

APS/Users Monthly Operations Meeting

Brian Stephenson

March 27, 2013

Agenda

- APS Update – Brian Stephenson
 - Pacesetter Awards
- APS Upgrade Update – Dean Haeffner
- 2013 APS/CNM/EMC Users Meeting – Binhua Lin



PHOTON SCIENCES SAFETY NOTICE

Shock Potential from EDAC 516 Series Connectors

An APS employee recently received a mild shock while holding an energized EDAC 516 Series connector attached to a Kohzu Model 501C driver unit and an Oriental Model PK6558E 5 phase stepper motor. The voltage involved was later measured as 80 VDC.



The damaged wiring insulation and carbon deposits on the metal shell cable connector.

These connectors are a standard type widely used at the APS on stepper and servo motor cables, especially on intermediate wiring between the driver units and motors. They have an ungrounded metal housing, which can become energized if wiring insulation within the housing has been damaged allowing exposed conductors to contact the housing.

Pending determination of corrective action, please notify your staff members and users:

1. To be aware that some of the stepper-motor drivers may output more than 50 volts.
2. To not contact the connectors on cabling to stepper motors unless de-energized.
3. To be careful around all metal shell cable connectors used for stepper and servo motors because they are typically not grounded.
4. To take care not to damage wire insulation while assembling cable connectors.

PSC_13.1

Stepper Motor Shock Hazard Update

- Hazardous voltage to ground (108 V) has been measured on Kohzu Model MD-501C and Oriental Motors (Vextra) Model RKD514H-A driver units
 - All Kohzu and Oriental Motors driver units are suspect until measured
- Survey taken of stepper motor driver units at APS
 - Total count of 5300 driver units based on survey forms returned
 - 334 Kohzu and 81 Oriental Motors driver units identified



Compensatory Measures

- Beamlines using Kohzu and Oriental Motors driver units will be provided with labels for the driver units/crate and tags to place on output cables near the EDAC/ELCO connectors
 - Floor coordinators will provide these to the involved beamlines within the next few weeks
 - Beamline staff will have a month from receipt to label and tag the pertinent driver units/crates and output cables
- Labels and tags will warn of shock hazard and remind personnel to de-energize the driver units before handling the connectors for any purpose
 - De-energize means to turn off the driver unit power and then remove the power cable to the driver unit if it is accessible



**De-energize unit before
handling connectors!**



Additional Near Term Actions

- Literature search shows other driver units may be powered by 120 VAC and need to have their output voltage to ground measured
 - Parker Zeta and ARIES
 - Compumotor OEMZL4 & S series
 - Newport ESP & MM series
- AES-BCDA Group will be making these measurements within the next few weeks
- APS Electrical Safety Committee is holding meetings to discuss and decide upon final corrective actions

Beamlines/Sectors with Kohzu & Oriental Motors Driver Units

- 1-ID
- 2-BM & ID
- 3-ID
- 4-ID
- 6-ID
- 7-BM & -ID
- 9-ID
- 14-BM & -ID (BioCARS)
- 16-BM & -ID (HP-CAT)
- 24-ID (NE-CAT)
- 30-ID
- 32-ID
- 34-ID



BESAC Review of BES facilities, Feb 27, 2012

- To assist DOE SC in creating a priority list, all current BES facilities and planned upgrades were reviewed by BESAC based on 5-page documents and 10-viewgraph presentations
- All were given a rating regarding their impact on US science in the next decade:
 - Absolutely central
 - Important
 - Lower priority
 - Don't know enough yet
- The planned upgrades were also rated on readiness for construction:
 - Ready for construction
 - Significant technical or scientific challenges
 - Mission not defined
- The APS received a rating of “Absolutely central”
- The APS Upgrade also received a rating of “Absolutely central”, and “Ready for construction”



BES/SUF Review of Operations Budgets

- All of the BES light sources are having external reviews of their operations budgets this Spring, organized by BES/SUF
- These are in addition to the triennial BES/SUF reviews of facility operations, scheduled for FY14
- APS's budget review is scheduled for May 16-17, with a pre-review April 3-4
- It is an opportunity for vetting our future plan for transitioning the APS-U scope to operations



Robert Von Dreele (XSD) Receives Hanawalt Award

Robert Von Dreele (XSD) has been awarded the prestigious Hanawalt Award by the International Centre for Diffraction Data.

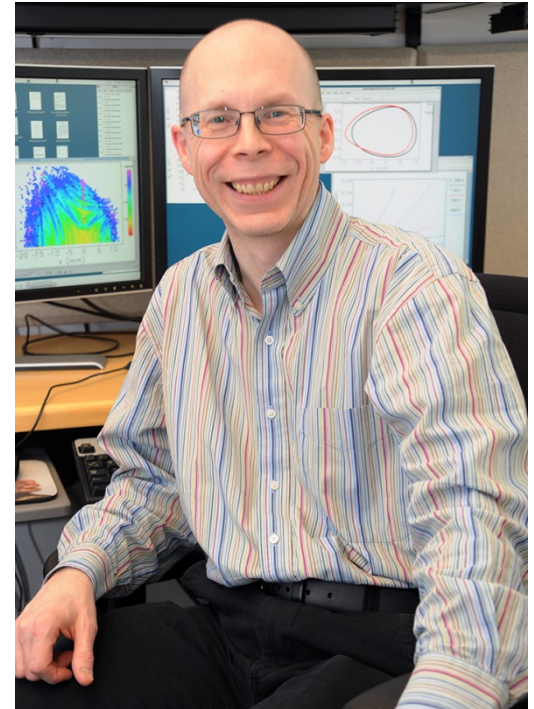
The award citation reads "For his insight, courage and creativity in bringing powder diffraction to the macromolecular community."

Von Dreele's research focuses on the development of x-ray and neutron powder diffraction, and its application to a wide variety of scientific problems. He pioneered the General Structure Analysis System program suite for Rietveld analysis, an exceptionally valuable method for structural analysis of nearly all classes of crystalline materials not available as single crystals. He has been using the Rietveld Method since 1972. His current research is in further extensions of protein powder diffraction including investigation of crystal growth, phase transformations, radiation damage and exploring possible routes to *de novo* protein structure determination from powder data.



Michael Borland (ASD) Awarded ACFA-IPAC'13 Prize for Accelerator Science

Michael Borland has been awarded the Asian Committee for Future Accelerators ACFA-IPAC '13 Prize for recent, significant contributions to the field of accelerator science. Borland was cited for “his original contributions in creating the program elegant (ELEctron Generation ANd Tracking), and the SDDS (Self-Describing Data Sets) platform, which has marvelous impact on the design and analysis of circular accelerators, ERLs, and FELs. By using elegant, he predicted, for the first time, the coherent-synchrotron-radiation-driven micro-bunching instability in FELs that triggered an active on-going field of research.”



President Obama Visits Argonne and APS



March 15, 2013



The Advanced Photon Source is an Office of Science User Facility operated for the U.S. Department of Energy Office of Science by Argonne National Laboratory





The Advanced Photon Source is an Office of Science User Facility operated for the U.S. Department of Energy Office of Science by Argonne National Laboratory





The Advanced Photon Source is an Office of Science User Facility operated for the U.S. Department of Energy Office of Science by Argonne National Laboratory





The Advanced Photon Source is an Office of Science User Facility operated for the U.S. Department of Energy Office of Science by Argonne National Laboratory





Photo by Al Hillman



Pacesetter: Ralph Bechtold, Ed Theres and Ed Russell (AES)



Extraordinary efforts by Ralph Bechtold, Ed Theres and Ed Russell in meeting the goal of organizing the new Mechanical Operations and Maintenance technician area, moving technicians, and clearing out the old EAA tech area.

Pacesetter: Gregory Fystro (ASD)



Greg has shown remarkable initiative in developing tools to facilitate operations of the APS and keep us compliant with ever changing demands and technology.

Pacesetter: Jude Kitching and Sue Benda (XSD)



Extraordinary effort and attention to detail that ensured the success of the International workshop “X-rays in the Fourth Dimension”.

Pacesetter: Paul Rossi, Michael Pape and Rick Spence (XSD)



For effective communication regarding chemical waste management practices that have directly led to improved procedures.