Look back and glance ahead

Fulvia Pilat

LSD Resource Meeting

June 13, 2012
Update from last week

- **Peppo** continues running – switched to swing and owl running time to allow work in the NL during the day (3 shifts/day during weekends.
  It takes 1-1.5 to get the machine back after the day work – turnover improved by keeping the injector in CA

- **C100-5 installation in 2L23** , hook-up, and cool-down done last week. Commissioning planned for Friday was delayed to Monday because of a PSS problem. Problem solved now, commissioning ongoing

- Installation of **waveguides in 2L22** was challenging: waveguides did not fit (~10mm). Alignment group managed to roll and fix the problem. Understanding of what went wrong in process, I suppose.

- **Girder** rebuilding for 12 GeV going well, ahead of schedule

- Good progress with **S/R work** in 2R and 2S. Crew working in 1R now. 2R not started yet (proximity to injector, Peppo). Walkthrough done on Monday.
Update from last week - FEL

- We are running the UV-FEL, which is a **new FEL** that we commissioned last month using a loaned **undulator from Argonne** with some modifications to our vacuum chambers and diagnostics. This undulator replaced a slightly shorter one we borrowed from Cornell.

Last week we characterized the performance of the FEL, and this week we delivered **beam** to a nuclear physics funded experiment from Argonne/ODU to investigate **ionization of Kr as part of an isotope program** used for dating - **Kr 81** instead of C 12. Clock is 250,000 years instead of 5,000 years.

Next week we switch **back to the IR-FEL** electron beam transport and install a **test target aperture** (no target), to investigate electron beam transport through it.

As far as **resources** are concerned, the installation and survey of this test target aperture should be on the list
# Demolition in TestLab

<table>
<thead>
<tr>
<th>Starting Week of</th>
<th>Demolition Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>29 May 12</td>
<td>West Wing 2\textsuperscript{nd} floor office area</td>
</tr>
<tr>
<td>4 June 12</td>
<td>West Wing 2\textsuperscript{nd} floor shop area</td>
</tr>
<tr>
<td>11 June 12</td>
<td>West Wing 1\textsuperscript{st} floor High Bay South Cleanrooms</td>
</tr>
<tr>
<td>25 June 12</td>
<td>All Lab activity out of Test Lab; major demolition starts in High Bay.</td>
</tr>
<tr>
<td>After 6-8 weeks</td>
<td>Limited use of VTA and Test Cave</td>
</tr>
</tbody>
</table>
8 week look ahead report & 3 month look ahead report available:

- [https://www.jlab.org/TLSD/SCHEDULES/](https://www.jlab.org/TLSD/SCHEDULES/)

Major Milestones & Outages:

- ESR Down 16 July → now June 10th
- CHL #1 Warm Up Begins & Ends: 1 Aug & 15 Aug
Schedule Progressing

1. Progress to the end of May 2012 – currently implementing progress information and updated schedule available end of this week
8 Week Look Ahead (Major Activities)

- **12GeV Accelerator**
  - Install, Checkout & Commissioning of CM #4 & #5 & Associated RF
  - Box Supply Shuffle
  - Trim Racks (HD and Service Bldgs) & Cables/Support for S/R removal
  - NL & SL Transfer Line Rebuild Work
  - S/R Removal & Upstairs Rework
- **Hall D**: Solenoid Platform Installation & cladding, BCAL light guide gluing, Collimator Cave Shielding Wall, FCAL detector housing infrastructure installation, BCAL rails
- **PEPPo Run** to 10th/11th June (then second shift running until 29 June)
- **Hall A G2P Removal** (upside down girder, FZ1 & FZ2 magnets, slow raster, install upstream beam girder)
- **Hall B**: Cable removal, HDICE removal, Split CLAS (South Clam)
- **Hall C**: Decommission & Removal of QWeak
- **FML** Construction Activities: 40 MVA TO 22 MVA Tie Line; CHL#1 Cooling Towers/Header
- **FEL**: Run (until end of July)
- **ESH&Q**: DOT Training (people off site week of June 11th – tight schedule for RadCon support) & Dosimetry Changeout
Upcoming Changes/Change Requests –

1. Hall A Original Quad & Upside Down Girder Schedule Changes – page 1 submitted this week
2. FEL Schedule Updates (Darklight, Admiral, S&A support) – page 1 will be submitted after Admiral information is known
3. 12GeV Beam Transport mech & align tech profile smoothing (M. Bevins/L. Harwood) – page 1 will be submitted after progress collected and processed for May 2012
4. Baseline Review Recommendation Changes - Discussions on-going
5. 12GeV CR for ODH requirements NLinac/Tagger – Discussions on-going
6. 12GeV Hall C Schedule Implementation - Note: July Review (Howard/Glenn)
7. 12GeV Hall B Schedule Implementation - Note: Aug Review (Latifa/Glenn)
8. Bubble Chamber Run (A. Freyberger/M. Poelker) – Discussion on-going
Experiment: E11-105 (PEPPO)

Run Coordinator: Riad Suleiman
Reporting Period: June 6 - June 13
Statistics:
• Total Shifts Completed (56) / Shifts Scheduled (81): 69%
• Week Down (1.5) / Shifts Completed (19) = 8%
  1. Vacuum Spike in PEPPo Beamline (9h)
  2. Vacuum Valves won’t open (3h)
• Planned Configuration (0.5) / Shifts Completed (19) = 3%
• Beam In Use (17.0) / Shifts Completed (19) = 89.5%

Significant Achievements
• Completed positron polarization measurements at 1 mm and 6.3, 5.5 MeV/c
• Started measurement at 1mm and 4.2 MeV/c

Problems Pending
• Spectrometer Supply current instability

Upcoming Week Goals:
• Finish positron data production on 1mm: 4.2 and 3.2 MeV/c
• Measure: 1.0 mm and 7.2 MeV/c OR 0.1 mm and 3.2 MeV/c
• Measure positron beam profile: momentum and spatial distributions
Positron Asymmetry
Organization: Alignment  
Name: Chris Curtis  
Date: 13 June, 2012

**Last Two Weeks**

**Work That Went Better Than / As Expected:**  
- Completed sample sections of Step 2A alignment in east and west arcs.  
- Hall A Compton detector can fiducialized.  
- Continuing Tagger to Hall D tie.  
- Adding control to Hall D collimator cave (shielding wall partly built)

**Work That Went Slower Than Expected, Delays, and Issues:**  
- C100-4 re-aligned in SL22.

**Ongoing Shutdown Work**

**Upcoming Work (3-6 weeks from now)**  (green = no concerns; yellow = some concerns; red = serious concerns)

<table>
<thead>
<tr>
<th>Project</th>
<th>Status</th>
<th>On Schedule?</th>
<th>Tasks</th>
<th>Comments/Concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Gev Accel</td>
<td>x</td>
<td>18 Jun</td>
<td>Full re-survey of all monuments in the accelerator.</td>
<td>Started today.</td>
</tr>
<tr>
<td>Hall C – Q Weak</td>
<td>x</td>
<td>18 Jun</td>
<td>Target, tungsten plug, chamber as-found surveys</td>
<td>Waiting for rad levels to drop.</td>
</tr>
<tr>
<td>FEL</td>
<td>x</td>
<td>26 Jun</td>
<td>Dark Light alignment</td>
<td></td>
</tr>
<tr>
<td>12 Gev S/R</td>
<td>x</td>
<td>27 Jun</td>
<td>Layout bolt locations of stands</td>
<td>Drawing sign-off on June 20.</td>
</tr>
<tr>
<td>12 Gev Arcs</td>
<td>x</td>
<td>2 Jul</td>
<td>Step 2A (rough) alignment of west arc.</td>
<td>Final copy of beamline positions received this week (Excel). Sign-off?</td>
</tr>
<tr>
<td>12 Gev Accel</td>
<td>x</td>
<td>July?</td>
<td>R100 / 0L04 cryomodule shuffle</td>
<td>Details and timing to be determined.</td>
</tr>
</tbody>
</table>
New Work Requests Requiring Schedule Changes:
  • None

Significant Problems Pending (delays, technical issues, resource issues, scheduling):
  • As stated above

Staffing Outlook:
  • Good.
Accelerator Network – Monument Differences c.1993 - 2008
## Average Movements for Each Pass

<table>
<thead>
<tr>
<th>Pass</th>
<th>Mon't Diff</th>
<th>Pass Diff</th>
<th>Calc Move</th>
<th>Avg. Move</th>
<th>Diff</th>
</tr>
</thead>
<tbody>
<tr>
<td>E ARC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3.68</td>
<td>0.29</td>
<td>3.39</td>
<td>2.65</td>
<td>0.75</td>
</tr>
<tr>
<td>5</td>
<td>3.68</td>
<td>-0.22</td>
<td>3.90</td>
<td>4.37</td>
<td>-0.47</td>
</tr>
<tr>
<td>7</td>
<td>3.68</td>
<td>2.18</td>
<td>1.50</td>
<td>2.76</td>
<td>-1.26</td>
</tr>
<tr>
<td>9</td>
<td>3.68</td>
<td>4.22</td>
<td>-0.54</td>
<td>0.99</td>
<td>-1.53</td>
</tr>
<tr>
<td>W ARC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2.71</td>
<td>4.05</td>
<td>-1.34</td>
<td>-1.60</td>
<td>0.26</td>
</tr>
<tr>
<td>4</td>
<td>2.71</td>
<td>0.06</td>
<td>2.65</td>
<td>2.86</td>
<td>-0.21</td>
</tr>
<tr>
<td>6</td>
<td>2.71</td>
<td>0.76</td>
<td>1.95</td>
<td>1.81</td>
<td>0.14</td>
</tr>
<tr>
<td>8</td>
<td>2.71</td>
<td>3.28</td>
<td>-0.57</td>
<td>-0.16</td>
<td>-0.41</td>
</tr>
<tr>
<td>10</td>
<td>2.71</td>
<td>0.00</td>
<td>2.71</td>
<td>2.69</td>
<td>0.02</td>
</tr>
</tbody>
</table>
Organization: SRF
Name: John Hogan
Date: 13-June-2012

Last Two Weeks

Work That Went Better Than Expected:
- N/A

Work That Went Slower Than Expected, Delays, and Issues:
- Commissioning SL23 delayed due to PSS concerns; CoolDown SL22 delayed due to installation

Ongoing Shutdown Work

Upcoming Work (3-6 weeks from now) (green = no concerns; yellow = some concerns; red = serious concerns)

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<tr>
<td>Cryomodules</td>
<td>X</td>
<td>✔️</td>
<td>SL23 Commissioning</td>
<td></td>
</tr>
<tr>
<td>Cryomodules</td>
<td>X</td>
<td>✔️</td>
<td>SL22 CoolDown</td>
<td></td>
</tr>
<tr>
<td>Cryomodules</td>
<td>X</td>
<td>✔️</td>
<td>SL22 Commissioning</td>
<td></td>
</tr>
</tbody>
</table>

New Work Requests Requiring Schedule Changes:
- N/A

Significant Problems Pending (delays, technical issues, resource issues, scheduling):
- N/A

Staffing Outlook:
- Stable
Shutdown Work Summary

Organization: Hall A
Name: Ed Folts
Date: 6/13/12

Last Two Weeks

Work That Went Better Than Expected:
- Removal of the Polarized target.

  This work is ahead of schedule because the Physics Target team was able to disconnect the equipment more quickly expected.

Work That Went Slower Than Expected, Delays, and Issues:
- Upside down girder

  This work is delayed due to part deliveries. Specifically, beamline support pieces (BPM supports) which are expected to arrive within two weeks. Magnet supports arrived today (Jun 13, 2012).

Ongoing Shutdown Work

Upcoming Work (3-6 weeks from now) (green = no concerns; yellow = some concerns; red = serious concerns)

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<tr>
<td>Moller Polarimeter</td>
<td>X</td>
<td>Yes</td>
<td>As per schedule</td>
<td>None</td>
</tr>
<tr>
<td>Remove G2P</td>
<td>X</td>
<td>Yes</td>
<td>As per schedule</td>
<td>Awaiting parts</td>
</tr>
<tr>
<td>Cryo Work</td>
<td>X</td>
<td>Yes</td>
<td>As per schedule</td>
<td>None</td>
</tr>
</tbody>
</table>

New Work Requests Requiring Schedule Changes:
- Delay of upside down girder alignment. A change request has been submitted and is awaiting processing.

Significant Problems Pending (delays, technical issues, resource issues, scheduling):
- Upside down girder parts as noted above
Staffing Outlook:

- Three staff members are currently deployed to other Halls to support their early efforts. Staffing is sufficient for current workload, but by December full staffing levels will need to be restored to Hall A (*as per prior agreement*).
Organization: Hall B
Name: Doug Tilles
Date: 6/13/2012

Last Two Weeks

Work That Went Better Than Expected:
- Removal of the delay cables on all carriages
  
  *Matrixed staff from engineering are performing extraordinarily well and are ahead of schedule.*
- HDice transfer to production dewar and transport to Lab
- Removal of clam shell electronic racks
- Gas system removal

Work That Went Slower Than Expected, Delays, and Issues:
- Transport of delay cables to dumpsters, and crane operations due to lack of staff.

Ongoing Shutdown Work

Upcoming Work (3-6 weeks from now) (green = no concerns; yellow = some concerns; red = serious concerns)

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<tr>
<td>HDice removal</td>
<td>x</td>
<td>Yes</td>
<td>As per schedule</td>
<td></td>
</tr>
<tr>
<td>Delay cable removal</td>
<td>x</td>
<td>Yes</td>
<td>As per schedule</td>
<td></td>
</tr>
<tr>
<td>Removal of electronics and</td>
<td>x</td>
<td>No</td>
<td>As per schedule</td>
<td>Work is taking longer than expected because the tele-lifter forklift is being repaired. Once the forklift is returned, it is expected that work will get back on track very quickly.</td>
</tr>
<tr>
<td>racks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
New Work Requests Requiring Schedule Changes:
- Removal of forward carriage electronics
- 12GeV support outside of Hall B that will require manpower

Significant Problems Pending (delays, technical issues, resource issues, scheduling):
- Lack of manpower to accommodate scheduled work AND unscheduled, operational functions.

Staffing Outlook:
- No change
Shutdown Work Summary

Organization: Hall C
Name: Walter Kellner
Date: 6/13/2012

Last Two Weeks

Work That Went Better Than Expected:
- CRYO system reconfiguration to HMS cancelled
- SHMS power supply tests cancelled

*The elimination of this work allowed the ESR to be powered off sooner than scheduled and reduced overall manpower requirements.*

Work That Went Slower Than Expected, Delays, and Issues:
- Q-weak electronic hut rack disassembly and cable removal still in progress due to late start.
  *This work is being conducted by users and was delayed by the user group meeting and a shortage of manpower.*
- Removal of QTOR power supply delayed
  *Because the electronics cables are connected to the power supply, it cannot be removed until the attached cables have been disconnected.*

Ongoing Shutdown Work

Upcoming Work (3-6 weeks from now) (*green* = no concerns; *yellow* = some concerns; *red* = serious concerns)

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<tr>
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</thead>
<tbody>
<tr>
<td>Q-weak disassembly</td>
<td>x</td>
<td>Yes</td>
<td>Region III shielding removal</td>
<td>none</td>
</tr>
<tr>
<td>Q-weak disassembly</td>
<td>x</td>
<td>Yes</td>
<td>Disconnect and remove Target</td>
<td>none</td>
</tr>
<tr>
<td>Q-weak disassembly</td>
<td>x</td>
<td>Yes</td>
<td>Remove top shielding blocks of region I and II</td>
<td>Possible delays related to radiation issues</td>
</tr>
</tbody>
</table>
New Work Requests Requiring Schedule Changes:
  • None

Significant Problems Pending (delays, technical issues, resource issues, scheduling):
  • None

Staffing Outlook:
  • No Change
Shutdown Work Summary

Organization: Hall D
Name: Tom Carstens
Date: 6/13/2012

Last Two Weeks

Work That Went Better Than Expected:
- Except as noted, work performance was consistent with schedule.

Work That Went Slower Than Expected, Delays, and Issues:
- Assemble FCAL platform
  This is due to a delay in the delivery of the platform
- Assemble Collimator Cave Shielding
  The time and effort required to position the large blocks was underestimated.

Ongoing Shutdown Work

- Assemble Collimator Cave Shield Wall
- Test Thin Window Material
- Install Pick-up Coil Fixturing in Bore of Solenoid
- Continue Building Solenoid Controls Rack
- Continue building Solenoid Controls cabling
### Upcoming Work (3-6 weeks from now) *(green = no concerns; yellow = some concerns; red = serious concerns)*

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Install Solenoid Cladding</td>
<td>x</td>
<td>Yes</td>
<td></td>
<td>Awaiting delivery</td>
</tr>
<tr>
<td>Paint Solenoid</td>
<td>x</td>
<td>Yes</td>
<td></td>
<td>Awaiting design decision</td>
</tr>
<tr>
<td>Assemble FCAL Platform</td>
<td>x</td>
<td>Yes</td>
<td></td>
<td>Currently delayed as delivery date has moved back. Shouldn’t impact overall schedule.</td>
</tr>
<tr>
<td>Design/assemble BCAL gluing booth</td>
<td>x</td>
<td>Yes</td>
<td></td>
<td>In progress</td>
</tr>
<tr>
<td>Bonding Upstream Platform</td>
<td>x</td>
<td>Yes</td>
<td></td>
<td>Awaiting parts</td>
</tr>
<tr>
<td>Start of gluing/testing BCAL light guides (3840 total)</td>
<td>x</td>
<td>Yes</td>
<td>Some initial difficulties are expected because the gluing fixture has never been used to perform this task before.</td>
<td></td>
</tr>
<tr>
<td>Start of electrical power installations</td>
<td>x</td>
<td>Yes</td>
<td>Original plan was to use contract labor. Currently planning to use in-house staff to reduce costs.</td>
<td></td>
</tr>
</tbody>
</table>

#### New Work Requests Requiring Schedule Changes:
- None

#### Significant Problems Pending (delays, technical issues, resource issues, scheduling):
- None

#### Staffing Outlook:
- Adequate