**Minutes**
**APS Users Organization Meeting**
Wednesday, January18, 2012
Advanced Photon Source
Building 401, Room A5000
Peter Eng, Chair, APSUO

**Welcome and Announcements –** *Peter Eng*
Eng introduced Tony Lanzirotti and gave a general overview of the meeting agenda.

Presentations:
http://www.aps.anl.gov/About/Committees/APS_Users_Organization/Meetings/2012/index.html.

Summary of action items at conclusion of minutes.

**APS Update** – *Brian Stephenson*
Science Highlights: Stephenson reviewed four recent Science Highlights, all on energy materials.

Safety: Stephenson reviewed statistics at Argonne and APS of total reportable cases and days of work lost. Over a decade's span, the rates of incidents were going down. However, 2011 saw an increase. These incidents have not been large magnitude events—they are more housekeeping and minor accidents, which makes the mitigation of risks encountered in day-to-day activities very important.

Accelerator Performance: The four months October-December 2011 have been historic: saw 99.6 % availability with only 7 faults. Between November 9 and December 10, the machine went 606 hours between faults, the longest time ever. There are entire teams of people contributing to this level of success (e.g., power supply group) working behind the scenes with tremendous work ethic and dedication. Replacement of parts and units is critical but requires significant funding. In the context of the Upgrade, management of replacements will be handled by the operations group. Mean time between failures this past run was 220 hours! (It has been running at about 100 hours for the past several years.) An article will be forthcoming regarding these achievements (incl. user testimonials) to give some kudos to all the groups working behind the scenes making this level of performance possible.

In late November, Keith Moffat (U of C) was appointed Senior Advisor for Life Sciences at the APS. Moffat is advising APS, coordinating strategy for the life sciences facilities at APS, working with groups to advocate funding, and interacting with staff at other synchrotron facilities.

Stephenson reviewed recent workshops including X-ray Interface Science Sector Planning (January 10-11), Dynamic Compression Sector planning workshop (January 19-

20), and the Three-way Meeting in Grenoble (APS w/ Spring8 and ESRF) (February 1-2), which has been happening for many years. This year, PETRA 3 (Hamburg) has asked to join the meeting; other facilities in Beijing and eastern India area also on the horizon. All of these facilities are going into upgrade phases and there is much that can be learned from each facility's experiences. The next meeting will be here is August 2013.

Dynamic compression sector (currently being designed, PI is Y. Gupta): The NSA has agreed to build this facility to study materials in real time under extreme conditions of pressure (e.g., shock waves). The focus of this facility is very connected to the themes of the Upgrade.

BES Review: The BES review report has been received and it showed overall satisfaction with accelerator performance, high level of user support, and scientific productivity. The review team went out and spoke to staff without management present. Four specific suggestions for improvement were filtered out of the overall collection of input:

1) The centrally managed delivery of technical support seems to be inadequate and not functioning properly. Having centralized management is efficient but there is a lack of a feedback mechanism to hold support staff accountable and lack of authority for beamline or accelerator staff to direct the support. This will become even more important as the Upgrade project advances and normal operations continue simultaneously. Organization will be critically important.

2) Periodic renewal review process for the CATs is needed—currently trend seems to be tending toward and open-ended preferred access model. A return to individual beamline reviews (back from the cross-cut reviews now being done) will be important as the remaining beamline space is built out (e.g., canting process). Need to look at the "health" of each group on the floor. SAC has agreed to handle this review process (will be meeting in March). Eng noted that the driver to the current process was workload. Need to ensure that input is distributed well in advance of meetings. He also noted that presentation of statistics in graphical format is an effective means of conveying information. ASUO members should send any mark-ups to the proposed review process to the APS. Reviews may be started in fall 2012 beginning with APS beamlines to kick off the process. Anticipating a five-year cycle for full review of all beamlines. The comment was made that five years is a rather long time—much can change. Would three years be better? Better to synch reviews to funding cycles? Each group will have different optimal conditions for review planning.

3) Internal organization and relative weight of divisions does not seem optimized. Gaps in communication exist between upper mgmt and beamline/accelerator staff. Decision making process is not transparent to staff. APS currently has three different levels that manage their annual funding. Stephenson has been going around talking to all the groups via "Educate the Director" meetings that he plans to extend to the CATs.

4) X-ray optics and advanced detectors are critical to the realization of the APS Upgrade's full potential. APS management was urged to reevaluate the priority of the

Upgrade path for optics and detectors and to develop a more detailed plan. Improvements in optics and detectors can have a significant positive impact on beamlines.

Budget/hiring: The DOE FY2012 budget was enacted December 23, 2011. Received full funding ($20M) for the Upgrade. In order to keep BES funding flat, there was a -5% reduction in operations budget. APS is developing a coordinated spending and staffing plan that will utilize carryover from prior year. Operations still set for 5000 hours/year operations, but some low-priority activities may need to be postponed due to reduced budget. APS is proceeding with preliminary design work on the Upgrade, including active searches for ~50 staff openings.

Space planning: the APS guide for use of space has now been officially posted. Input and suggestions will still be taken at any time. Space for staging will be necessary as the Upgrade moves forward. Bldg. 314 (across the road) has high-bay lab space available (and also includes some office space). The APS is considering trailers for temporary office space for designers and others that will have "temporary" involvement in the Upgrade work. Guest House has converted four "quads" into rental office space that may be utilized. Parking is available in old CP-5 area (need to establish pathways to and from). A proposal is being developed to expand (either vertically or horizontally) the LOMs over the next decade using Argonne IGPP funding. Architects are currently developing these concepts. Must consider that the APS is a distinctive and recognizable symbol for the DOE office of Science and we need to ensure that this is not compromised. Expansion outward for some areas would entail moving wetlands (very expensive). If funding is available, the expansion could possibly include lab space as well as office space. The original LOMs were not designed to be expanded.

Roadmap for APS beamlines: are in the process of considering locations for future locations of beamlines. Optimizing the situation may involve moving some existing programs.

**Potential impact of NSLS to NSLS II transition on demand for certain research techniques** – *Denny Mills*

There are a few changes since the last meeting. Mills reviewed the planned timeline for NSLS II accelerator and beamline operations. Initial tasks will limit the number of useable hours for users. Currently, NSLS has about 2200 users—this number will drop off dramatically as NSLS II starts up. NSLS II will host approximately 300 users with seven beamlines in FY15 and 600 users with 21 beamlines in FY16. What can the APS do to increase its capacity in order to absorb some of these users? We have investigated the overlap of the user communities between NSLS and the APS, ALS, and SSRL. Overall, about 22% overlap was found. We looked at data for FY10 and FY11: 577 NSLS users also used one or more of the other facilities. May have to do some outreach to help users better understand the other facilities. These numbers may actually be larger as this is what the population is doing while NSLS is still fully available. Geographic proximity may also be playing a role (APS has larger overlap because it is closer). The overlap in protein crystallography was also reviewed—again, about 20% used other facilities with the same geographic distinction between the APS and the west coast

synchrotron facilities. Soft x-ray users are going to be lacking options for some period of time, even after NSLS II is on line. Bending magnet beamlines here at the APS would be a great resource, but time will be needed to prepare, esp. if purchases need to be made. Comments to Mills are welcome and encouraged.

**APS Upgrade: Overview and Status** – *Dean Haeffner*
Haeffner recapped the APS-U budget situation. As of late December, the APS-U was able to resume FY2012 tasks using carry over funds (project was back at full speed as of Jan. 3, 2012). The revised CDR process was presented and reviewed—tasks piled up during the time the project was on hold due to budget/funding issue. This is a very busy time for the project. Haeffner also presented the five major areas in the work breakdown structure and gave an overview of current activities. Currently, major effort is taking place in procuring personnel; many key personnel changes have recently taken place that have necessitated some "juggling."

Three beamlines are proposed for an early start based on guidance from DOE (seeking early science output). There is the potential for early procurement for experimental stations (CD3a, perhaps as early as April 2012!). Only three met the criteria for early starts: HFPP 14-ID upgrade, HEXD 1-ID expansion, and MS-4-ID magnetic spectroscopy upgrade. This is constantly being reevaluated. The Dynamic Compression Sector (funded by National Nuclear Security Administration) project is moving extremely fast and is coordinating where possible with APS-U. Details of the DCS project were discussed and the DCS@APS workshop. Recent roadmap activities included fact-finding meetings between the APS-U and stakeholders from both XSD management and all key internal stakeholders—issues covered include DCS plans for beamline extension, siting for wide-field imaging long beamline, choices on which program can be combined on canted beamlines, and compatibility of certain IDs. Looking ahead to the 2012 Users Meeting, the roadmap, preliminary design topics, and possible scenarios would be a great topic for APS plenary or perhaps a town hall-type meeting.

**NUFO Update (2012 Exhibition, Annual Meeting, Other)** – *Tony Lanzirotti, Chair, NUFO*
Lanzirotti presented a historical overview of NUFO, discussing how its mission has evolved through time. The NUFO 2012 agenda was reviewed, highlighting meeting attendance plans including the second National Science Festival and Expo, which will be held in Washington DC in April 2012. NUFO holds annual meetings—summary reports are available on line (the next is in June at Los Alamos National lab in June 2012). The 2011 report identified key issue affecting user communities. Benchmarking studies in 2011 included publication acknowledgements, insurance for users, bilingual websites, and research conducted by Fortune 500 companies at user facilities. (An administrative working group will be working to identify other important benchmarking topics.) Other topics include possible use of web-based user agreement processes (the APS is a pilot test site), standardized cyber security training, and starting a dialog with universities to inform about resources available at national user facilities. Additionally, six working groups have been formed to develop and implement activities to benefit user communities (volunteers can register on line—participation is largely electronic). These

groups can have a very big impact on the user communities at large. NUFO has even interacted with members of Congress with great success: a second exhibition invitation has been extended, including one day with the House and one day with the Senate (late March 2012). Posters and representatives to talk about the science are needed from all the facilities. Lanzirotti reviewed all the different ways that users can and should get involved (e.g., volunteers, poster and handout information, communicate concerns, act as an advocate to educate the public, etc.).

**Working Lunch: Discussion of Draft User Portal** – *Susan Strasser*
The rationale for the portal was to provide "one-stop shopping" using a single log-in for user access activities—gate pass requests, training completion and history, non-US access approval, and user agreement confirmation. The portal allows effective communication of information for administrators, beamline staff. A variety of reporting functions are also included in the system.

The portal allows for communication of messages. Check in information for visits collects all info required for access. Links to URLs commonly and frequently used by users are also provided. Feedback received so far has been supportive of the functionality—layout and design improvements have been suggested. Also, access to current GUPS and PUPs would be useful. Add a link to the APS schedule where assigned dates are listed for beam time. Provide a box that would update and keep a real-time listing of active GUPs and PUPs on an individual basis. Opening page: confirmation of identity info, messaging system, and then buttons for major activities. The process of filling in information should be more scripted and have more of a directed flow of collecting information. Have a warning box pop up that automatically tells you that you have training out of date, rather than have them go look at training. Right now core training is what appears. ESAF-driven training is addressed at the beamline level—but it could be very important for effective use of time to know what ESAF-driven training will be required. What is the status of the ESAF (can that be shown)? What is the status of proposals? Can that be shown? Attempting to connect the beam time request system with the ESAF system with the …. System so that all of that is coordinated in one spot has come a long way. Separate buttons for each major activity. Info buttons with more details for each question. Red box/text if your visit is still unconfirmed or approved, green box/text if all the necessary parameters for access have been met. For the "Access Approved" info add a date through which access is approved. Can we know who has been physically badged already? Change "do you need an ANL gate pass?" to "do you have a valid APS badge?" Guards at the ANL gates do not have the authority to grant access. Simplify publication reporting—a button that says "How do I submit my publication?" or simply say "e-mail your citation to XXXX." Do a complete review of all the windows where users input information.

**Executive Session**

Routine Business: Approval of minutes from November 18, 2011, APSUO Steering Committee Meeting.

Planning for Users Week 2012: APS-U presentation for roadmap/scenario (approx. 30 min.) and 20 min. at conclusion of Monday afternoon APS parallel plenary.

**Draft schedule, draft list of speakers:**
1. Welcome—Peter
2. Lab Director: Isaacs
3. DOE/BES: Brinkman, Dehmer, Kung (Susan to talk to Matt Howard and Norm after meeting Monday)
4. Science: either NPR speaker or the on-stage interview—use Hultgren????
Lahsen's idea—how is science portrayed in the media? Could contact Richard Harris, former CNN science guy (now NPR) (others--Miles O'Brien?)
5. View from Wash.: let Norm Peterson/Isaacs' office decide (Hultgren—is on science subcommittee, is the sponsor of NUFO science expo)
6. APS
7. CNM
8. EMC
9. NUFO (Tony Lanzirotti)

APS parallel plenary session:
1:30-2:10 Alexis Templeton
2:10-2:30 new Franklin winner
2:30-3:10 Linda Young-LCLS
3:10-3:40 Coffee break
3:40-4:20 Bionanoprobe talk? or Keith Moffat for a vision talk?
4:20-4:40 Student abstract award talk
4:40-5:30 APS-U presentation/scenarios – lv. 50 min.—hand-out ahead of time, road map—need prework of info going out in advance of the meeting (on the web) so that people can come prepared – Brian needs to do this talk and then open to a panel.

Possible energy talk: Eric Toone, Principal Deputy Director of the Advanced Research Projects Agency – Energy (ARPA-E), responsible for oversight of all of ARPA-E including direct oversight of ARPA-E's Electrofuels program.

**Registration package and process**
Vanni will develop online registration package using RegOnline.

**List of possible workshops**
Have slots for 5 full-day workshops. Seem to be missing bioscience: Bionanoprobe and/or APCF workshop? Or Keith Moffat for a bio workshop? Focia should contact Keith Moffat and discuss the best approach to integrating structural biologists into the meeting.

Kropf was hoping for an instrumentation and/or catalysis workshop. Last year's art/heritage/history was interesting but not chosen—they did not resubmit this year.

**Social events**

**Adjourn**

**Closeout with APS Management**

**Action Items:**
APSUO members should send any mark-ups to the proposed beamline review process to the APS.

Add sign ups  for NUFO working groups to APS User News.

Consider having Mike Skwarek come and talk to about potential integration of systems (e.g., ESAF, Portal, badging, access, publications, etc.).

Focia: contact Keith Moffat and determine best approach to integrating structural biologists in the line up for UM talks, workshops.