Advanced Photon Source

ARGONNE NATIONAL LABORATORY

APS Monthly Meeting

Murray Gibson

July 21, 2004

Agenda

2:45 p.m. -- Introduction/Announcements - Murray Gibson

2:55 p.m. -- Update on AOD Experiment Operations Support Group - Patricia Fernandez

3:05 p.m. -- EPICS Training - Ned Arnold

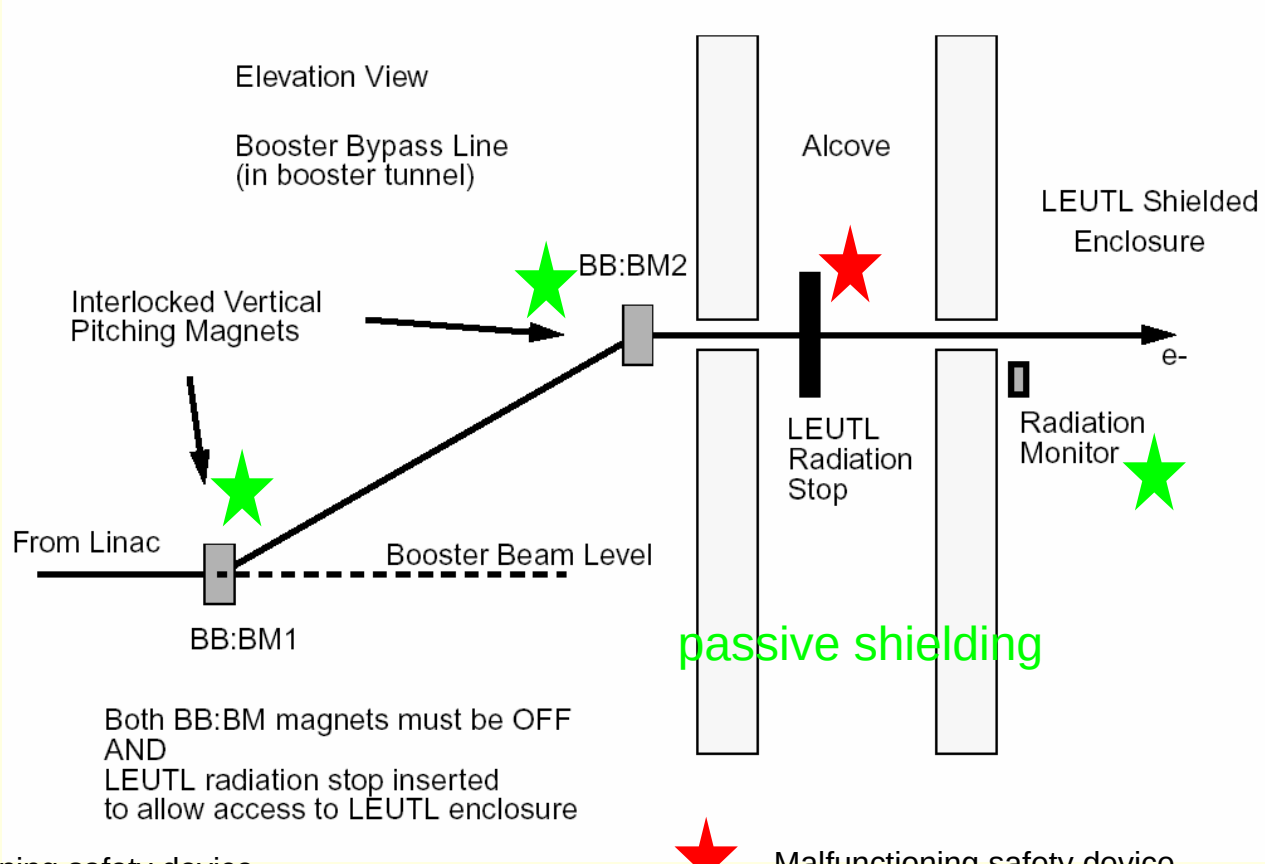
3:15 p.m. -- Use of MCS Cluster Computer by Users – Ray Bair (MCS)

3:25 p.m. -- Facilities Available in Electron Microscopy at ANL - Nestor Zaluzec (MSD)

3:45 p.m. -- Adjourn

Incident with LEUTL Radiation Stop

- On 7/9 it was discovered that the LEUTL radiation stop was reversed (pneumatic actuator inverted so that open and closed positions were reversed)



No radiological exposure

- Both BB:BM magnets must be off and
- LEUTL Radiation Stop inserted and
- Rad monitor level below 10 mrem/hr

- To allow injector on during access to LEUTL tunnel

- Failure in one device leaves two levels of active protection (and passive shielding protection)

What happened? (preliminary investigation)

- Work performed on rad stop in May shutdown, first since 1998
- Wrong part ordered for pneumatic plate, could only be installed in reverse (LEUTL is the only one of 5 rad. stops in accel. area which is “upside down”)
- Following reverse pneumatic actuator installation, ACIS wiring was reversed, operation “appeared” normal
- Independent validation (procedure) failed to correctly detect “open” and “closed” position
- i.e. cascade of 3 failures, 2 should have been independent

Occurrence reported to DOE

- Filed as a category 4 occurrence

- “inadequate procedure” caused a facility operational event which, while not directly impacting safety, is a serious management concern
  - particular similarity to 2-BM shutter incident in 2002 – lessons learned regarding beamline critical components not adequately applied to accelerator stops

Initial response

- Include the 5 accelerator stops in expanded uniform APS procedures for critical components
  - Include independent verification of work
  - Develop clearly defined procedures and sign-offs in work-request
- Suspend routine work for critical components while we evaluate work planning and execution
  - Involve all team members including managers, engineers and techs in identifying and removing root causes, and in critical procedure evaluation
- Improve and critically evaluate independent validation processes which do not make any assumptions
- Re-emphasize vigilance and the dangers of complacency
  - Always ask questions, stop work if any concern, understand the big picture and possible consequences of errors

Los Alamos operations are shutdown…

- Last week a student at LANL received an eye injury with a Class IV laser
  - In Sept 2003, a grad student at BNL received eye injury
  - In March 2003, an LBNL grad student received eye injury
- All involved inadequate work planning and execution…
  - despite elevated attention to laser safety
- ANL's laser safety program is recognized as "best in class" by DOE
- Must learn lessons from mistakes, improve work planning and execution, and avoid complacency
  - Applies to all personnel safety: laser, radiological or other..

Nano-road Work and Access

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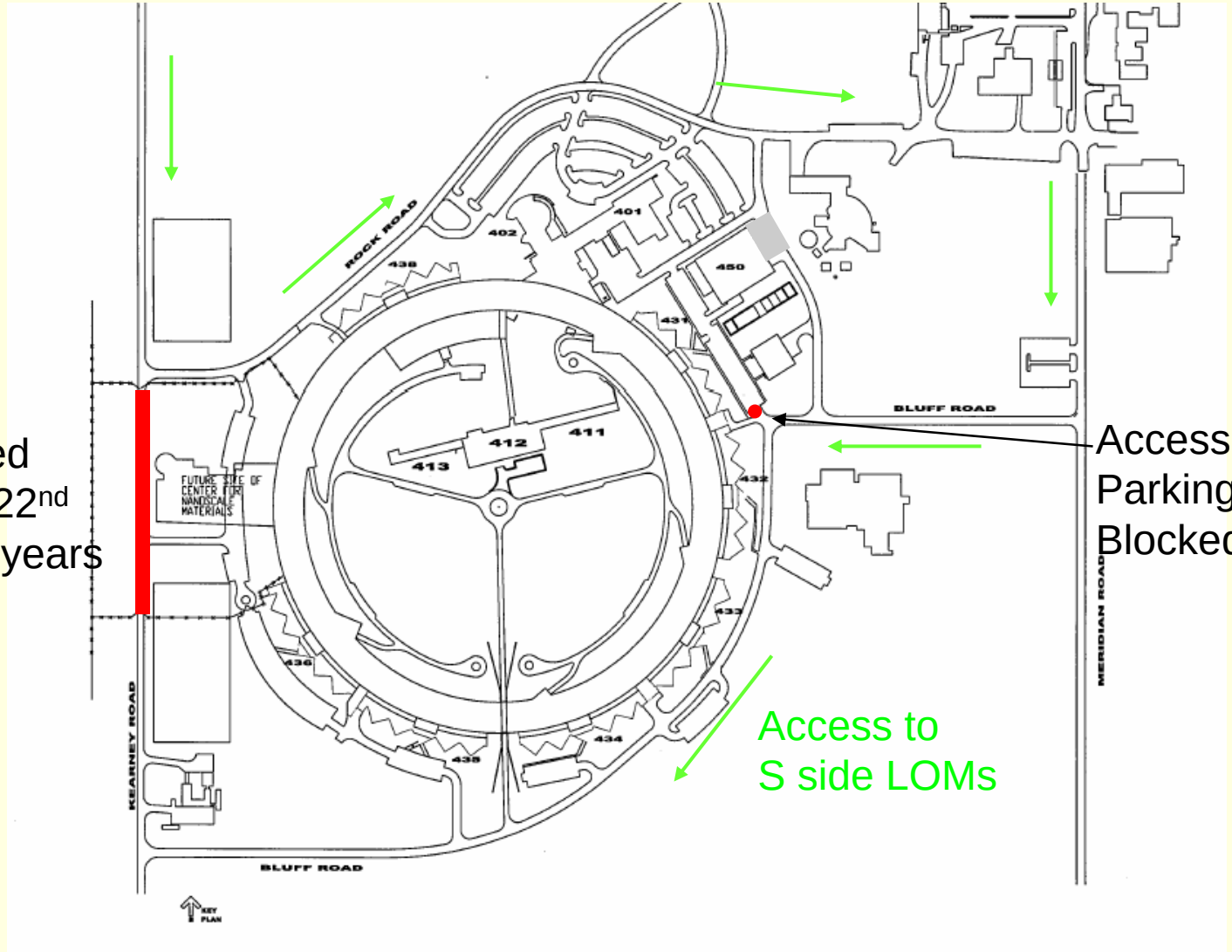

COM CAT:

- Constructed by APS with State of Illinois funding.
- Purpose was to specialize in the application of synchrotron radiation to industrial problems and to provide an opportunity for small state businesses to use the facility.
  - Protein crystallography
  - Powder diffraction
  - Spectroscopy
- Operational model was to provide an analytical service laboratory for data collection and interpretation.
- To make this attractive to industry, and because of the unique State funding, a special waiver on intellectual property has been obtained from DOE that allows 3rd party clients to depart with all intellectual property rights.

Timeline

- In 2001 a 5 year contract to operate COM CAT was awarded to Advanced X-ray Analytical Services (AXAS) Inc., a subsidiary of MediChem (a chemical synthesis company).
- In 2002 MediChem merged with deCODE genetics (a company involved with genealogical databank records in Iceland and structural biology/drug discovery services in the US).
- In early 2003 deCODE tells us they will terminate the contract with the APS effective June 2003 (and pays the penalty clause to do so).
- A new request for proposal (RFP) is released April 2003 with no responsive bidders.
- Consultant hired to provide us with advice on COM CAT contract.
- RFP is reissued March 2004 and sent to prospective operators.
- The closure date for the reissued RFP was July 12, 2004 with only one response we are still investigating…

In the mean time…..

- We have hired a consultant (R. Harlow) to work with Peter Lee (XOR) to get the powder diffraction part of COM CAT up and running and that is proceeding well.
- IMCA CAT has been given access to COM CAT during the upgrade/reconstruction of 17 BM. (Access ended this run.)
- LS CAT has been given access to COM CAT to jump-start their scientific program. (Access ongoing.)
- Assuming no further bids on the RFP, APS management will work with the community and the SAC to determine how this beamline should be used in the future, as far as possible consistent with the original aims. This may or may not involve new external partners.
- Informal proposals for alternative futures for COM CAT are encouraged (to Denny Mills)

For exemplary support of the mission of the Advanced Photon Source: To explore new materials, to seek out new structures, to boldly go where no light source has gone before...

T-Shirt Award

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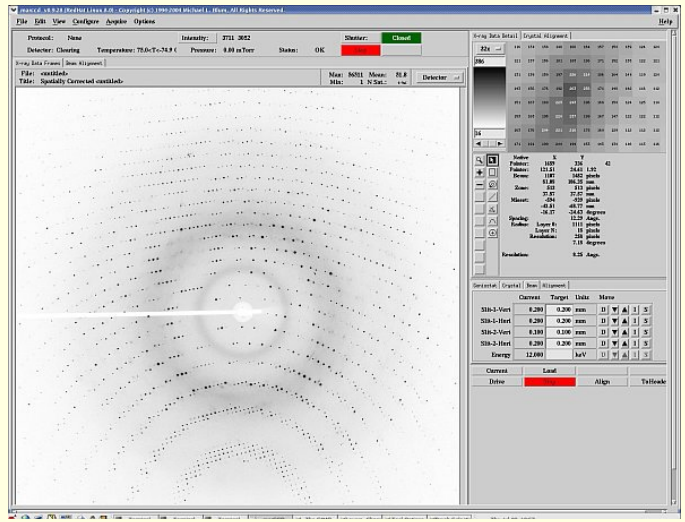
Nominators: Bob Fischetti (GM/CA) and John Unik (NE)

Awardees:

ASD	AOD
Joe Budz	P.K. Job
Ron Dettling	Mohan Ramanathan
Horst Friedsam	Rod Salazar
Guy Harris	John Vacca
Jon Hawkins	
Stan Johnson	
Raul Mascote	
Scott Wesling	



Recognizes the dedicated work from all these APS groups who enabled validation and delivery of monochromatic beam to sectors 23 and 24..

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