



The PPPL Highlights for the week ending October 12, 2012, are as follows:

THEORY (A. BHATTACHARJEE):

Peter Damiano presented a seminar to the Space Physics Research Group at the Space Sciences Laboratory (UC Berkeley) on October 9 entitled "Electron Energization and Wave Dispersion in a Mirror Kinetic Alfvén Wave". While there, he was involved in research discussions with Chris Chaston on Alfvén wave induced particle energization in magnetospheric plasmas including the analysis of field and particle observations from the FAST (Fast Auroral SnapshoT) NASA satellite mission.

ENGINEERING AND INFRASTRUCTURE (M. WILLIAMS):

NSTX Upgrade (R. Strykowski, E. Perry, L. Dudek, T. Stevenson):

All TF flags have been ultrasonically tested.

Welding of the new umbrella legs to the umbrella has begun.

Modification of the vacuum vessel legs has been started.

Re-installation of the bakeout piping on the vessel continues.

The installation of power for the Glow Discharge system continues.

NB2 has been lifted onto its legs and the legs have been welded to the NB enclosure.

Scaffolding has been established at the 109' EL for bays I to L for the vacuum vessel cuts that will occur in the next few weeks.

TF Conductors: Five TF conductors have been received from Major Tool and are being prepped for soldering in CAS building. Five TF conductors have been installed into the Quadrant mold in the winding area. Soldered TF conductors 119, 127 and 138 have been sanded and cleaned and were delivered to the coil area.

Coil Support Structures: One umbrella leg was welded into place and inspected satisfactory.

A successful peer review was held on the Vacuum Vessel Small ports installation.

NBI Upgrade: Work continues in the NTC, TTC, NBPC, and technical shops. HP support continues on pace in both the NTC and TTC. Management participated in the monthly Integrated Project Team meeting with DOE.

NBI Armor: Backing plate machining on the second plate continues as a background task in the shop.

NBI Relocation: The Beamline was raised to near midplane height and placed on the four support stands. The support stand welds to the BL are complete. Alignment to the beam midplane height and aiming trajectories has started and will continue next week. Remedial decon of parts after the major relocations continues in TTC and NTC with many parts cleared for free release and storage. The 4 BL supports from TFTR era used during the relocation for the air castors have been cleared and removed from the NTC to the south high bay area.

NBI Refurbishment: Water feedthroughs have been fabricated and work has resumed their installation on the 90-inch flange. This installation is the last major item to go on the flange before relocation to BL2 in the NTC. Effort has also resumed on the calorimeter reassembly. A rad trash shipment was processed by HP and removed by ERWM.

NBI Services: Fabrication of cryo lines continues in the NB shop. Evaluation of water system installation continues in preparation for subcontract procurement.

NBI Power: Triax cable shipment is imminent pending minor documentation from the supplier. The Decel coax cabling requisition has been approved.

NBI Controls: LCC controls and wiring modifications continue on the NBPC 138 level.

NBI Duct and TVPS: The Bay JK weldment and port extension are returning from heat treatment this week with metrology and leak checking planned next week. Fabrication of duct flanges continues in the shop. Purchases of duct hardware are being prepared.

Office of Project Management (T. Stevenson):

Development of the revision to the Work Planning online system 6.0 is in progress by IT. Most of the major code changes are completed. Format and page changes will be discussed and incorporated next. Testing in the development area is planned.

Development of the System Engineer training per procedure ENG-016 on Preventive Maintenance continues.

The ENG-006 SOW procedure revision for JONs and process improvements has been distributed for department review.

The Project Status Review Board meeting was held this week with active jobs reporting progress, no major issues, and the widely held general concerns regarding budget profiles verses planning.

Facilities and Site Services (M. Viola):

GPP: Work on the MG Low Roof is progressing with only detail work remaining. The project will be complete by October 20.

Fire Protection: Fire Protection Review - gathering information for M. Williams to use in reaching out to DOE FPEs for doing the review. We met with Fire Planning Associates.

ACAMS: Drawing mark ups for print room card reader are about 90% complete. We added a computer to the Communications Center UPS. We provided the requested information for the Site Protection Division Peer Review Risk Assessment.

Miscellaneous: An article on Halon Discharge was prepared for the ES&H newsletter. Sprinkler protection in L213/214 was reviewed in response a MSW finding.

Telecommunications: The new firmware from Avaya, installed by our phone system vendor Altura, is working so far to correct the problem associated with intermittent dead analog phone lines.

The Telecom office is preparing a cost benefit analysis work sheet for the Laboratory's wireless devices. The work sheet will show our current costs for PPPL issued wireless devices compared to any sufficient cost savings in implementing a stipend policy for PPPL cell phone users.

The Electricians have completed their task in the Phone Room, reconfiguring and running all new ground wires for the phone system. We are also going to install a separate electrical transformer for the phone system to isolate the electrical power for the system.

Operations: We successfully started up Central Plant Boiler and Steam Supply System for C and D-Sites. All areas are essentially ready for the heating season. Our PSE&G meter is malfunctioning and needs to be changed on October 15.

Insulation work on the first floor D-Site FCPC Building, and insulation work at Receiving 1 steam station are both complete in response to MSW D121301.

A contract was signed to perform the HP Office and Conference Room renovations.

A Basic Ordering Agreement (BOA) for future necessary renovations at PPPL will be solicited for bids by procurement next week to help streamline the process.

Material Services: stock 4200N95 Series, "AIRWAVE RESPIRATORS" are currently available in the stockroom.

FY12 Sensitive Equipment Inventory was completed with no losses – had a 100% find rate.

Oakridge National Laboratory had an urgent request last week to receive items from PPPL to help with the repair of US ITER's RF transmitter. A loan agreement was established in an extremely fast manner to meet the ORNL request.

BUSINESS OPERATIONS (E. WINKLER):

The Accounting Division submitted footnote disclosure information to DOE for Contractor Postretirement Benefits Other Than Pensions. This information was prepared by the Princeton University actuary, CASCO, and will be used by DOE in the development of consolidated footnote disclosure information as a basis for reconciling the PRB estimates to the appropriate accounts.

The Accounting Division submitted PPPL's year-end financial data for FY 2012 to DOE. The final steps in the fiscal year closing cycle are to provide the financial statement analysis and footnote disclosure information and complete the various supporting schedules required by DOE.

PPPL, through the Budget Office, submitted the required reporting data on its ARRA-funded projects for the quarter ending September 30 into the Federal Reporting web site. In addition, the quarterly Office of Science ARRA project reports summarizing progress against milestones were submitted to the DOE. With the exception of the Early Career Award which continues through FY2015, all ARRA projects have been completed.

PPPL submitted a proposal, titled "Full Wave Modeling of Plasma Waves in the Radiation Belts and Ring Current," to the National Science Foundation (NSF). The Principal Investigator is Eun-Hwa Kim. The total budget request for the three-year period of performance is \$387,800.

A Work for Others Agreement between PPPL and Tri Alpha Energy was executed for the project titled "Plasma Topics of Importance to Advancing the C-2 Program." The Principal Investigator is Lane Roquemore. The budget is \$627,000 for the one-year period of performance.

Rod Templon participated in the semi-annual DOE Laboratory Contractor Procurement Manager's meeting, hosted by Pacific Northwest National Laboratories. Agenda topics included: training programs for Laboratory Technical Representatives; cost price analysis and contract closeout procedures; Agreements for Commercializing Technology (ACT) implementation; cloud computing implementation; sustainable acquisition compliance; accelerated payments for small business subcontractors; and E-Sourcing.

ENVIRONMENT, SAFETY, HEALTH & SECURITY (J. LEVINE):

Environmental Services:

Keith Rule attended the Labs21 Conference in San Jose, California and gave a presentation explaining the Energy Efficient Buildings Hub at the Philadelphia Naval Shipyard. The presentation was titled, "Whole Building Solutions to Achieve 50% Energy Savings".

Rob Sheneman and Virginia Finley attended the DOE Annual Site Environmental Report and Environmental Monitoring Workshop hosted by Brookhaven National Laboratory. Rob spoke about PPPL's comprehensive greenhouse gas management program and Virginia discussed the regulatory and historical issues surrounding the D&R Canal Pumphouse.

Site Protection:

ESU Ambulance A-166 responded to Plainsboro for four mutual aid assignments. ESU Engine 66 responded to Princeton for one mutual aid assignment and to PPPL D-Site Mock-Up Building for an audible alarm, but no fire or health hazards were found.

DOE provided the final, detailed report of the Safeguards and Security Survey conducted at PPPL on August 20-23 by the DOE Office of Science Chicago Office. The survey resulted in an overall composite rating of Satisfactory -- the highest rating allowable.

Site Protection is preparing for a Peer Review Risk Assessment of Safeguards and Security at the Laboratory. The DOE Office of Science and Office of Health, Safety and Security will conduct the assessment on October 29-November 2.

The ORPS (Occurrence Reporting and Processing System) Quarterly Performance Analysis Report for CY 2012 Third Quarter was submitted to PPPL senior management and to DOE/PSO.

The Quarterly Report for PTENS (Princeton Telephone and E-Mail Notification System) was submitted to Business Operations.

ESU Platoon C completed the Annual Physical Agility Test. This test is completed by all ESU Operations personnel while wearing full turn-out gear and self-contained breathing apparatus (SCBA). The test is a ten-station test consisting of various Fire, EMT and Security components.

Site Protection provided the following activities for Fire Prevention Week (October 7-13): Daily SPD messages to All Staff on various Fire Prevention topics; Posters displayed throughout the Laboratory; Display table in the Lobby (brochures, equipment, turn-out gear); Fire Extinguisher / Fire Hose demonstrations and tours of Engine 66 in the LSB Circle Driveway; and Video in the LSB Lobby Activities were coordinated by Driver/Operator S. Galie with assistance from Officer J. Bain.

SPD provided security assistance and traffic control for the Princeton Freshmen Parents' Tours

The U.S. flag was lowered to half-staff on October 9. NJ Governor Christie ordered the flag to be flown at half-staff in recognition and mourning of a brave and loyal American hero, United States Army Sergeant Jonathan Gollnitz of Lakehurst, NJ who lost his life while serving during Operation Enduring Freedom in Afghanistan.

Captain H. Caruso (Platoon A) and Captain K. Rhoades (Platoon B) attended a Basic Campus Crime Prevention Training Course provided by the National Crime Prevention Council at Rutgers University in New Brunswick. This training provided participants with the knowledge, skills, and resources to lead crime prevention services for their campus.

Driver/Operator W. Foraker attended Firefighting Strategies and Tactics and Report Writing for the Emergency Responder at the Mercer County Fire Academy.

Officer A. White attended EMT Core Refresher Training at the Delran Emergency Squad Headquarters.

SPD submitted several articles for the next issue of the ESH&S Newsletter.

INFORMATION TECHNOLOGY (S. BAUMGARTNER):

S. Baumgartner, A. Kelley and T. Bleach met with Carolyn Ainslie, VP of Finance & Treasurer for Princeton University, to discuss a path forward to determine the feasibility of PPPL migrating our business systems to the University's PeopleSoft systems.

Business Computing Systems (BCS) rolled out a new production environment for the SharePoint pilot which is currently being used by Best Practices.

Members of BCS and Jim Graham met with TAKE Solutions to discuss the ongoing SharePoint pilot project and new requirements

Progress has been made on the IO list and the equipment racks layout for the NSTX-U Coil Protection System.

A schedule has been provided for the GA Integrator Board design and fabrication effort. The VPN connection between PPPL and GA has been restored.

A requisition for computer and data storage equipment for the PTOLEMY project has been written.

OFFICE OF COMMUNICATIONS: (K. MACPHERSON):

Chris Cane posted several news stories, placed them on the Lab's Facebook page, and tweeted them, as well. He also participated in the DOE's Web Council meeting on October 10.

Jeanne Jackson DeVoe attended a one-day conference in New York on October 10 on presenting data and information presented by Edward Tufte, a professor emeritus at Yale University and author of four books on analytical design. Tufte discussed how to create “a serious graphic,” with multiple levels of data and a coherent story. He discussed how “serious presentations” show cause and effect, bring together diverse elements, such as graphics, charts, photos, and text, into one coherent whole and help explain concepts through comparisons, clear labeling that shows relationships between various elements and focusing on excellent content. He argued against what he calls “clutter and noise” in presentations. He also discussed the importance of demonstrating credibility by stating sources for data and taking other views into consideration. He discussed the use of high-resolution graphics, like sparklines (tiny graph-like symbols) in text. His main thesis was that content counts most of all and that presentations “should stand or fall on the basis of their content.”

J. Greenwald's press release on the SciDAC grant to a center at PPPL received extensive media coverage, including articles in the Trenton Times and R&D Magazine. In addition, two of his stories, on the SciDAC grant and on a fusion roadmapping conference at UCLA, were featured as lead news items on the Princeton University homepage, in addition to the PPPL homepage.

E. Starkman shot numerous photos of staff members and Lab events, including: Fire Safety Prevention Week; Arturo Dominguez of Science Ed; a group photo of graduate students; as well as group photos of Princeton University students and their parents touring PPPL as part of Parents' Weekend. She was also asked to contribute photos to SCIENCE First Hand journal in Novosibirsk, Russia. The journal is a popular science magazine founded in 2004 by the Siberian Branch of the Russian Academy of Sciences. The journal is published in Russian (print and electronic versions) www.sciencefirsthand.ru and in English (electronic version) www.sibsciencenews.org. John Greenwald wrote a caption accompanying Starkman's photo, "Iron Lotus."

BEST PRACTICES & EXTERNAL AFFAIRS (J. DELOOPER):

Andrew Zwicker led a workshop at the "Communicating Science" conference at Antioch University in Keene, NH. His topic was "Communicating Science Through an Art Competition," and highlighted the fact that PPPL and plasma physics has won three of the five Princeton University Art of Science competitions. In addition, he spoke with graduate students about the status of fusion as part of their "Sustainability Engineering" seminar.

QA, working with Doug Loesser, developed a quality plan for the ITER Task Agreement, *Generic Diagnostic First Wall Preliminary and Final Design*. This plan is in the review and approval process.

QA participated in a teleconference with US ITER to review the proposed revisions to the USDA Quality Plan.

QA is working with Kathleen Lukazik to post copies of ITER templates of important forms, e.g., Quality Plans, on the P-IDM system for use by all project personnel.

We are working on restoring the Quality Receipt Inspection service to PPPL. Existing metrology tools have been sent out for calibration. New metrology tools have been identified and are being procured. George Doroshenko, who responsible for this function, is in the process of completing the training required by the QA training matrix.

DIRECTOR'S OFFICE (B. SOBEL):

S. Prager and M. Zarnstorff attended the IAEA Fusion Energy Conference held in San Diego, California, October 8-13.

On October 9, Adam Cohen, Stewart Prager (via video conference), and Stew Smith, Dean for Research, Princeton University, attended the PPPL briefing on the External Safety Review held in Washington, DC. Maria Dikeakos and Leif Dietrich attended from the DOE Princeton Site Office.

On October 11, Adam Cohen met with representatives from Hanford and PNNL in Aiken, SC, to discuss a proposal to EM and address HLW issues. Other attendees from PPPL were Charlie Gentile, Nathaniel Fisch, Stewart Zweben, Eric Edlund, and R. Gueroult.

This report is also available on the following web site:

<http://www-local.pppl.gov/director/highlights/2012-highlights.htm>