Controls SW Group Meeting

June 13, 2024
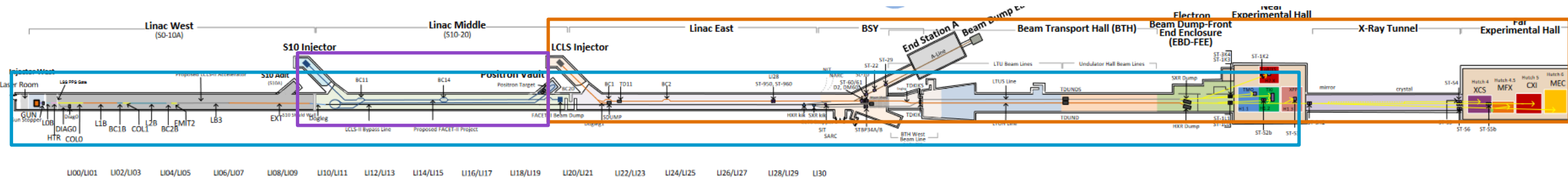
Agenda

1. Machine Status
2. Upcoming Schedule
3. Zach Domke:
Progress on the new
striptool + archiver viewer

T. Summers

SLAC NATIONAL ACCELERATOR LABORATORY

State of the Accelerators

- **LCLS-SC –** Running through SXR for commissioning and tuning – working on XLEAP, WS, BLEN increasing rate/power.

- **FACET –** Tuning and setting up 2-bunch during the day, running to users afternoon/night. Their run will finish June 18 (for the PAMM) and will resume after the summer downtime.

- **LCLS-Cu/NC –** Steady user program

- SPEAR – User program.

- UED – User program resumes Monday May 28

- NLCTA - Startup scheduled tentatively for Monday May 20

Upcoming downtime periods

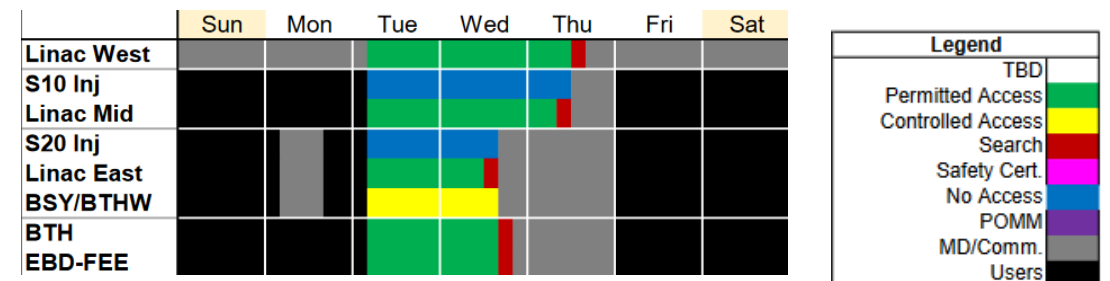## PAMM wrapping up – please close your jobs ASAP!

- **Next week is the last PAMM before downtime**

  - This one is a bit different from the usual schedule as all areas will be locked up by Wednesday. This is to give enough time to recover the SC linac and try make first beam to the S30XL dump on Friday.

Edit	Start Date ↓=	End Date	Program	Machine Status	Description
808	07/05/2024	09/30/2024	All Accelerators	Downtime	FACET & Linac West Summer Downtime, bucket closes 6/14 17:00
809	07/05/2024	08/21/2024	LCLS	Downtime	Linac East Summer Downtime, bucket closes 6/14 17:00
817	06/18/2024	06/20/2024	All Accelerators	PAMM	6/18-6/20 2024 PAMM. Bucket closes 6/10 17:00.

- Summer downtime starts July 5
  Jobs and RSWCFs are due tomorrow!

- Reminder of the EED all-hands meeting at 10am tomorrow in Kavli, followed by the EED Summer BBQ at the Arrillaga field :)
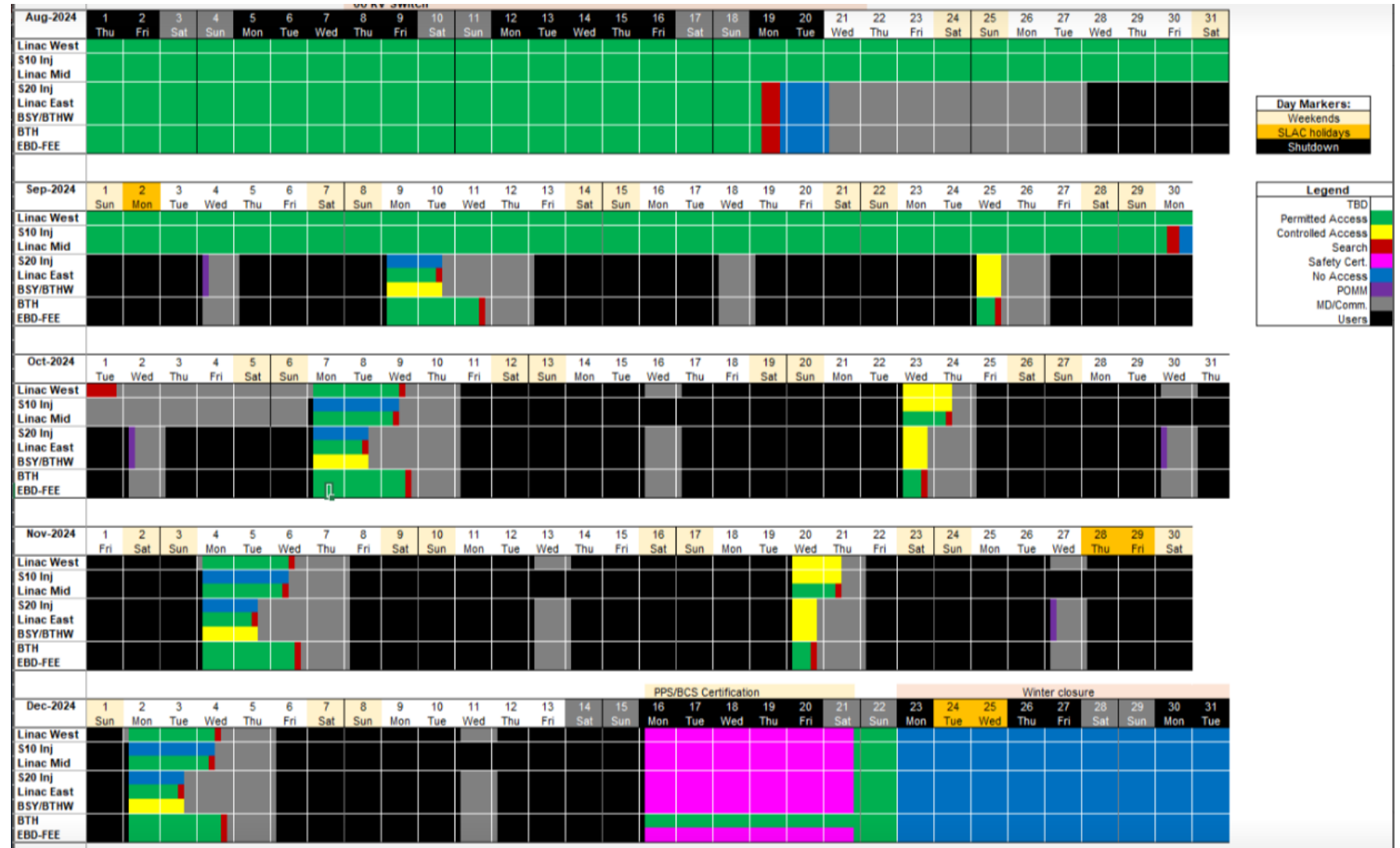
Typical PAMM schedule

Draft PAMM schedules after Summer Downtime

Option 1

Same as we've been doing, "3-day" PAMM every two weeks.

Draft PAMM schedules after Summer Downtime

Option 2

Staying with a PAMM every two weeks, but alternating "4-day" and "2-day" access.

Shorter access PAMMs would keep most zones in Controlled for faster recovery.

Summary of upcoming outages

- **Substation 501: June 17 - 21**
  - End station B and NLCTA

- **K10/K10B: July 15 – 19**
  - Laser rooms, FACET Trailer, S20 RF Hut, impacting klystrons, S20 tunnel radio, vacuum, LCW, BSOICS, BTMs, Fire Alarms and ODM, PPS

- **VVS-5, VVS-10, VVS-12: July 22 - 26**

- **VVS-5, VVS-10, VVS-12: July 29 - August 2**

- **Research Yard Substation – Part 1: August 7 – 14 (everywhere), Part 2: August 14-21 (part only)**
  - UND is in Part 1 only, access will continue to August 26 for recovery.

- **Master 230kV Yard, switch over to 60kV: August 8-20**

- **NEW!!! After the RA outage will be an outage for S07/S08 plus some racks in S09/S10**
  - Needed for HE, details are still being worked out

- **CT1201 – LCW Outage: Linac S16-S30 July 8-17, Linac S0-S15 July 18-29**

How to get Production data on Dev (e.g. lcls-dev3)

- To read production data on Dev there are several EPICS environment variables that need to be set

- For convenience, there are scripts in `$EPICS_SETUP` you can source
  - `source envSet_prodOnDev.bash` (LCLS production PVs only)
  - `source envSet_dev.bash`
  - Could make a "facetOnDev)

- For more convenience, you can make an alias for these in your `.bashrc`

```
#
# Set LCLS CA and PVA environment variables to access
# production PVs from the development network
#

# Use Default PVA PORT numbers
export EPICS_PVA_SERVER_PORT=5075
export EPICS_PVA_BROADCAST_PORT=5076

# Use explicit EPICS_PVA_ADDR_LIST
export EPICS_PVA_AUTO_ADDR_LIST=NO
# NOTE: PVA Gateway not setup as of 11/1/2019.  Recheck settings on PVA gateway deployment
# Gateway to PROD, st.gwLCLSPUB
export EPICS_PVA_ADDR_LIST="lcls-prod01:5068"
# Gateway st.gwEXP2FACET
export EPICS_PVA_ADDR_LIST="${EPICS_PVA_ADDR_LIST} lcls-prod01:5063"
# Add mcc-dmz and mccas0
export EPICS_PVA_ADDR_LIST="${EPICS_PVA_ADDR_LIST} mcc-dmz mccas0.slac.stanford.edu"

export EPICS_CA_AUTO_ADDR_LIST=NO
export EPICS_CA_ADDR_LIST="lcls-prod01:5068 lcls-prod01:5063 mcc-dmz"
export EPICS_CA_REPEATER_PORT="5069"
export EPICS_CA_SERVER_PORT="5068"

export EPICS_TS_NTP_INET="134.79.48.11"
export EPICS_IOC_LOG_INET="134.79.151.21"
```

Reminder - autosave file on demand with channel watcher (thanks Mike Z)!

Plan is to generate these files for all listed IOCs before PAMMs and downtime

How to find list of IOCs currently not able to write to save file (similar for FACET)

```
[physics@lcls-srv01 ~ ]$
caget `eget -ts ds -w 30 -a name=%SR_%_StatusStr` | grep -v
"not connected" | grep -v "Status unknown" | grep -v "Ok"

EIOC:IN20:MP11:SR_0_StatusStr  Can\'t write .sav file
EIOC:IN20:RD02:SR_0_StatusStr  Can\'t write .sav file
EIOC:IN20:RD06:SR_0_StatusStr  Can\'t write sequence file
EIOC:IN20:RD07:SR_0_StatusStr  Can\'t write .sav file
EIOC:IN20:RD07:SR_1_StatusStr  Can\'t write .sav file
EIOC:LI21:MP01:SR_0_StatusStr  Can\'t write .sav file
EIOC:LI22:MP01:SR_0_StatusStr  Can\'t write .sav file
EIOC:LI23:MP01:SR_0_StatusStr  Can\'t write .sav file
EIOC:LI24:MP11:SR_0_StatusStr  Can\'t write .sav file
EIOC:LI30:MP01:SR_0_StatusStr  Can\'t write .sav file
EIOC:LTUH:MP11:SR_0_StatusStr  Can\'t write .sav file
EIOC:UNDH:MP01:SR_0_StatusStr  Can\'t write .sav file
```

Can use CWget to make a file on demand before rebooting, then CWput to restore it after

```
[physics@lcls-srv01 $IOC_DATA/eioc-in20-rd07/autosave-req ]$
ls -als
-rw-rw-r-- 1 softegr lcls 2434 Apr 2 2013 info_positions.req
-rw-rw-r-- 1 softegr lcls 1246 Jul 10 2013 info_settings.req

[physics@lcls-srv01 $IOC_DATA/eioc-in20-rd07/autosave-req ]$
CWget info_positions.req > new_info_positions.sav

[physics@lcls-srv01 $IOC_DATA/eioc-in20-rd07/autosave-req ]$
ls -als
-rw-rw-r-- 1 softegr lcls 2434 Apr 2 2013 info_positions.req
-rw-rw-r-- 1 physics lcls 4853 Mar 13 13:49 new_info_positions.sav
-rw-rw-r-- 1 softegr lcls 1246 Jul 10 2013 info_settings.req

[physics@lcls-srv01 $IOC_DATA/eioc-in20-rd07/autosave-req ]$
CWput new_info_positions.sav
```

Special Presentation

trace – a Python-based Striptool + Archiver Viewer replacement – Zach Domke