

Jefferson Lab Weekly Briefs November 7, 2007

12 GeV Upgrade

The 100 percent design submittal for the Hall D conventional facilities was received from the architect-engineering (A-E) firm, HSMM on Oct. 8. The submittal has been distributed to more than 30 Jefferson Lab engineers, physicists and ES&H subject matter experts for review. In addition, the contracted construction management firm (Alpha Corp.) is performing a constructability review. A meeting to discuss review findings with the A-E's design team is scheduled at JLab for Nov. 14-15.

Physics

Commissioning of the GEP-III and GEP-2 γ in Hall C has been completed. For the BigCal electron detector, this commissioning included data scans to obtain the optimum photomultiplier tube high voltage and discriminator thresholds for the 1744 lead glass blocks in the detector. For the Focal Plane Polarimeter in the High Momentum Spectrometer, data with the analyzer blocks removed was taken to align the FPP tracking chambers with the HMS wire chambers. As part of commissioning, production-quality data was taken at Q^2 of 2.75 (GeV/c)² to compare with the G_{Ep}/G_{Mp} form factor ratio in previous experiments. During commissioning, several tests were made in support of SANE (Spin Asymmetries on the Nucleon Experiment), scheduled to run next year. Performance and rate studies were made using the SANE tracking detector and other detectors.

• Government Fellowships for Scientists

AIP and its member societies offer several [Congressional Science Fellowship programs](#).

Deadlines to apply to are in January.

JLab's Safety Numbers (Nov. 7, 2007)

49 Days since Last Recordable Accident
(JLab Record: 319)

368 Days since Last Lost Workday Accident
(JLab record: 455)

Environment, Safety, Health & Quality

JLab's [Environmental Management System](#)

committee is currently dealing with two important issues that require attention and input from you, coworkers, and supervisors:

- In addition to the Lab reporting pollution prevention and waste minimization progress to DOE, it is time for you and your supervisor to inform Tom Hassler at hassler@jlab.org or Linda Even at lle@jlab.org about any P2 initiatives undertaken in FY 2007, such as using less hazardous materials for a process.
- It is also time to report on progress in maintaining our EMS to DOE and ISO expectations. If you would like to provide any kudos, issues, or concerns, contact Linda Even at lle@jlab.org or your organization's EMS committee representative. Refer to [Table 9](#) in ES&H Manual Appendix 2210-R1 for names.

• Oak Ridge Lesson Learned

A DOE Oak Ridge facility recently noted during a review that helium purge relief valve sizing calculations contained a significant error, allowing more gas to enter the system than the relief valves could accommodate. The original calculations had been performed in 1995 and contained erroneous assumptions. A new set of calculations were performed, but those used an incorrect value for specific gravity, resulting in an underestimate of the relief rate. The errors were not identified by the initial checker or during the review and approval process. The following lesson learned was developed from this discovery: It is important to ensure that engineering and scientific staff are trained or experienced to understand their responsibilities when performing technical calculations.

Accelerator

Both Halls A&C continued to receive beam on various targets, and the accelerator continued to supply high-quality beam as requested. A pass change for the halls was done on Oct. 31 and then again on Nov. 2. Both pass changes went well. Hall B's experiment came online and

beam was set up to the hall successfully. The radio frequency separators for the higher accelerator passes faulted and could not be turned back on. Troubleshooting revealed a failed component. It was replaced, but further troubleshooting was necessary when the power supply unit did not work as well as expected. A further problem of a shorted-out strap was fixed, and the separator was returned to service.

Free-Electron Laser (FEL)

The Gun Test Stand high-voltage power supply is under pressure in preparation for its first HV test. The GTS diagnostic beamline has been prepared for vacuum baking. A 16 Tesla solenoid magnet has been delivered to the terahertz lab for materials studies (it will also be useful in discovering the effect of stray fields on FEL linear accelerator operation). Preventive maintenance also was performed in preparation for bringing beam up again in late December.

Theory Center

Deep inelastic scattering in the saturation region (namely, at small Bjorken- x and/or for large nuclei) is commonly described by the evolution of color dipoles. In leading order in the strong coupling, this evolution is governed by the non-linear BK equation, and in a recent paper (arXiv:0710.4330 [hep-ph]) the next-to-leading order corrections have been calculated for the first time. This will enable one to better determine whether the BK equation is relevant for existing and future electron scattering facilities, such as the Electron-Ion Collider.

Computing and Networking Infrastructure

• Maintenance Day: Nov. 13, 5-10 p.m.

The Computer Center has planned a maintenance period from 5-10 p.m. on Tuesday, Nov. 13. For system impacts, you can watch the Computer Center [Maintenance Schedules web pages](#) for complete, up-to-date information.

• Scientific Computing Maintenance Planned

The experimental physics offline scientific computing environment will be down for [maintenance](#) beginning Friday, Nov. 23 and continuing into Saturday as needed. Jobs will

stop being dispatched to the batch farm at 5 p.m. on Tuesday, Nov. 20.

• Dial-In Remote Access Server Interruption

The system responsible for dial-in access (including the 1-800 number) will be offline on Thursday, Nov. 8 between 8:30 a.m.-12 p.m. for extensive troubleshooting.

• Microsoft Office 2007 and Windows Vista

The JLab IT Division will offer classes on Nov. 28 on two new software packages: one on the major differences between Microsoft Office 2003 and Microsoft Office 2007 and another on the major differences between Windows XP and Windows Vista. See the [full announcement](#).

Announcements

• Veterans Day Salute

In recognition of its veterans, JLab will have cake for all veterans in the CEBAF Center lobby from 11:30 a.m.-2 p.m. on Monday, Nov. 12. Sign the board and enjoy a piece of cake.

• Holiday Desserts to Tempt Your Taste Buds

The Quark Café will soon be taking orders for holiday desserts. To help customers choose, the café will hold a dessert tasting during lunch (11:30 a.m.-1 p.m.) on Thursday, Nov. 8.

• Trial E-Book Service

MyILibrary has granted JLab [trial access](#) to its collection of electronic books until Dec. 5.

• Need to update your W-4?

If you have had a life change since you last filed a Form W-4 or if you claim exemption, you may need to [file an amended Form W-4](#). Employees may view their current withholding exemptions and make any necessary changes through the [Employee Self Service System](#).

JLab Calendar of Events

Nov. 8: Quark Café Holiday Dessert Tasting
Nov. 12: Veterans Day (Observed)
Nov. 14: Shredding Service at JLab (x7169)
Nov. 15: Quark Café Thanksgiving Buffet
Nov. 22-23: Thanksgiving holidays
Dec. 4: [Science Series Lecture](#): The Laser at 50