8 days
SC Linac commissioning	14 days
PPS Recertification	4-7 days
Spreader LTU	10 days
SXR/HXR Und Lasing	22 days
Verify KPP's	5 days
1st Light	**16-Sep**
Ready for CD4	**30-Sep**

LCLS User Schedules



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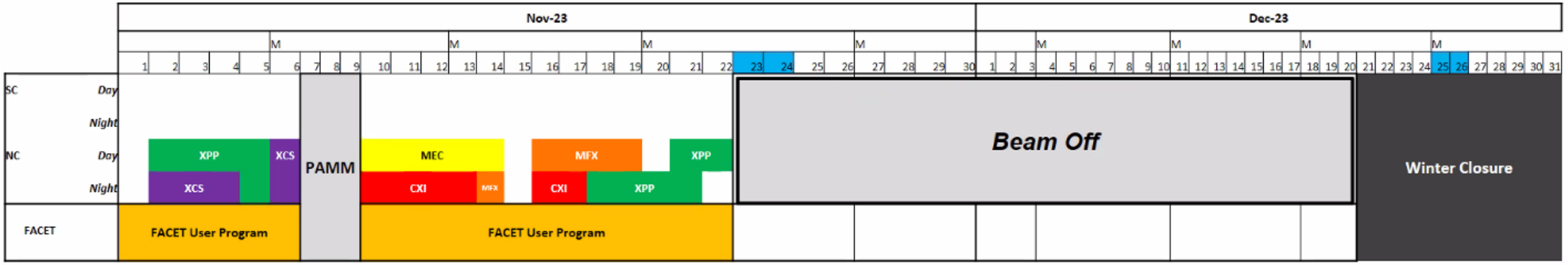

Thanksgiving Holiday November 23 & 24
18 Working days from 11/27 until Winter Closure 12/21 for Downtime Activities
Discussions in progress on January 2024 schedules

Impacts to work planning:

- Shortened duration of Downtime
- Annual certification of LINAC East/BSY PPS Testing (Dec/Jan)

From Sharon's weekly downtime planning meeting

IOC development things

The number of soft IOCs actually built on RHEL7 is growing (and tracked!)

ARCH:SYS0:**RHEL6**:COUNT = **343** ARCH:SYS0:**RHEL7**:COUNT = **25**

- Background – RHEL6-built software will run on RHEL7 (and RHEL7 will run on RHEL8, etc…)
  - When we updated our softIOC servers to RHEL7 the IOCs remained built on RHEL6 (E.g. lcls-dev3, mcclogin)
  - Now we can start building IOCs on a RHEL7 machine – suggest using **dev-rhel7**
    - Change the major revision number for this update since it's not backwards compatible! E.g. R4.2.11 -> R5.0.0
  - If they built on RHEL6 but not RHEL7 let me know so we can ask Marcio to update the offending module
  - You're going to have to be careful when eco'ing an application that you're building it on the correct architecture!
    - Look in the RELEASE_NOTES before getting started.
    - Good practice to try making an IOC immediately after checking it out – those made for RHEL7 will not build on RHEL6 so that's a good reminder
  - See MZ's CATER 141902, e.g. SW job #18 for details on the upgrade and deployment

Autosave requests should be somewhere between 60-300 seconds

- Be kind to NFS! This is too short: `create_monitor_set("info_positions.req", 5, "")`

Special Presentation

Alex Ng – TPG GUI progress

A status update on the development of the SC Timing Pattern Generator (TPGGUI), which will be used to configure/generate timing patterns for the superconducting linac.