



... for a brighter future

APS/User Monthly Operations Meeting

**William G. Ruzicka
AES Division Director
July 23, 2008**



U.S. Department
of Energy



A U.S. Department of Energy laboratory
managed by The University of Chicago

Agenda

- APS Updates and Miscellaneous – Bill Ruzicka (AES)
- Task Force Report: Evaluate Floor Coordinator Activities – Julie Cross (AES)
Beamline Review Process – Julie Cross (AES)
- 11-BM Powder Diffraction Beamline – Brian Toby (XSD)

Message from Murray Gibson – Supplemental Appropriations Funding for the APS July 2, 2008

7.29M

The Argonne Advanced Photon Source (APS) will receive \$7.5 M dollars from the \$337.5 million in science funding contained in the supplemental appropriations bill passed by Congress and signed into law by President Bush on June 30. The funding is part of a \$62.5 M appropriation for the Department of Energy (DOE) Office of Science, which also restored a significant portion of Fermilab's lost funding. Argonne and Fermilab are operated for the Office of Science by UChicago Argonne, LLC, and the Fermi Research Alliance, LLC, respectively.

The funds will have immediate positive impacts on the APS. The first is an elimination of pressure to carry through with impending staff reductions. The facility also plans to return to normal operations for the fall user run (2008-03). The possibility of restoring some lost time in the current user run (2008-02) is being explored, and operations plans will be announced by early next week.

“We all owe a great deal of thanks to our user community, which advocated tirelessly on behalf of science funding, as well as to our elected representatives, particularly Senator Dick Durbin, Congresswoman Judy Biggert, and Congressman Bill Foster, and to the DOE Office of Basic Energy Sciences, for whom we manage and operate the APS.

Murray Gibson – March 26, 2008 – All Hands Meeting

“If we do not see an increase.....we will need to reduce our staffing by 10%”.

Fermilab – July 2nd All Hands Meeting (Celebration)



Judy Biggert

Robert Rosner

Dick Durbin

Bill Foster

Jeffrey Kupfer
Acting Deputy
Secretary of
Energy

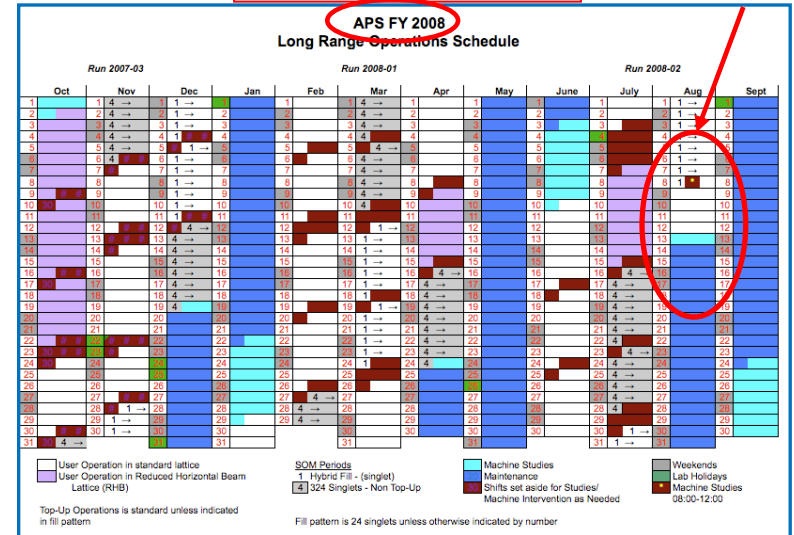
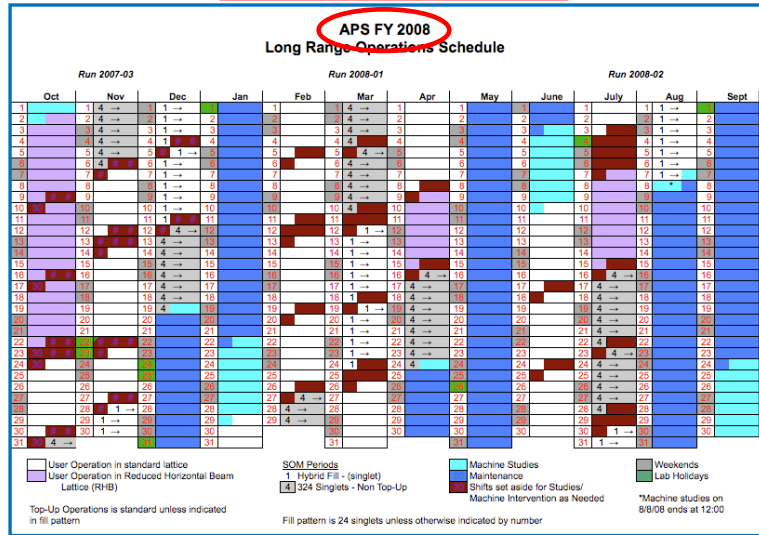
Pier Oddone
Fermilab Director

APS Returns to Normal Operations

5 Days Returned

Past

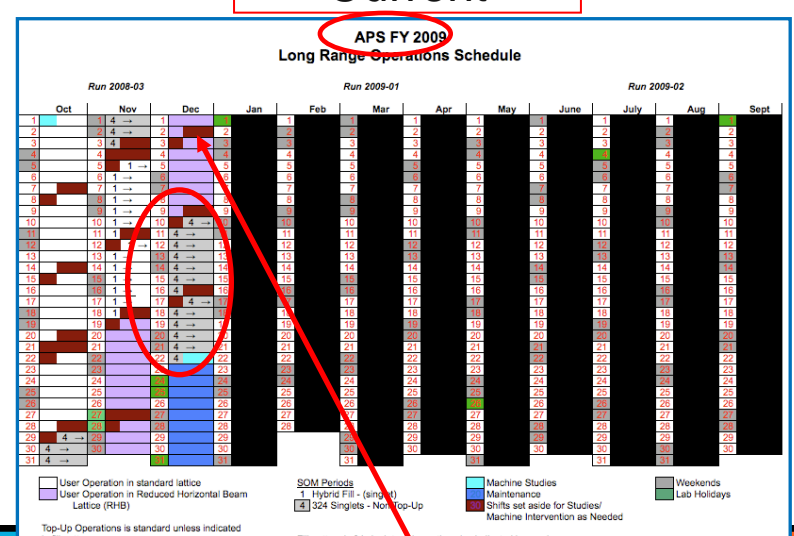
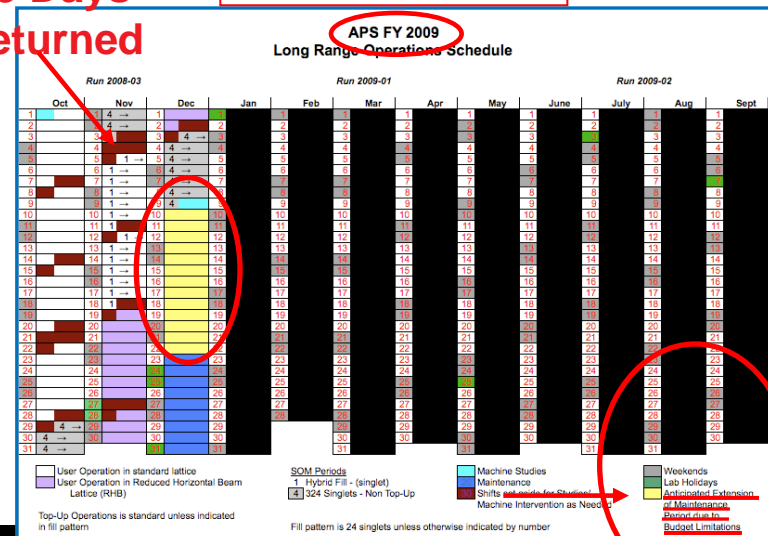
Current



Past

Current

13 Days Returned



Pursuant to the Five days added in August – Scientists from Sector 3 petitioned for a mode change

OPS Directorate

July 14, 2008

Present: Beno, Borland, Cross, Eng, Keane, Long, Quintana, Ruzicka, Schroeder, Sereno, Srajer, Zitzka, DeVito

Safety - Ruzicka:

- As of today, Monday, July 14 the ISM Verification has started. Two audit team members and a trainee will be escorted by APS personnel as they walk the facility. They'll be interviewing our SUF personnel along with a few CATs. (see attachment 1 for schedule) .

Follow-up:

- Per last week's meeting we extended the August run by five days and extended the 2008-03 run by eliminating the scheduled extra downtime (yellow time). This has been updated and posted on the web.

Operations:

Downtime for Fill #19

- There was 1.6 hours of downtime for Fill #19. The problem was two storage ring pumps and two vacuum chambers cooling water skids were shut down, resulting in multiple water flow faults. This was caused by the Machine Protection System (MPS) which dumped the beam, as well as tripping down the SR dipole and six sectors of power supplies.
 - The situation has been resolved by MOM personnel.

Current Below 100mA for more than 1/2 hour

- Thirty-two minutes of multiple vacuum trips on L5 RF system (Linac) occurred this past week. However the RF group lowered the L5 klystron forward power and L4 made up the required difference. Once top-up was restored, the current in the SR was back to 102mA in less than an hour.
- There has been a request from Sector 3 to switch on August 8 from from Hybrid Fill (singlet) mode to 24 Bunch (standard lattice) mode to enable phonon density of states measurements on the newly discovered iron arsenite superconductors. The proposal is to shutdown the accelerator at 8:00 am Friday August 8, with the machine to go back to the users by noon. A survey has been sent to APS Users requesting what mode change they would prefer during August 8-12. A decision will be announced by the afternoon of Wednesday, July 16 (see attachment 2, memo from J. cross dated July 11, 2008).



Intra-Laboratory Memo

July 11, 2008

TO: APS Users
FROM: J. Cross (AES) – User Technical Interface
SUBJECT: Request for Mode Change During Extended APS Operations (August 7-12, 2008)

There has been a request from Sector 3 to switch the August 7-12 operating period from Hybrid Fill (singlet) mode to 24 Bunch (standard lattice) mode to enable phonon density of states measurements on the newly discovered iron arsenite superconductors. An 8 hour machine studies period, starting at 08:00 on August 7, would be required to make the mode switch.

Before a decision can be made, APS needs to weigh the impact of this mode switch on the general user community against the scientific impact of the proposed measurements.

Please send e-mail to Julie Cross (jcx@aps.anl.gov) no later than COB on Tuesday, July 15, indicating whether users allocated beam time during this period:

- A. can use 24 bunch (standard lattice) mode;
- B. can't use 24 bunch (standard lattice) mode; or
- C. can use either mode (don't care); and
- D. the impact of the 8 hour machine studies period required to switch modes

A decision will be announced by the afternoon of Wednesday, July 16.

Please
select
option



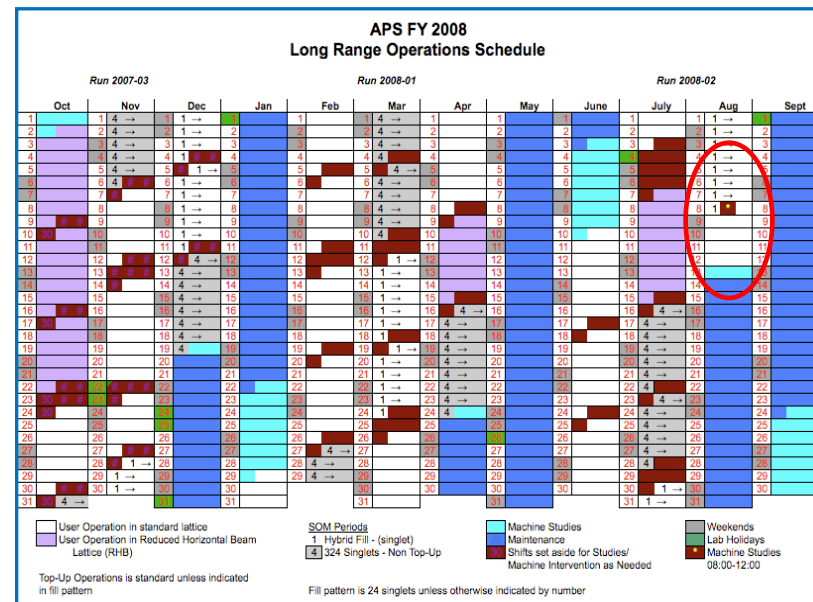
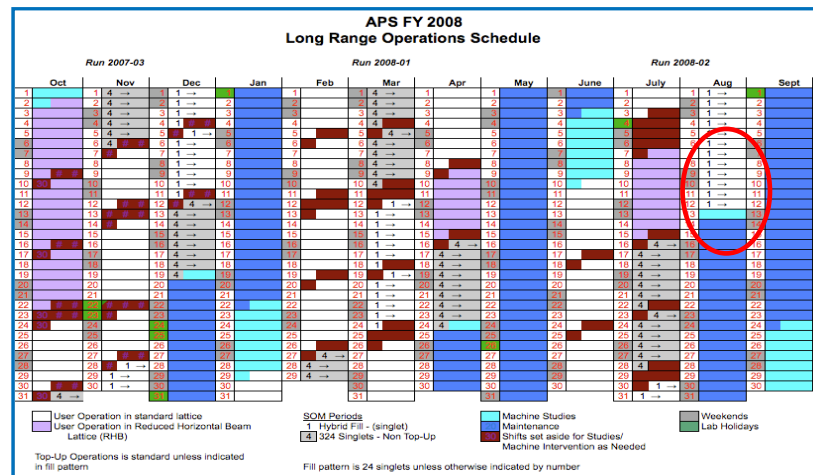
To: Operations Directorate Members

From: Rod Gerig - Operations Directorate Chair

I have received no objections to the mode change discussed below. The ALD Office concurs with the recommendation of OPS Dir. Please publicize this change to the user community, update the schedule, and prepare for the mode change.

Thanks,
Rod

At the Monday OPS Directorate meeting, we discussed a proposed mode change. Julie Cross, User Technical Interface, asked each Sector if this mode change would effect them. The Operations Directorate on Monday decided to wait for results of Julie Cross's survey. The survey results were obtained from all but one sector. The survey indicated that no beamline would lose operation due to the proposed mode change. Two sectors reported that they will be mildly affected (7, 14). The survey results imply that this mode change will not overly negatively impact the users. Per the discussion on Monday this information is forwarded to you. I intend to advise the ALD office that the Operations Directorate recommends the mode change discussed. If you object, please let me know before, July 16 at 12:00 noon.



Gabrielle Long Steps Down

“Gabrielle Long has directed (XOR) and (XSD) for five years. She shepherded the growth of XSD from operating 9 APS sectors to more than 16 sectors. She will return to research on August 1st”.

Murray Gibson



Gabrielle Long



**Mark Beno – Acting XSD
Division Director as of
August 1, 2008**

Search Committee to be formed

Who at APS needs a TLD:

1. Handling radioactive samples.
2. Use x-ray generator.
3. Access accelerator tunnels.
4. Handle accountable sealed sources (<10% of our sources are “accountable”)




■ DOE STD –1098-99 Radiation Control

- To minimize the number of individuals in the dosimetry program, DOE discourages the issuance of dosimeters to individuals other than those entering areas where there is a likelihood of external exposure in excess [100mR/yr.]. Although issuing dosimeters to individuals who are not occupationally exposed to radiation can appear to be a conservative practice, it creates the impression that the wearers are occupationally exposed to radiation. Implementation of an unnecessarily broad dosimetry program is not an acceptable substitute for development of a comprehensive workplace monitoring program.

- No significant person dose measured since APS startup.
- The yearly cost of TLDs for all of APS is approximately \$200,000/yr. (This figure represents the figure after initial TLD trimming was done.)
- For an Infrequent need of a TLD – go to MCR.

Integrated Safety Management Audit – July 19-23

Tom Barkalow – “What can we do to get ready”?



ISM CRIB SHEET

UPDATED PREPARATION HANDOUT
Argonne ISM Verification July 14-23, 2008
www.anl.gov/ISM

Key Objective
Send a clear message
Safety is important at Argonne. Safety is important to me. I am responsible for my safety.

We need to assure that the great science and other work we do is done safely and in accordance with DOE requirements and expectations.

Working with the ISMV Team - Etiquette and Techniques
When talking to a reviewer:

1. Be professional, courteous, and attentive.
2. Remember that you are representing Argonne National Laboratory.
3. Ask for clarification if you don't understand the question.
4. Answer the question asked. Avoid guessing or volunteering information. If you don't know, say so.
5. Refer the reviewer to someone who is more appropriate to answer the question. Caveat – experimental work*.
6. Refer to procedures, references, and other documentation, unless otherwise directed.
7. Write down questions asked, if conditions permit. Share with your peers.
8. Avoid viewing questions as a personal affront. The reviewer will ask these types of questions of anyone in your position.
9. Do not argue or challenge the reviewer.
10. Refrain from emotional responses and "venting." Ask for a break if you feel yourself "losing it."


* Know what controls and limitations apply to your experiment or work. Workers/Experimenters are expected to know the controls and limitations for their experiment or work. This includes: Non-experiment Safety Reviews, Experiment Safety Reviews, Job Safety Analysis, Experiment Protocols, Work Clearance Permits/Work Control Documents, Radiation Work Permits, Hot Work Permits, Confined Space Permits, etc.

- Remember -

Say what you do
Do you have documents that clearly state your practices and procedures?
This is a good time to check and make changes, if necessary.

Do what you say
Are you following the practices and procedures that are in place for your division?
This is a good time to make changes to practices or documents.

Updated July 2, 2008



DOE ISM Verification of
Argonne National Laboratory

Daily Outbrief - Meeting Notes - FINAL
Friday, July 18, 2008
www.anl.gov/ISM

SUF Directorate

APS
Visited sector 13, U of C CARS; reviewed hazard documents and 30,000-pound high pressure chamber; lasers

Strengths:

- Review process to identify controls is very good
- Exceeds expectations

Noteworthy practice:

- Very impressed with engineering controls on lasers
- Same controls are being applied to other lasers

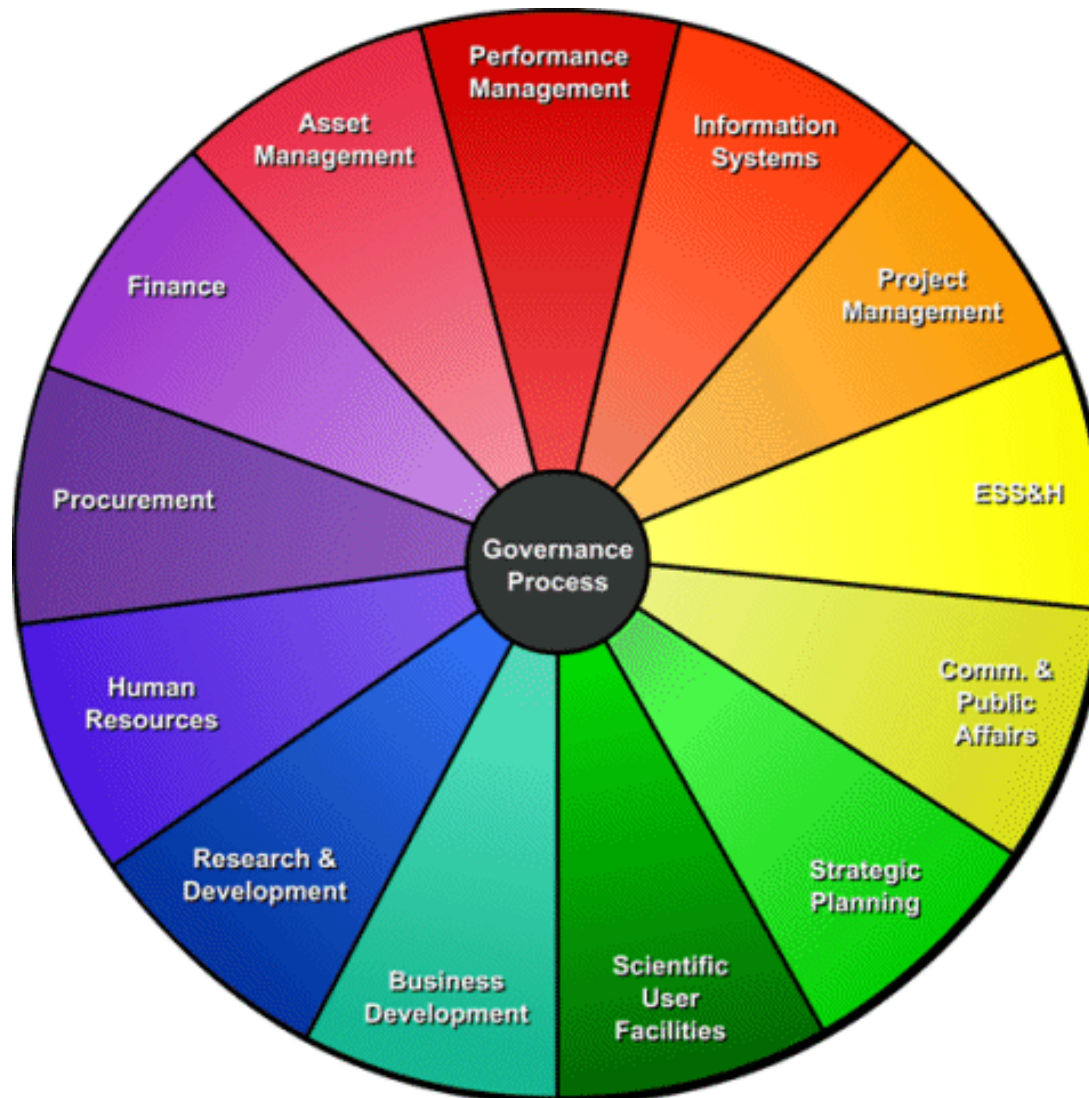
QA and Project Personnel

Strengths:

- Working on upgrading their QA program to address the QAPM
- Manual to be web-based
- Process flow diagrams link directly to relevant documents

To Sectors – Thank you for your proactive preparations for this audit.

LMS - Lab Management System – A New process to Operate the Laboratory more effectively – 13 Core Processes

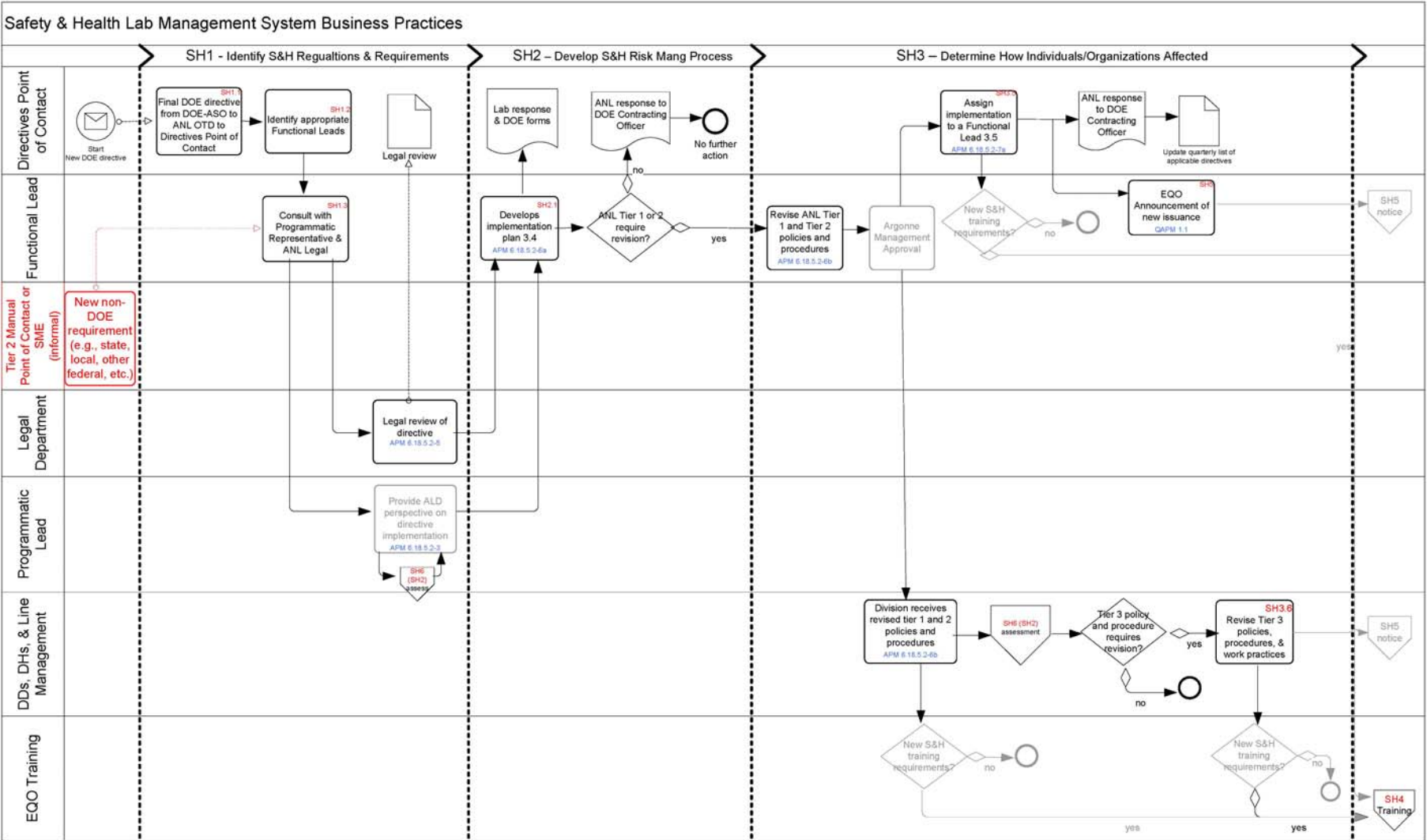


Produced Swim Lanes for each Scope

vertical axis ≡ actionee (accountable entity)

horizontal axis ≡ time

Swim Lanes – User Friendly – Easy to understand and navigate – They assist in identifying gaps



Safety Health LMS Team Gap Analysis Summary

Item	Topic	Driver		Gaps & Comments	Recommendations & Stakeholders	Actionees
		Tier I	Tier II			
G-1	Site implementation of DOE directives	Argonne Prime Contract, CLAUSE I.97 - DEAR 970.5204-2 LAWS, REGULATIONS AND DOE DIRECTIVES (DEC 2000)(DEVIATION) Argonne Policy Manual, Section 6.18 DOE Directive Processing System		High level process defined but the process for programmatic input step not evident. There is the perception that ALD/programmatic input is not consistently sought and that requirements are imposed that "don't make sense".	ESH/QA Director & RSO have most of the responsibility for safety & health process planning and could be charged with defining and implementing, with ALD/programmatic input, a plan for ALD/programmatic input.	Steve Richardson
G-2	Regulations other than DOE directives	1. Argonne Prime Contract, CLAUSE I.97 - DEAR 970.5204-2 LAWS, REGULATIONS AND DOE DIRECTIVES (DEC 2000) (DEVIATION) 2. Argonne Prime Contract CLAUSE H.20-EXTERNAL REGULATION. 3. 48 CFR 970.0470-2		There is not a clear business practice for regulations/ standards that are not DOE directives, to be monitored, processed, and implemented. The non-DOE directives include state and local laws and requirements from other regulators (e.g., CDC).	<u>A process similar to that for DOE directives should be implemented. R2A2s defined at OTD/ESH/QA Director level</u>	<u>Steve Richardson</u>
G-3	Develop a Safety & Health Hazard/Risk Management Process	Argonne policies 6.5 & 4.1	ESH Manual ch 21.1 & 21.2 Procurement Operations Manual	Some Argonne and non-Argonne projects come into the Laboratory apparently under a different protocol skipping the Argonne hazard review process. The impact on surrounding Argonne facilities and/or projects needs to be considered.	Non-Argonne projects and Argonne projects conducted by outside contractors must come in under an Argonne Integrated Review System (AIRS).	Ed Jedlicka (Governance Team)
G-4	Develop a Safety & Health Hazard/Risk Management Process	48 CFR 970.5223-1	WHSP ISM	ESH groups do not adequately coordinate activities during the permitting process to ensure compatibility of controls.	Create a system to identify consistent controls across the various groups through the use of a comprehensive risk-based graded approach.	Steve Richardson

Our LMS System is to be ISO-9000 Certified

ANSI/ISO/ASQ Q9001-2000

AMERICAN NATIONAL STANDARD

Quality management systems— Requirements

Approved as a American National Standard by:
American Society for Quality

An American National Standard Approved on December 13, 2000

As a minimum ISO requirements

Control of Documents

Control of Records

Internal Audits

Control of Nonconforming Product

Corrective Action

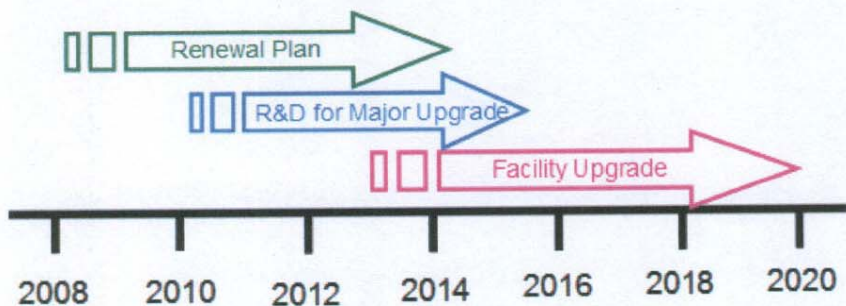
Preventive Action

APS Renewal (“Beamline Refresh”)

Message from Murray Gibson:

May 22, 2008

Now in its twelfth year of operation, the Advanced Photon Source (APS) annually provides almost 3500 users with brilliant x-rays that lead to more than 1000 refereed publications each year covering many areas of science and engineering. Nevertheless, the facility, like any scientific instrument, is showing its age, and we have been working for several years on renewal and upgrade plans. These plans have recently received a boost because our sponsor - the U.S. Department of Energy, Office of Science, Office of Basic Energy Sciences - has asked us for a detailed, science-driven plan for the renewal of APS to cover the next five years. This renewal plan will encompass innovations in the beamlines and the x-ray source that are needed for major improvements in important areas of user science. We are engaging our users and staff *ab initio* in building this APS renewal plan, and we will use our [Scientific Advisory Committee](#) (SAC) and other outside experts to help us craft a plan with maximum scientific impact. A planning milestone will be a workshop to be held October 20-21, 2008 near the APS, at which the SAC will take a first complete look at the plan and give their advice. At present we continue to solicit proposals from our beamline staff, users, and accelerator and other APS staff. These proposals will be filtered by science-focused user groups, and they will also be analyzed in a matrix fashion by technique coordinators. More information, as well as details about how you can take part in the planning and communicate your perspective, can be found on this Web site.



The renewal of APS is the first component of a strategic plan for the APS that aims to provide our users with the best hard x-ray source in the nation, and beyond, by the year 2020. During the renewal period, we will be evaluating, with our users, the [options for a major accelerator facility upgrade \(PDF\)](#) at APS that could give revolutionary improvements far surpassing the properties of the existing storage ring.

Letters of Intent (LOIs) or Proposal Redeveloped Beamlines:

- [Advanced X-ray Imaging Collaborative Development Team \(AXI-CDT\)](#)
- [BioNanoProbe](#)
- [Sector 8-BM Redevelopment](#)
- [X-ray High Field Collaborative Development Team \(XHF-CDT\)](#)
- [X-ray Interfacial Science Collaborative Development Team \(XIS-CDT\)](#)

Medium-Term Proposals:

- [Beamlines | Call for Proposals \(pdf\)](#)
- [Accelerator Systems | Call for Proposals \(pdf\)](#)

APS 2020 Upgrade Plan:

- [Review of APS Upgrade Options](#)

Science Teams

Steering Committee Members:

- Denny [Mills](#)
- Rod [Gerig](#)
- George [Srajer](#)
- John [Maclean](#)
- Denis [Keane](#) (AF)
- Paul [Fuoss](#) (AF)
- Bob [Fischetti](#) (AF)
- Dan [Neumann](#)

Nine Renewal Science Teams

Science Area	Chair
■ Atomic, Optical, Molecular, and Chemical Science	— Stuart Rice University of Chicago
■ Biology	— Lee Makowski Argonne National Laboratory
■ Condensed Matter and Materials Physics	— Sam Bader Argonne National Laboratory
■ Engineering Applications/Applied Science	— Gene Ice Oak Ridge National Laboratory
■ Geological, Environmental, and Planetary Sciences	— Neal Sturchio University of Illinois, Chicago
■ Macromolecular Crystallography (MX)	— Anthony Kossiakoff University of Chicago
■ Materials Science and Technology	— Paul Evans University of Wisconsin
■ Polymers and Soft Materials	— Invitation extended
■ Surfaces, Interfaces, and/or Thin Films	— Paul Fenter Argonne National Laboratory

Technical Support Offers to Science Teams

Beamline Techniques

Spectroscopy (EXAFS, XANES)	Matt Newville (GSE CARS)
High Pressure	Guoyin Shen (HP CAT)
High Energy	Dean Haeffner (XSD)
Time-resolved	Eric Dufresne (XSD)
Inelastic	Thomas Gog (XSD)
Nuclear Resonant Scattering	Ercan Alp (XSD)
SAXS	Byeongdu Lee (XSD)
Microprobe	Jorg Maser (XSD)
Full field imaging	Wah-Keat Lee (XSD)
MX	Craig Ogata (Bioscience ANL)
Powder diffraction	Brian Toby (XSD)
Magnetic scattering	Jonathan Lang (XSD)
Coherence	Ian McNulty (XSD)

Technical Support

Optics	Tom Toellner (XSD)
Detectors	Steve Ross (AES)
Beamline controls	Mark Rivers (GSE CARS)
Scientific software	Peter Jemian (AES)
Nanopositioning	Deming Shu (XSD)

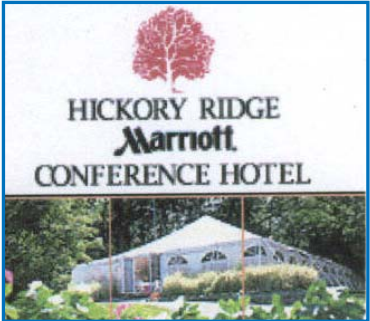
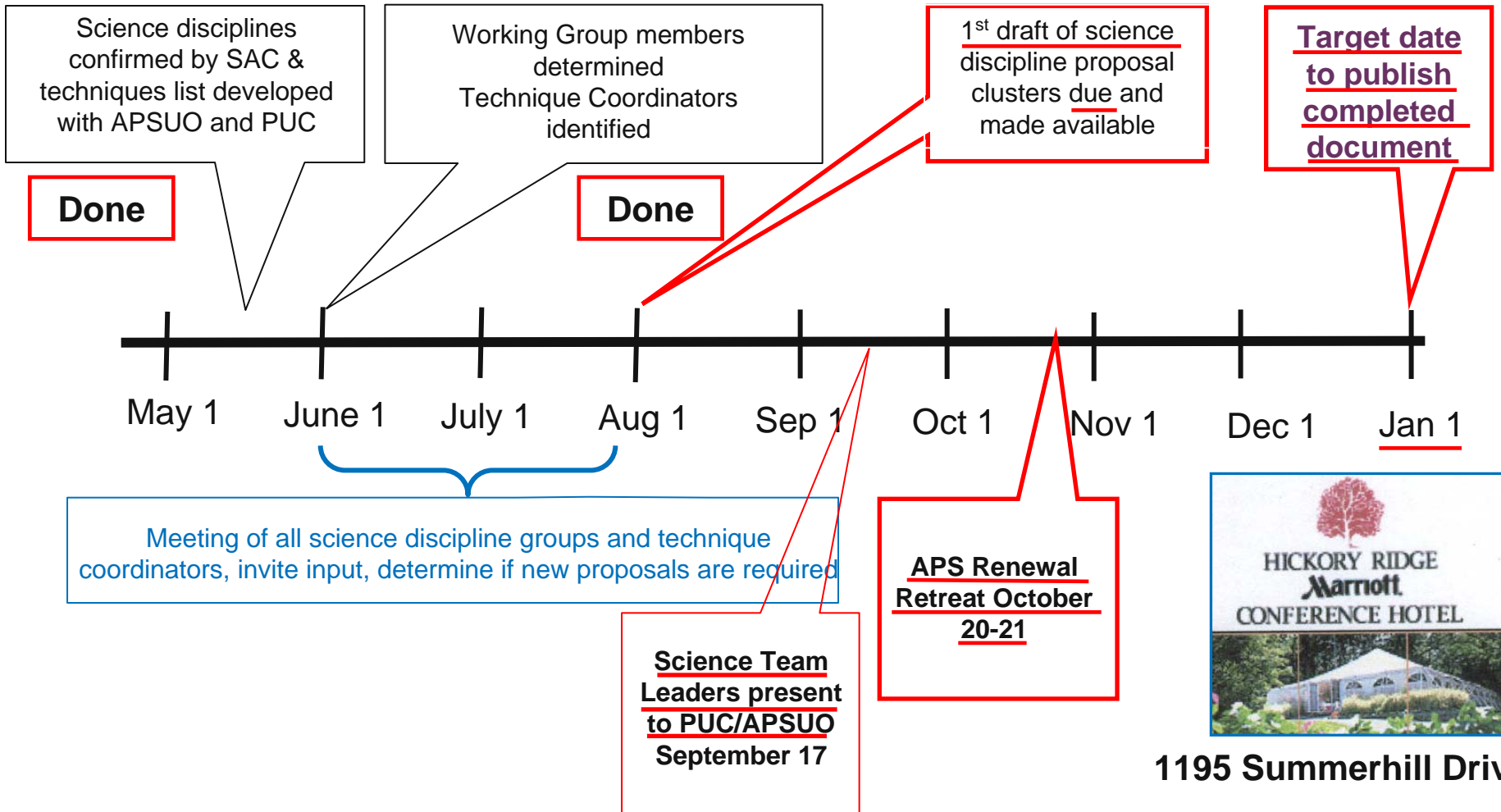
Behind the Shield Wall

IDs	Liz Moog (ASD)
Fronts Ends	Patrick den Hartog (AES)
Beam Stability	Glenn Decker (ASD)
Accelerator Operations	Michael Borland (ASD)

Facility

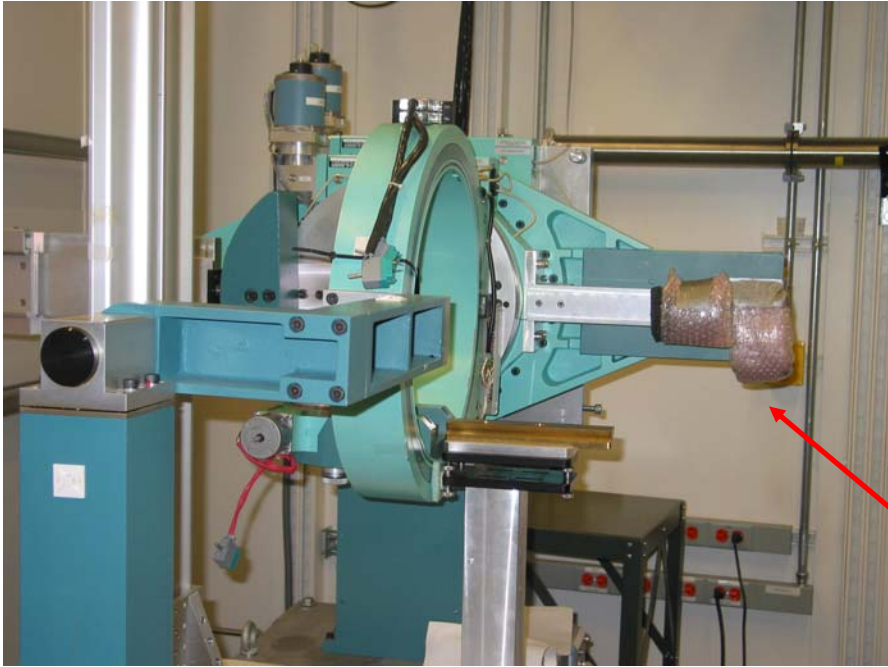
Infrastructure	John Maclean (AES)
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Tentative Timeline



1195 Summerhill Drive
Lisle, IL 60532

Safety Notice: Two head bumps in one week



Sector 15 ID-C goniometer



The staircase is located at building 420
RF test stand.

Subject: Two Reports for Consideration

From: "J. Murray Gibson" <jmgibson@aps.anl.gov>

Date: Wed, 16 Jul 2008 13:55:47 -0500

To: yga@aps.anl.gov, nda@aps.anl.gov, barkalow@aps.anl.gov, beno@aps.anl.gov, borland@aps.anl.gov, cameli@aps.anl.gov, carwar@aps.anl.gov, change@aps.anl.gov, jox@aps.anl.gov, scd@aps.anl.gov, decker@aps.anl.gov, denharto@aps.anl.gov, fenner@aps.anl.gov, fernandez@aps.anl.gov, horst@aps.anl.gov, rod@aps.anl.gov,

Dear APS Managers and User/Partner Leaders:

Here are two reports for your consideration. The first http://www.aps.anl.gov/About/Committees/Documents/aps_1265708.pdf is a post-mortem of the SPX project problems last year, compiled by Rod Gerig at my request. There are some action items which we are following up on, and useful lessons learned.

The second report http://www.aps.anl.gov/About/Committees/Documents/aps_1254394.pdf is from a committee chaired by Julie Cross (AES) to evaluate the role of floor coordinators (FC). The report makes recommendations, which we have followed, to improve the role of FCs in APS safety. However, the user community was divided on the non-safety related support role of FCs especially the need for more FCs. It appears that CATs, particularly in protein crystallography, have been more concerned about perceived reduced support provided with the FC configuration implemented in 2005. A clear recommendation from the Partner User Council about the priority which we should assign to increasing the number of floor coordinators relative to other APS priorities would be very useful, as we identify the highest priority budget needs next year.

Murray Gibson