## LSD Bi-Weekly Resource Planning Meeting Agenda

#### 19 September 2012

- Glance Back / 2-Week Look Ahead / Change-Control Board (CCB) Report (10 min) D. Napier
- Safety Report (5 min) M. Logue
- Special Topic (5 min) Cooldown W. Oren
- Key Service Provider & Project Lead Reports (25 min)
  - o 12GeV Accelerator L. Harwood
  - S&A C. Curtis
  - Halls W. Akers
- Meeting Recap / Parting Shots (5 min) D. Napier

## Look back and glance ahead

Dianne Napier (for Fulvia Pilat)

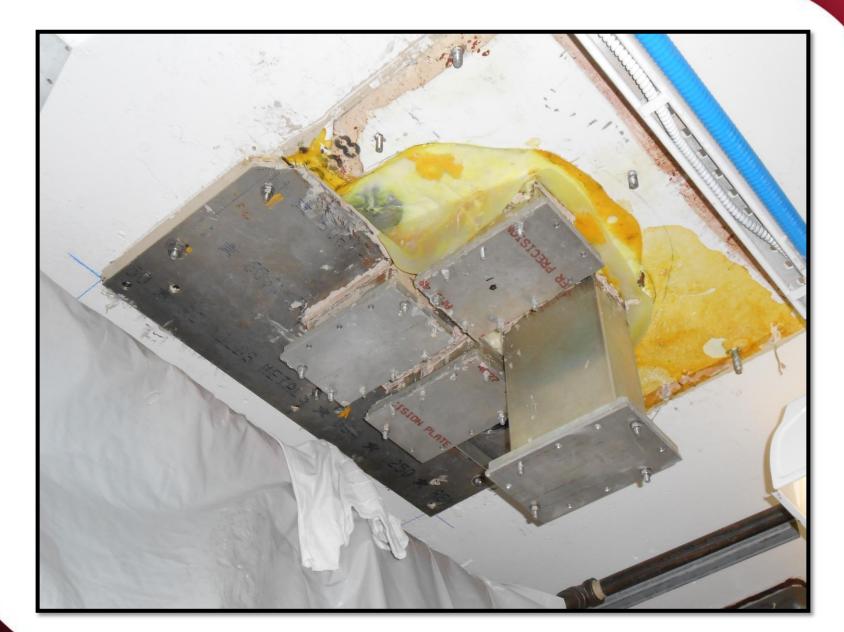
LSD Resource Planning Meeting
September 19, 2012



### Glance back

- S&A of SLinac 2B completed (except for penetrations 2L02, 3 and 9 where FML is grouting leaking penetrations). Focus moved to NLinac CMs & girders & Hall A network.
- SRF Vacuum recovery & Cryo Transfer Line PM continuing in the Linacs
- OL/OR base plates grouted. Girders in OL installed.
- Installed 1<sup>st</sup> dipoles in 1R region. 2R+ anchors drilling & setting.
- Magnet installation count: 6 dipoles in 1R, 1 by gate in West Arc, 16 1M in 1st pass East Arc, approx 20 (+/-1) 1M in 3rd pass East Arc.
- FM&L: Penetration subcontractor grouting SLinac zones, CHL Cooling Tower work continues.
- NAB power outage for 12GeV PS (relocation of power for panels) completed. Cable pulls and terminations. SAB had a breaker that would not trip and work postponed to this week.
- 12GeV Viewer system cable terminations continues.
- 12GeV shunts & trim cable installation started in 1S (NL27 area).
- FEL PSS certification completed.





Penetration Repairs SL02



#### **Cooling Tower Demolition** Removal of Old Tower Cell





**Cooling Tower Demolition** 





Cooling Tower: Installation of footers

Ready for concrete placement - scheduled for tomorrow







Test Lab New HVAC duct

## **Progress**

- Progress as of end of August completed 13 Sept 2012
  - Activities that did not start as planned & didn't have an updated start date provided ->
    default to first working day of Sept 2012. All files posted to web

#### Progress Analysis

- **Schedule** (Float less than 22 days; activities planned to start per baseline but did not start (but if had float of >22 days --> no schedule impact):
  - Cryogenics work to achieve Cool down for solenoid is behind schedule & no float with respect to November deadline
  - Hall B behind schedule (delay cables, flood recovery, manpower)
  - Hall C behind schedule (flood recovery)
- Resources (analyzed through end of Sept 2012):
  - S&A is over-utilized
- Critical Path (activities with float less than 22d):
  - Fabrication & Installation of cryogenics transfer line & can for solenoid. Relative to start of Hall D solenoid cool down (mid Nov) → 4d & 5d of float
  - CHL Cooling Tower (header installation water flowing) with respect to mid Nov constraint → 6d of float
  - 12GeV CM & 0L04 commissioning NO longer on CP due to early installation of CM 3&7 and changes to commissioning durations → 34d of float

## Files (Posted to Website)

- https://www.jlab.org/TLSD/SCHEDULES/
- PDF & Excel version of schedule (baseline & progress)
- Resource Utilization File
- 8 Week Look Ahead for the RPM Bi-Weekly
- 3 Month Look Ahead for the Thursday LSD Team planning efforts
- Progress Schedule, Critical Path, & Resource Analysis File
- Earned Value (EV) Charts → coming soon
- Change Request Folder
  - CR Page One template & example
  - CR Log



### Open issues -> action items

- TLA operational. Weekly meetings FM&L and SRF revamped. Plan + schedule → Joe Preble
- Re-commissioning CTF, VTA, CMTF. Depending on TestLab demo. Plan + schedule → Evelyn Akers
  - Target date to provide temporary power, HVAC & network to the CTF racks, CMTF Control Room & Test Cave, Klystron stand above the CMTF, VTA Control Room & VTA is Sep 24
  - CTF cool down will start the week of Oct 15
  - Cryomodule cool down will start the week of Oct 22
  - VTA cool down will start the week of Oct 29
- Re-commissioning of C25, C50 and C100, plan + schedule →
   Mike Drury
- Overall cool-down plan -> Will Oren

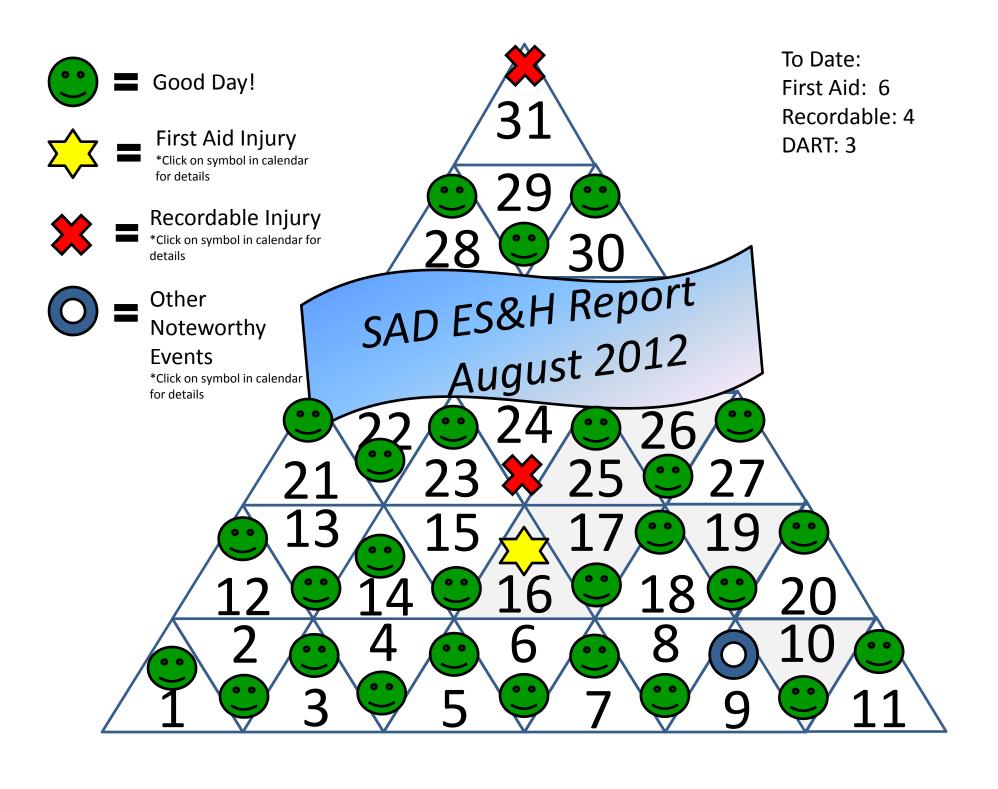
## Change requests

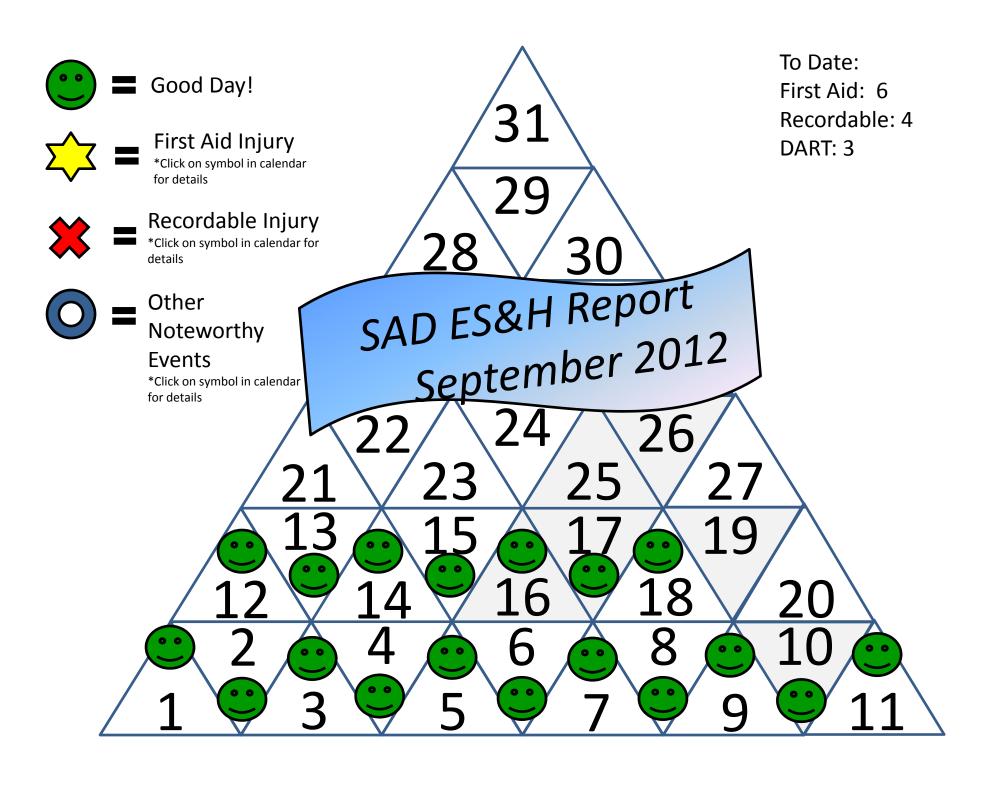
- No changes made in end of Aug schedule posted
- 1. IN PROGRESS but NOT APPROVED FEL new scope (B. Legg) Page one reviewed by CCB 9/17/12. Task list & manpower requirements provided, but straw man schedule needed.
- 2. 12GeV Hall C Schedule Implementation (H. Fenker/G. Young) October Review 17 Oct 9:00-10:30am CCF224-225
- 3. 12GeV Hall B Schedule Implementation (Latifa/G. Young) October/November Review
- 4. 12 GeV ACC RF Circulator Swaps (L. Harwood) (From Wed 1330 6<sup>th</sup> June Mtg & pending funding, scope being reviewed)

### 8 week look ahead

- FML:
  - CHL-1 Cooling Tower (header done → water flowing) (mid Nov)
  - MCC HVAC/Roof start of construction early Nov
  - Penetration repairs continue waveguides, pss penetration, fire standpipe completed today, then on to Hall C truck ramp
  - Counting House renovation starts
- CEBAF linac X-fer lines modifications, alignment, SRF CM maintenance continues
- Dummy CM removal
- C-100 installation #3 (NL22) end of Oct
- CHL-1 Maintenance continues
- CHL Hall D Cryogenics work → Hall D Solenoid cool down mid Nov.
- Continuation stand delivery/installation and magnet rework/installation
- Completion of Tagger Wall "Green Door" (early Nov)
- Start of Hall A & B magnet removal/refurb (mid Oct)
- NA and SA building electrical work completed (end of Sep)
- Halls:
  - Hall B: South Clamshell removal
  - Hall C: SOS disassembly (September October)
- Demo TestLab → CTF, VTA, CMTF re-commissioning (Sep-Oct)

(SA





# August 2012 Events

	Date	Location	Event
0	08/09/2012	Hall B	During a site visit to Hall B, 2 employees and 3 contractors entered a radiologically controlled area without dosimetry. This violated our policy and procedure and the event is currently under investigation.
<b>\( \)</b>	08/16/2012	CHL #2	Employee brushed against a pipe that had a sharp burr on it. The employee was diagnosed with superficial laceration to right arm. The area was cleansed and a over the counter antibiotic ointment and band-aid was applied. The employee returned to regular duty.
**	08/24/2012	Hall C	An employee was injured while assisting with moving a concrete piece in Hall C (SOS Shield house). The employee completed the move when they stepped backwards and lost their footing causing their left ankle to roll. The employee was sent off-site for a further evaluation and was diagnosed with a left ankle sprain, given a prescription, and placed on restrictions until cleared by a physician for regular duty.
*	08/31/2012	Near Hall A Truck Ramp	On Friday, August 31,2012, an employee reported that they felt a pop in their lower back while shoveling out a storm drain near the Hall A truck ramp on Wednesday, August 29, 2012 at approximately 9:30 am. The employee was diagnosed with lower back strain and placed on restrictions until cleared by a physician for regular duty.

## Injuries - FY11 vs. FY12

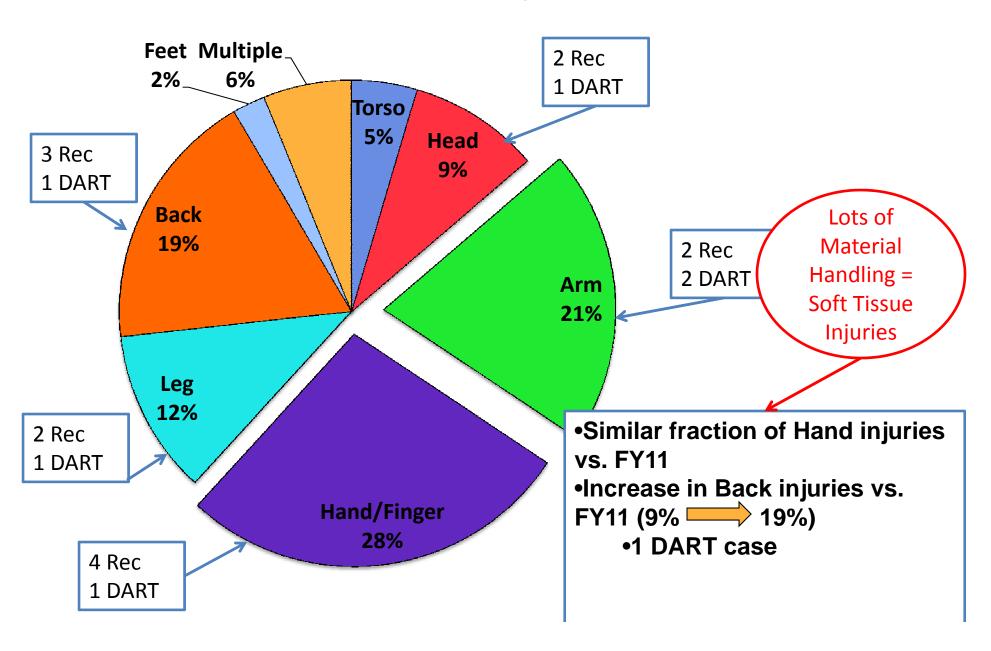
#### **FY11**

- 51 reports to Medical
- 9 Recordable/3 DART
  - 12 GeV 4 (2 DART)
  - TEDF 1
  - Security 1
  - ACC 1
  - ENG 2 (1 DART)
- Hours Worked:
  - Employees: 1,436,615
  - Subs: 465,289
  - Users: 301,808

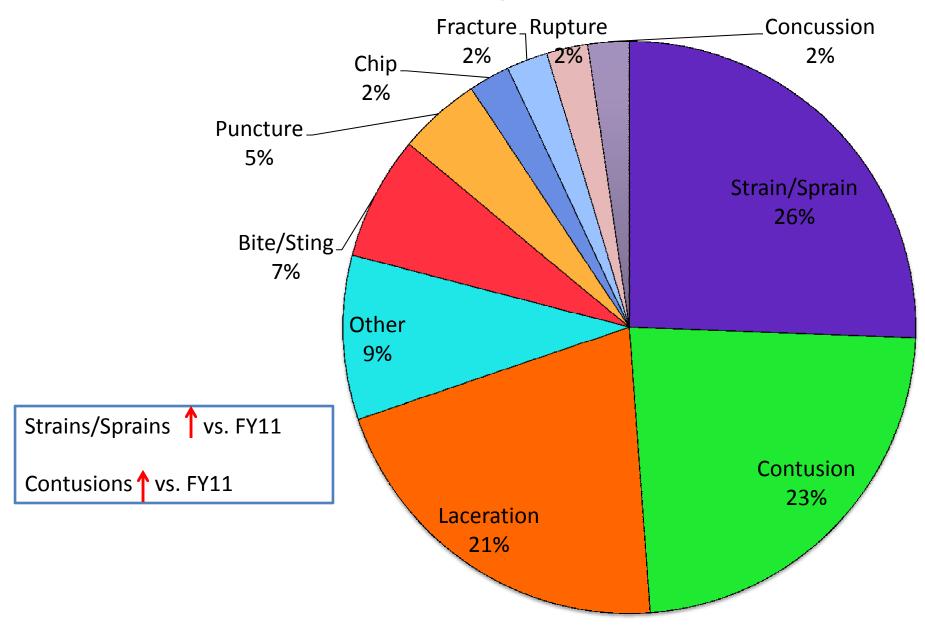
#### **FY12**

- 43 reports to Medical
- 13 Recordable/6 DART
  - TEDF– 4 (1 DART)
  - ENG 3 (2 DART)
  - ACC 2 (1 DART)
  - PHY 2 (1 DART)
  - FM&L-2 (1 DART)
- Est. Hours Worked:
  - Employees: 1,428,303
  - Subs: 544,151
  - Users: 302,644
- 3 Recordable Injuries Life Activities (1 DART)

# FY 12 Injuries



# FY12 Injuries



# FY12 Recordable Injuries - Causes

Work Area Not Properly Assessed – 7

Reliance on Past Experience – 3

• Equipment Selection - 3

Pre-Job Briefing should include walk-down of job site

This is where the more serious injuries fall

## **BACK-UP SLIDES**

# **Safety Observations**

- 395 observations in 4 months
  - -91% "All Safe"
  - Driving/Biking
  - Housekeeping
  - Ladders
  - PPE/Work Clothes





## June 2012 Events

	Date	Location	Event
*	06/27/2012	CHL 2	Employee was installing a standard chain wheel kit on one of the transfer lines behind Building 8. As he was was removing a bolt, the bolt broke, causing the ratchet to slip and hit the contractor in his tooth. The contractor's right incisor was chipped.
0	06/20/2012	Building 36	An unauthorized 208 volt, 30 Amp 4 wire cable with a male plug at one end and exposed wires (pigtail) at the other end, had been left plugged into a de-energized power source on the evening of June 19, 2012. Lock Tag & Try was not applied to power source before leaving for the evening. At approximately 10:00 am the following morning, an operator turned on the power supply, and the exposed wires arced and shorted, opening the breaker to the power supply and the electrical panel that fed it.
<b>\( \)</b>	06/20/2012	East ARC 2 Service Building #	Employee called to report that they were stung on his right elbow by a wasp. No treatment rendered and the employee returned to work regular duty.

## June 2012 Events

	Date	Location	Event
0	06/14/2012	Behind the Test Lab Addition	Last Thursday morning a rupture disk on the LN2 tank outside of the Test Lab burst. No personnel were exposed. This tank valves were tested and both passed. As a precautionary measure, the valves and the disks are being replaced.
*	06/13/2012	Test Lab T-Trench area	Employee was using a drill to screw angled plastic strips backed with weather stripping to the tools in order to seal the gap between the cleanroom wall and the process tools. Employee was diagnosed with tennis elbow and placed on restricted duty.
\$\frac{1}{2}	06/13/2012	Experimental Staging Building	Employee stated "While assisting with lowering a load, I adjusted the wooden cribbing for the load and received a splinter in my finger." Employee was diagnosed with a splinter to right index finger. The splinter was removed, the finger was cleansed and examined. Occupational Medicine then applied over the counter antibiotic ointment and band-aid. Employee has returned to work, regular duty.
$\sum$	6/13/2012	Hall B	Employee reported frequent use of wire cutters has caused hand discomfort.

# July 2012 Events

	Date	Location	Event
<b>\$\sqrt{2}</b>	7/10/12	Test Lab Addition	While transporting a rolling lifting device, termed a "back lift," the device fell onto her right shoulder, causing a contusion.
<b>\( \)</b>	7/11/12	Vacuum Lab	Graduate student was working near a pressurized cavity when the glass flange in a port shattered under pressure, expelling a shower of glass fragments, some of which struck her face, neck and arms.
0	7/11/12	Hall D	Two workers were drilling through a compressor test stand. They discovered a sheet of lead between 2 layers of insulation. Work was immediately stopped and IH contacted. No uptake of lead occurred,



## LSD: CHL 1/Linac Cooldown

Will Oren (Reporter)

Sept. 19, 2012

### Cooldown Prep, Schedule, Logic

Two meetings held with representatives from Cryo, SRF, Accel Ops, 12 GeV, FEL, Vac/Installation to discuss maintenance progress, anticipated schedule and cool down boundary conditions

### Maintenance- Cryo

- Large list involving maintenance on the TL, "cut-in's" for C100's & Hall D and tie-in's for CHL1/2 crossconnects that must be done warm.
- Involves 2 distinct workgroups within Cryo –
   Operations & Fabrication
- In the best of circumstances, it would be difficult to meet the December cool down goal for both Linacs

### Cool Down Prep, Schedule, Logic

### Limitations on Cryo effort

- CTF cool down efforts to begin next week pulls
   Operations crew from maintenance tasks.
- Hall D solenoid cool down is now 12GeV's highest
   priority pulls fabrication crews from warm Linac work
- Difficulty in recruiting and retaining qualified welders.
- Some material arrival dates are very tight

### Mitigations

- Decision to focus on N. Linac only for Dec. cool down.
- One fabrication crew to stay at CHL(not moving to Hall
   D) with OT authorized.
- Expanded contract agencies seeking welders.

### Cooldown Prep, Schedule, Logic

#### Maintenance- SRF

- Large list but making good progress with 2 crews (5 people) beamline and waveguide vacuum checks basically complete. (Some in S. Linac & FEL remain)
- Moving to more "invasive" work but so far can meet
   December cool down plan for N. Linac

### Recommissioning/He Processing – SRF

- Will need 15 weeks to recommission both linacs assuming 4 crews of 4 each available. Still need to identify 4 more "able bodied commissioners"
- 15 wks He processing anticipated, can do 4 CM's at once with one "cycle" taking ~1.5-2wks. Need to utilize the same crew as used for recommissioning.

### Cooldown Prep, Schedule, Logic

#### Path Forward

- C100 commissioning is still driving 2K "available" date.
- Concentrate on the N. Linac and FEL for a December cool down.
- Group meets Sept 28 and again on Oct 5<sup>th</sup> to review progress and adjust the path forward.

#### Possible Cool Down Scenarios:

- 1. Start cleanup mid-Nov, cool to 4K in Dec., pump down to 2K early Jan, CM testing begins ~Jan 7.
- 2. Start cleanup Dec thru X-mas, cool to 4K early Jan, pump to 2K towards end of Jan.
  - Delay in CM testing is ~ 2.5wks



### **Shutdown Work Summary**

**Organization: 12 GeV Accelerator** 

Name: Harwood

System	Tasks			
Cryomodules	C100-3 and C100-7 ready to install			
Power	NL RF cabling.			
Cryogenics	CHL2: Vendors done. Personnel shifted to HDR			
Cryogernes	HDR: Continue fab and install; using OT			
Beam Transport	HD "green door": stationary wall layout done 3A: 20 dipoles re-installed ER girders and dipoles going in; TR dipoles removed; WR floor/ceiling plates installed; ES ready for stands; WS removed East arcs: 2A alignment at 50% Girder rebuild continues OL/OR girders going in S/R dipole rework continues			
Continued upgrade to NL PSS. Started ODH mod in NE corner. Continued fab of diagnostics; install of diagnostics ongoing				



ER

**Work That Went Better Than Expected:** 

Work That Went Slower Than Expected,

None

Delays, and Issues:

#### **Ongoing Shutdown Work**

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

System	Tasks	S	tatus	On Schedule ?	Comments/Concerns
Cryomodules	"Install" C100-3 (October)	Χ			
Dower	Pull/terminate cables where possible	Χ		Y	
Power	Continue NL RF cabling	Χ		ahead	
Cryogenics	Do connections for CHL2		X	Slightly behind	
, , , ,	Continue fab and install of HDR		X	Behind	
	OL/OR and S/R install	Χ		Y	
	Continue dipole and girder rework	Χ		Y	
Beam Transport	Continue HD tunnel green door	Χ		ahead	
Transport	Continue ES install	Χ		Ahead	
	Continue 3A refub	Χ		ahead	Fill work for mag meas.
19.C/Cafaty	Continue upgrade to NL PSS & NE ODH	Χ		Y	
I&C/Safety	Continue fab & install of diagnostics	Χ		Υ	

#### **Schedule Changes:**

- Further BT adjustments to keep work centers busy
- CHL2 completion will be delayed because of shift of personnel to HDR and HDTL

#### **Scope Changes:**

• Circulator replacement (timing not certain)

Significant Problems Pending (delays, technical issues, resource issues, scheduling): Cryo

Staffing Outlook: Short for Cryo work; looming issue for FY13 (BT and Power)

**Organization: Alignment** 

Name: Chris Curtis Date: 19 Sep, 2012

#### **Last Two Weeks**

#### Work That Went Better Than / As Expected:

- Linac alignment underway. All available south linac zones aligned (approx. 65%). No problems with movements of up to 6mm. Now working in north linac.
- East recombiner stand alignment completed. Started on initial alignment of magnets.
- East arc alignment for hookup continuing as magnets are available.
- NW corner West arc / OLOR / 2R stand layout and alignment.
- Hall A network measurements.

#### Work That Went Slower Than Expected, Delays, and Issues:

### **Ongoing Shutdown Work**

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

Project	Status	On Schedule?	Tasks	Comments/Concerns
12 Gev Linacs	х	Yes	Final (2B) alignment	Ongoing. Complete mid – October?
12 Gev Arcs	х	Yes	Initial (2A) alignment of east arc	Ongoing. Roughly 45% complete
12 Gev Arcs	х	Yes	Initial (2A) alignment of west arc	Some "infill" work to re-start
12 Gev S/R	х	Yes	1R initial (2A) alignment	Continuing as available
12 Gev S/R	х	Yes	1S stand alignment	
12 Gev S/R	х	???	NWCR stands	When available
Hall A	х	???	Moller alignment	Next week?

•

Significant Problems Pending (delays, technical issues, resource issues, scheduling):

•

## **Staffing Outlook:**

• Tight. Currently have six field staff.

**Organization: Hall A** 

Name: Ed Folts

Date: 9/19/12

#### **Last Two Weeks**

#### **Work That Went Better Than Expected:**

#### Work That Went Slower Than Expected, Delays, and Issues:

• Moller installation due to magnet

## **Ongoing Shutdown Work**

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

Project	Status	On Schedule?	Tasks	Comments/Concerns
Moller Polarimeter detector box	X	no	Ready for alignment	The detector box is installed and ready for survey and alignment. Because of delayed installation, alignment work must be 'worked in' to the schedule.
Moller Polarimeter quadripole	X	no	Fiducalize, map, install, align, test	Unit arrived 9/18/2012. Undergoing QA check now. Must be surveyed and mapped prior to start of installation. This may add additional delays and installation is not expected to meet the October 1 deadline.
Cryo Work	X	yes	As per schedule	Still progressing

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Project	Status	On Schedule?	Tasks	Comments/Concerns
Upside down girder	Jpside down girder X		Ready for magnet connections &	This is a filler job
			alignment	

• none

# Significant Problems Pending (delays, technical issues, resource issues, scheduling):

• Moller Polarimeter magnet delivery

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**Organization: Hall B** 

**Name: Doug Tilles** 

Date: 9-19-2012

#### **Last Two Weeks**

#### **Work That Went Better Than Expected:**

• Removing of the Delay cables on all Carriages On going

• Gas System removal

#### Work That Went Slower Than Expected, Delays, and Issues:

• Detector removal was delayed because some manpower was deployed for 12 GeV support.

# **Ongoing Shutdown Work**

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

Project	Status	On Schedule?	Tasks	Comments/Concerns
*Delay cable removal	X	Yes	On going	
Region 1 Drift	x			
Chamber		Yes	Complete	

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Project	Status	On Schedule?	Tasks	Comments/Concerns
*Removal of Electronics and racks	X	Yes	On going	
*Cherenkov Counter removal	x	NO	All units out	Complete
* Panel 1 TOF removal	x	NO	Start 8-6-2012	Complete
Panel 2&3Removal	X	NO	Start 8-15-2012 out	4 of 12 units

- Removal of Fwd. Carriage Electronics
- 12GeV support out-side of the Hall requiring manpower
- TEDF setup for HTCC clean room. Behind schedule
- Support for relocation of materials to create storage space.
- Laser transfer to EEL for 12 GeV Behind schedule

**Organization: Hall C** 

Name: Walter Kellner

Date: 09-19-12

#### **Last Two Weeks**

Work That Went Better Than Expected: Q-weak disassembly completed

#### Work That Went Slower Than Expected, Delays, and Issues:

- Hall C air compressors still not working. Lights under the blue platform and the power supply area still locked out. Water leak at cable penetration near entrance door not fixed (work request 35467, submitted 8/30).
- Hall C work platforms have been scheduled for repair (1 replacement) with a completion date for September 28<sup>th</sup> with a secondary date of October 4<sup>th</sup>.
- SOS dipole move has been rescheduled from October 1<sup>st</sup> to 29<sup>th</sup>.

### **Ongoing Shutdown Work**

**Upcoming Work (3-6 weeks from now)** (green = no concerns; yellow = some concerns; red = serious concerns) Status On Schedule? Project Tasks Comments/Concerns Flood cleanup Pressure washing, flushing and The cleaning of most Q-weak Ν Χ drying QTOR magnet coils, DC stainless steel vacuum, target H2 copper leads, 800lb of hardware, dump pipes and the inside of the also miscellanies Qweak target scattering chamber will be left for a

equipment,

later date.

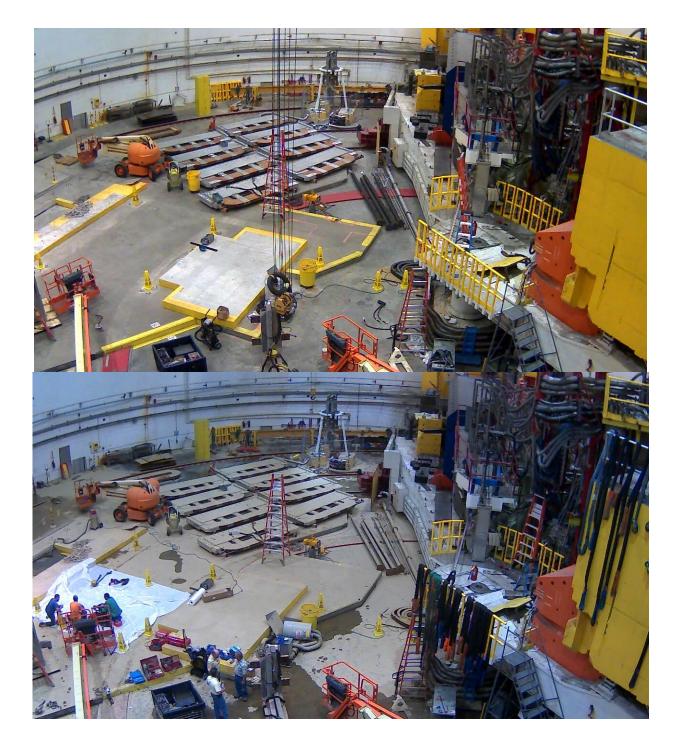
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Project	Status	On Schedule?	Tasks	Comments/Concerns	
Flood cleanup	X	N	Cleaning rust off and oiling THK rails, rigging gear, tools, general hardware, storage cabinets, electrical equipment etc Washing main floor areas, truck ramp and entrance.	This is very time consuming work and will take several Month due to a lack of manpower.	
Q-weak magnet coil Storage	X	N	Manufacturing a storage rack for the QTOR magnet coils. Rearranging space in the ESB, then moving coils plus containers of parts to the ESB.		

#### Significant Problems Pending (delays, technical issues, resource issues, scheduling):

The impact of flooding to the halls should not be understated. Recovery work has been prioritized to

- a) Reduce the likelihood of recurrence
- b) Repair/Replace systems according to minimize schedule impact
- c) Distribute expenditures to spread costs over multiple fiscal years.



**Organization: Hall D** 

**Name: Tom Carstens** 

Date: September 18, 2012

#### **Last Two Weeks**

**Work That Went Better Than Expected:** 

Work That Went Slower Than Expected, Delays, and Issues:

### **Ongoing Shutdown Work**

Assemble/Install Cryo Platform

Move Solenoid Controls racks into position

Run power (120VAC) to Controls rack location

Build fixturing for vacuum leak checking flanges on bottom of Distribution Can

Install LCW in Tagger Hall (On hold for lack of man-power)

Install Pick-up Coils in Bore of Solenoid (90% completed)

Continue Building Solenoid Controls Rack (95% complete, testing continues)

Install BCAL Light Guides (on hold for lack of man-power until Dec?)

Repair/Modify Solenoid Magnet Current Leads (On hold for drawings/lack of man power)

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

Project	Stati	us On Schedule?	Tasks	Comments/Concerns
	Т	Jeniedale.		
Assemble and Install	Х			Structure 50% assembled, awaiting plate from vendor to
Cryo Platform				match-mark 100+ holes to be drilled/tapped. Also
				awaiting Cryo distribution can before top-most platform
	\ \			can be installed.
Install cable trays under	X			80% of material on hand
Upstream Platform				
Install LCW piping	2	x		Lack of man power (Still on loan to Cryo)
system in Tagger Hall				
(Bldg 204)				
Install BCAL rails in bore	X			Rails now on-hand with coating applied
of Solenoid				
Assemble tagger magnet	Χ			
gantry crane				
Install Pair Spectrometer	Χ		60 days behind,	No effect to overall schedule
Magnet onto platform			mounting	
			hardware on	
			order	
Start of gluing/testing		Х	60 days behind	Delivery of light guides delayed/Modified fixturing still
BCAL light guides (3840			scheduled start	untested meaning 12 weeks installation time is "best
total)			date	guess".
Design/Assemble	Χ			
Solenoid Vacuum Panel				

## **New Work Requests Requiring Schedule Changes:**

• None

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#### Significant Problems Pending (delays, technical issues, resource issues, scheduling):

• Because maximum effort will be to complete the Cryo Distribution Can and transfer line installation by Dec 15<sup>th</sup>, (two shifts until task is completed and cool down of the Solenoid starts) most of the other work will be delayed until this is complete.

#### **Staffing Outlook:**

• Marginal to meet short term "published" schedule.

