

# **LSD – Labor Analysis**

## **(Focus on Metrology & Installation/Vacuum)**

W. Oren for “those guys”

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# First Look

- Held meetings 3<sup>rd</sup> week of Feb. with resource managers where resources as shown by the LSD schedule were stretched or shown as insufficient to maintain the schedule. (Metrology, DC Pwr, Electricians, Safety Systems, RF, Install/Vac)
- Two groups had obvious challenges where work identified in the LSD schedule could not be performed on time with existing resources – Alignment & Installation/Vacuum/Mag Meas.
- All the other groups were sent away to check if the scope in the schedule was accurate and whether they could arrange activities to load level and meet the scheduled needs.

# Alignment

- **Two Scenarios**

1. Add no new staff (or maybe 1) ->
  - Beam Transport work and “other” work would be completed by December 20<sup>th</sup>.
  - FEL Loaner must be extended until Labor Day
2. Staff to maintain BT schedule and all “other” work
  - Increase head count by 3 field techs
  - FEL loaner must be extended until Labor Day
  - Find about 0.5 FTE of engineering help
  - Rent equipment @ \$10k/month

- **Decision:**

- Work to add 3 field technicians – NSC contacted & resumes arriving.
- But: We don't need these folks for that long and the overhead to get them here and trained is large. **Can we find anyone from elsewhere in the lab to help? Need them “soon” until the end of August**

# Install/Vac/Mag Meas.

- **Two Scenarios:**

1. Increase staff to maintain schedule as defined - **This scenario will not be pursued – if staff can be found within the lab to augment the present effort then it will be used to “buy” cushion.**
2. Add no new staff
  - Beam Transport and “other” work would be completed by Labor Day.
  - But: The following assumptions must hold:
    1. Under estimates for BT work are  $\leq 10\%$
    2. The following activities are deferred until after Labor Day:
      - » Hall A dump rework (468 hrs)
      - » RSR level of effort & Hot checkout (830hrs)
      - » FEL gun work (280hrs)
      - » Admiral support (200hrs)
      - » Hall C (Moeller, QR Magnets) (200hrs)
      - » 11GeV separator (136hrs)
    3. No extra scope is added to the “other” worklist from now until Labor Day (except as fill work if gaps occur).

# Install/Vac/Mag. Meas.

- **Actions:**

- Extend terms that end before Aug. 31 – **In process**
- Extend matrixed staff agreements until Labor Day for:
  - Operations Staff – 5 individuals (Possible issue with CM commissioning assignments)
  - Injector Staff – 2
  - FEL Staff - 2
- **I need agreement that the deferred activities can be delayed as suggested.**

- **Next Steps:**

- Need to check back with other groups to be sure stretched resources can hold schedule – RF, DC Pwr, Safety Systems, I&C. Ops Software is also a concern. (All have been talked with “in the hallway”)