SHUG EC Conference Call Minutes

February 6, 2015

Executive Committee members present:
Souleymane ***Diallo***, Brad ***Lokitz***, Claire ***White***, Eugenia ***Kharlampieva***, Morten ***Eskildsen***, Yang ***Zhang***, Boris ***Khaykovich***, and Wm. Brad ***O'Dell*** (minutes)

Other Neutron Sciences Directorate staff present:
Laura ***Morris-Edwards*** (User Office), Volker ***Urban*** (Biology and Soft Matter Division Acting Director), Brian ***Chakoumakos*** (Quantum Condensed Matter Division, Group Leader) Paul ***Langan*** (Neutron Sciences Directorate, Associate Laboratory Director)

Next scheduled meeting: teleconference, Monday March 9, 2015 at 1 PM

1) **Previous minutes and agenda:** No comments or corrections to the minutes. ***Diallo*** moved to approve, and ***Lokitz*** seconded. Agenda approved as stands.

2) **Updates from NScD management:**
   a) Target updates–***Morris-Edwards***.
      i) Post-irradiation examination of Targets 10 and 6 provided a good comparison of the conventional and the jet flow design as they both experienced similar power on target. Jet flow design showed less cavitation.
         (1) Target 10 did fail but due to weld issues. This is confirmation that cavitation is diminished by jet flow recirculation.
         (2) ***White***: Question about the last target failure.
         (3) ***Morris-Edwards***: The DOE target technical review is upcoming at the end of February, and SHUG will be updated on the outcome at the On-Site meeting in March.

   b) Biology and Soft Matter Division–***Urban***
      i) Science Highlight from PARC Energy Frontiers Research Center Collaboration
         (1) Bio-inspired design of light-harvesting antennas.
         (2) Neutrons gave details about the structure of the assembly which has favorable photon energy transfer properties.
      ii) Science Highlight from Microemulsions work
         (1) Microemulsions are biomimetic models of biological membranes.
         (2) Studied the interaction of membrane proteins with these micro emulsions.
         (3) This work has just been accepted for publication in *Langmuir*.
         (4) ***Khaykovic***: question about the *q*-range used in the study.
         (5) ***Urban***: standard measurement for this type of system.

   c) Quantum Condensed Matter Division–***Chakoumakos***
      i) HB3A—Small Anger camera now being used to detect diffraction.
         (1) Really speeds up data collection and allows snap-shot collections of Bragg reflections instead of scans through the peaks with a 1D detector.
         (2) ***White***: Question if there is money available to expand to a larger Anger camera? ***Chakoumakos***: Full size cameras cost ~$130K, and funding isn't immediately available.
         (3) ***Diallo***: Current 2D camera coverage? ***Chakoumakos***: quite good.

ii) Correlli—Additional Detectors.
   (1) 41 modules are poised for installation.
   (2) Installation does compromise vacuum system capability because sample area and detector area are in a continuous vacuum volume.
   (3) There are questions about the time it may take to bring vacuum to limits after sample environ changes, etc.

iii) WAND—re-installation.
   (1) US/Japan collaboration instrument.
   (2) All elements of the instrument except the detector have been re-built/updated.
   (3) Commissioning of the updated instrument will occur in the next reactor cycle.
   (4) ***White***: What is WAND setup to do? ***Chakoumakos***: It is a flat-cone geometry instrument for rapid powder data collection but also suitable for single-crystal work. The instrument has had significant impact in both systems.
   (5) ***White***: Shared between US and Japan? ***Chakoumakos***: Yes, Japan contributes funding and gets a portion of the available beamtime.

iv) Science Highlight Magnetism Reflectometer—magnetic heterostructures.
   (1) MR gives you the 'fidelity' to look at interfaces between magnetic layers.
   (2) Magnetization density as a function of depth to understand how to engineer the interfaces.
   (3) This is a type of experiment that can only be done with the MR.

v) Science highlight from WAND—multiferroic molybdate.
   (1) Study distinguished two competing phenomenological models for the origin of ferroelectricity in the system.
   (2) Showcases the versatility of this instrument.
   (3) Cryomagnet used and this instrument can encompass a wide array of SE equipment.

d) Chemical and Engineering Materials Division:
   i) Please read the slides. If you have questions forward to ***Morris-Edwards***.

e) User Program–***Morris-Edwards***
   i) Corelli and USANS are in the current general user proposal call with limited availability.
   ii) Dates set for Scientific Review Committee (SRC) and Beamtime Allocation Committees (BAC).
      (1) ***White***: Should a SHUG EC member attend the SRC? ***Morris-Edwards***: Yes. ***White***: Would like to travel for the SRC but may not be able to do. ***Morris-Edwards***: Some SHUG members double as reviewers and this may cover SHUG at the SRC.
   iii) User Numbers
      (1) ***Khaykovich***: People using from ORNL seem to be the biggest part of users? ***Morris-Edwards***: The unscheduled outage last fall made it hard to bring in external users on short notice when accelerator comes back. HFIR fuel cycle also ran through Thanksgiving. And each person is only counted once per year, so all the ORNL staff are counted in these numbers and then don't show up again.
      (2) ***White***: Are there quotas for what types of users the facilities should have? ***Morris-Edwards***: Locals are generally kept to 30% by year. Working to increase the participation by industry.
   iv) High-impact publications: still seeing increases for 2014 numbers
   v) ***Lokitz***: questions about data acquisition and processing on the liquids reflectometer.

(1) Concerned about impacts to users of that instrument. Suggests that we should discuss whether software issues are common to instruments across the facilities.
(2) ***Langan***: Hardware changes have made some software issues. The Reflectometer detector is also scheduled for gas refill, and long-term reliability of the detector is being studied. Mantid is being kept as a 'stable option' for the instrument until a new software suite that can replace Mantid is available. "As far as I'm aware, they have had the resources required put onto the Mantid problem and they have had the DAS resources to deal with DAS issues." There has to be a holistic solution to all the problems on the LR. Agrees that this would be a good discussion for the SHUG/SHUG EC.
(3) ***White***: We should emphasize this topic in our discussions with instrument staff and group leaders while on-site.

3) SHUG business

a) Action items from last meeting
i) On-Site—***White***: Rescheduling travel? ***Morris***-***Edwards***: Toni Sawyer will start re-scheduling shortly. March 12-13 is a good date for availability for everyone except maybe ***Niedziela***.
(1) ***White***: Will the agenda stay the same? ***Morris***-***Edwards***: It can or be changed. ***White***: Was the final agenda sent to EC? Need to send that through to EC and can then take input. ***Morris***-***Edwards*** has a list of posters that were submitted for consideration to be included at the session.
ii) March teleconf on March 6?
(1) ***Morris***-***Edwards***: Recommends keeping it so that we know we're all on the same page. But this overlaps with the APS March meeting. Feb 27? Or just do early in the week prior to on-site? Plan to schedule for Monday, March 9 at 1 PM. ***Morris***-***Edwards*** will confirm ORNL availabilities.
iii) 2015 SHUG meeting
(1) Any potential dates?
(a) ***Morris***-***Edwards***: Second week of July but both facilities are down so most instrument scientists may not be available. Neutron Sciences Advisory Board (NAB) will also be coming in July, so that could conflict. Other suggestion was September, but this might not work for academic users. August is out due to the Basic Energy Sciences tri-annual review. Early September won't alleviate the problem. CNMS user meeting is August 31-Sep 4 but doesn't work because it is immediately after the review and the same week as ECNS.
(b) ***Diallo***: If it's a short meeting, it should still be possible for academics to schedule in September.
(c) ***Morris***-***Edwards***: Everyone look at schedules and try to find an overlap in availabilities.
(d) ***White***: When does a date need to be final? ***Morris***-***Edwards***: ASAP. User meeting date will need to be scheduled by the next teleconference.
(2) E-mails to SHUG about job postings at SNS/HFIR.
(a) ***Morris***-***Edwards***: Several post-doc positions are open right now.
(b) ***Urban***: NScD does post job postings onto the neutrons mailing list and that probably overlaps with SHUG pretty well.
(c) ***Morris***-***Edwards***: there is a scheduled mailing to the long-list in April. She can include the information for finding the job posting information in that message.

(d) ***White***: Maybe direct emails about job postings should be reserved for 'higher-level' positions? ***Langan***: Only BSMD director is open at the moment. Also mentioned that ESS director of science job is open.
(e) ***White***: Would be happy to send out the postings. Can someone send the information to ***White***? Will send an e-mail to the SHUG about BSMD director and GP-SANS senior scientist.

iv) Awards for excellence in beamline science:
(1) ***Morris***-***Edwards***: Modeled on Advanced Photon Source awards system.
(a) $1K award and a name on a placard awarded at the SHUG meeting.
(b) Users nominate instrument/user scientists for the award.
(c) Does the SHUG EC want to do this? ***Khaykovich***: Sounds like a great idea. Important to reward the efforts of the instrument scientists.
(d) ***White***: What are the mechanics at APS? ***Morris***-***Edwards***: On-line nominations from the user community. ***White***: Money? ***Morris***-***Edwards***: Will look to see what money can exist for this. ***White***: Is there an award for PhD students? ***Morris***-***Edwards***: No. ***Langan***: There are ORNL post-doc prizes/fellowships. ***White***: maybe consider adding awards for users (students, post-docs, etc.)?
(e) ***Morris***-***Edwards***: Reminder of the Office of Science Graduate Fellowships. Neutron Scattering is still a focus area. Oak Ridge had awardees 13 in the last cycle.

v) Coffee-Breaks with users.
(1) ***O'Dell***: Would like to organize coffee breaks for on-site members of the SHUG EC to sit and talk with users doing experiments. Would be very informal. Currently proposed for SNS Users Lounge.
(2) ***Diallo***: On-site EC members will need to consider the frequency of these meetings to make certain that they stay useful for both users and the EC.
(3) ***Morris***-***Edwards***: On-site EC members can discuss off line to arrange dates, times, etc.
(4) ***White*** and ***Eskildsen*** approve. Keep ***White*** in the loop regarding the details.