



**Argonne**  
NATIONAL  
LABORATORY

*... for a brighter future*

# *APS/User Monthly Operations Meeting*

*J. Murray Gibson*

*June 27, 2007*



U.S. Department  
of Energy



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

# Agenda

2:30 p.m. – Refreshments

2:45 p.m. – APS Update – Murray Gibson

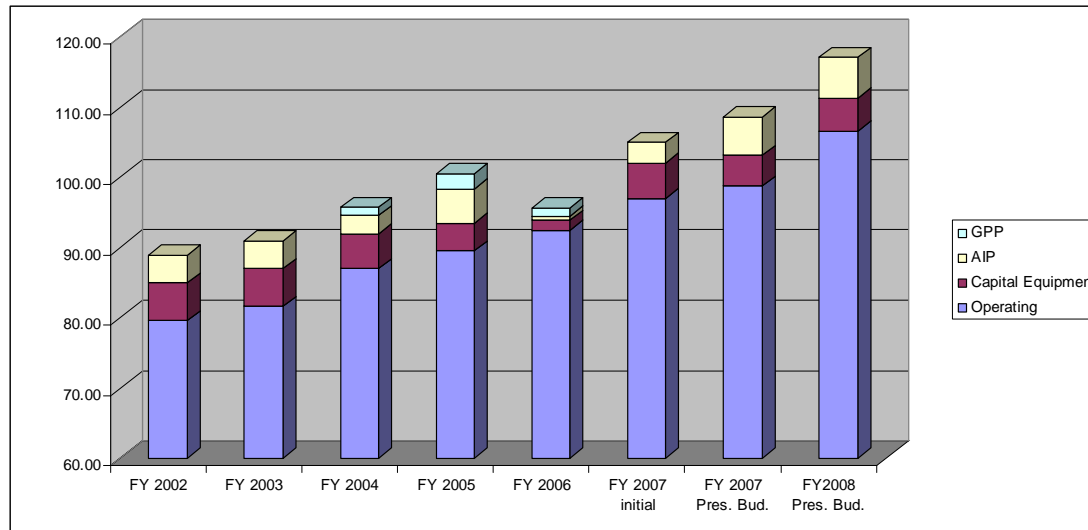
3:05 p.m. – Update on BCDA – Peter Jemian

3:25 p.m. – User Facility Synergy – Susan Strasser

3:45 p.m. – Adjourn

# Funding update

## ■ Operating funds



## ■ Upgrade R&D

- R&D plan being developed for ERL – will be shared with users in next couple of months
- Aiming for LDRD support to leverage BES proposal
  - *LDRD program contains broad category for scientific user facilities support*
- CMMP report makes positive statements about ERL, and need for large coordinated accelerator R&D program (<http://www7.nationalacademies.org/bpa/CMMP2010.html> )
  - *And importance of completing, refurbishing existing beamlines*

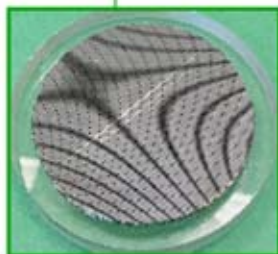
## Other issues

- Funding for short-pulse capability at APS (at sector 7)
  - Among major commitments this year (will have presentation next month)
  - Other capital expenses went to upgrading sector 32, sector 11, many XOR capital improvements, XOR network IT infrastructure, machine obsolescence and spare parts
- Very positive review of APS AES and ASD divisions completed by Univ. of Chicago LLC
  - Co-ordinated with safety review, and science review in late summer
- APS/XOR staff search – balance of science and beamline support, but aiming to get best candidates possible, and increase visibility of in-house science
- APCF facility to be built south of APS ring
- ICMS/Yellow Sheet problem which led to startup delays at beamlines is being addressed (calls out need for more help during start-up period)
- ISO9000 efforts at ANL – a new lab management system (LMS)
  - cheap and efficient is the aim, to enable science and engineering

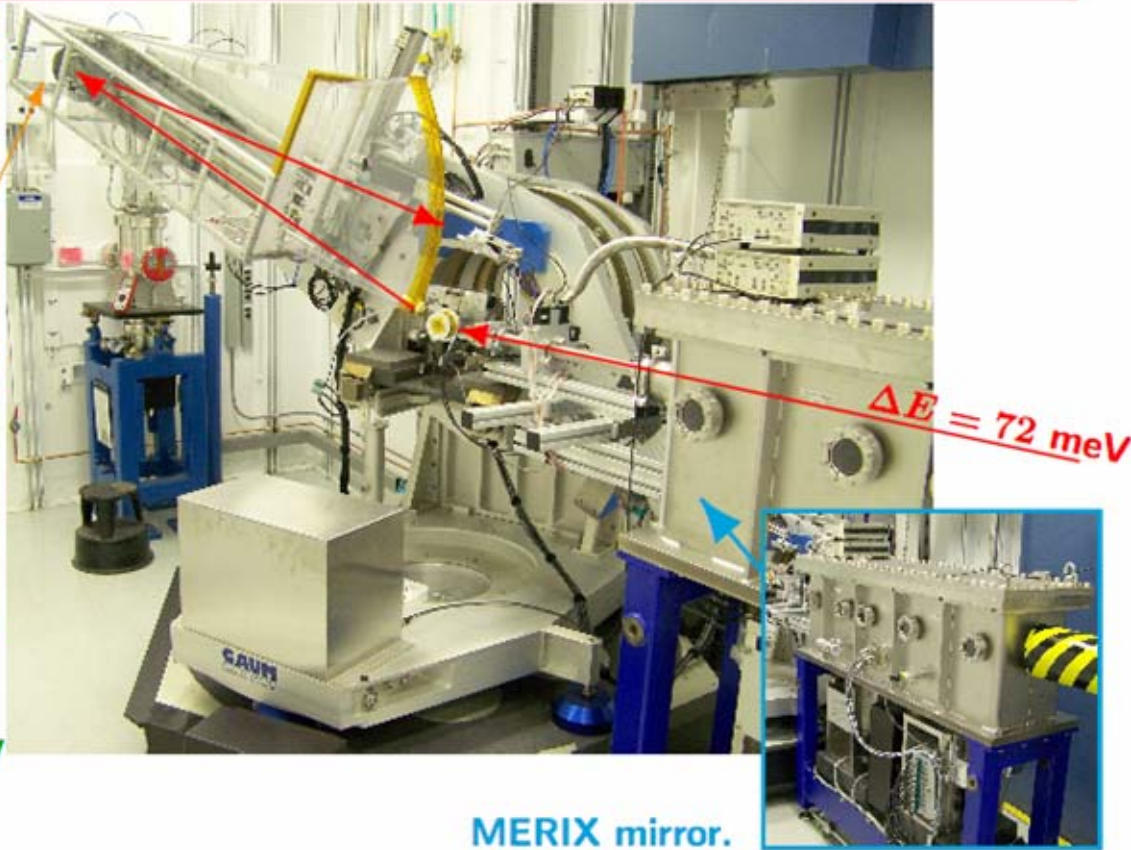
*Pacesetter to Tim Roberts for service and remarkable initiative during the integration and commissioning of the MERIX instrument in sector 30-ID*

**MERIX Spectrometer@APS.ANL**

**Analyzer gimbal**



**Ge(337)  
diced analyzer:  
 $\Delta E = 115 \text{ meV}$**

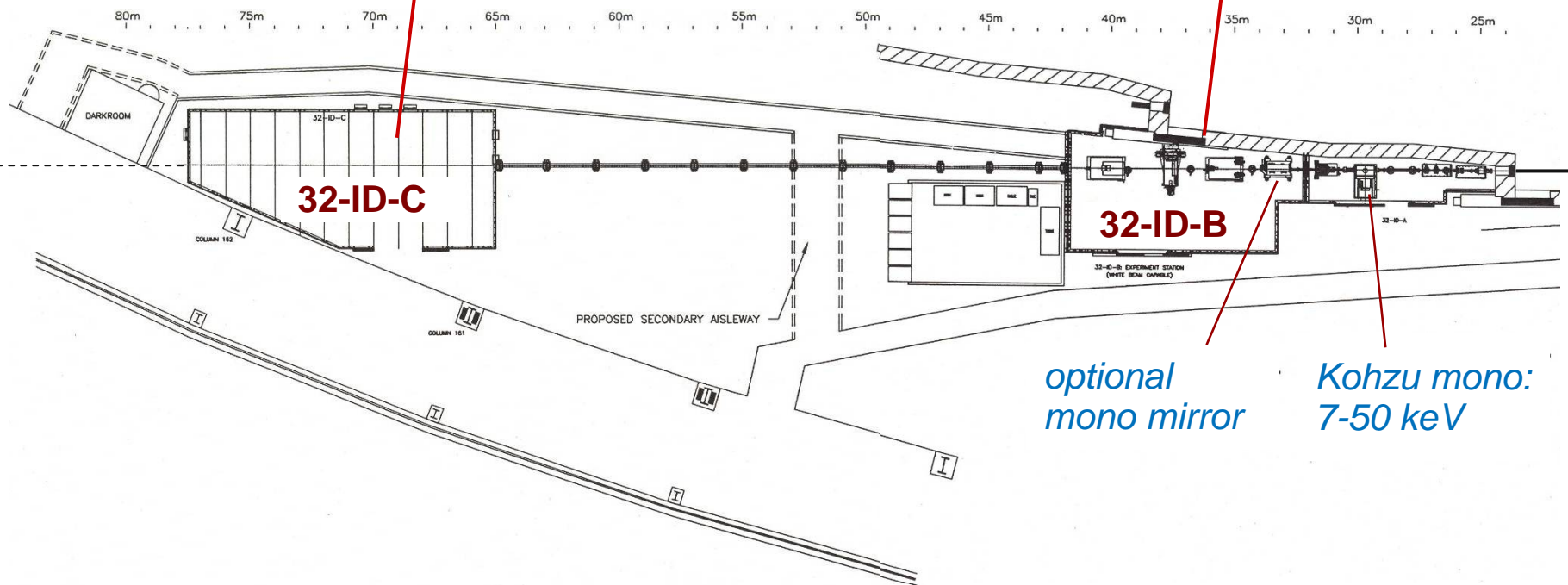


**MERIX mirror.  
Focus:  $5 \mu\text{m}$  (V)  $\times 40 \mu\text{m}$  (H)**

# Pacesetter to Chris Roehrig and Ed Wrobel for efficient management and execution of extra tasks for the full-field imaging project on 32-ID, as well as sustained high-level support for sector 2

*Phase II: expanded to ~ 77 m by building a new white-beam-capable hutch beam transport*

*Phase I: existing hutch and equipment, with upgrades to mono, Be windows, and pink-beam*



*optional mono mirror*

*Kohzu mono: 7-50 keV*

# Pacesetter to Boris Deriy, Chuck Doose, and Mark Gibson Designated Electrical Equipment Inspectors -- DEEs

- Job – inspect non NRTL (UL) approved equipment brought in by users.
- APS has twenty-one trained DEEs. Three DEEs have given extraordinary time to this task.

Sub-par user supplied equipment. DEEs will catch such shortcomings in future.

- Boris Deriy
- Chuck Doose
- Mark Gibson

## Approval Form

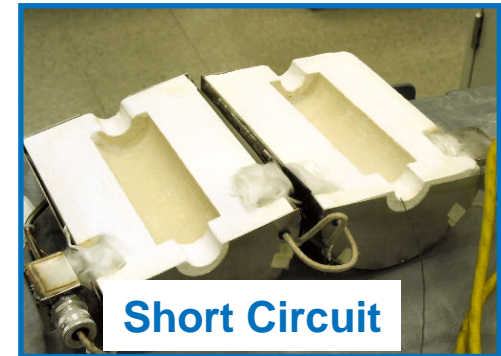
**Non-NRTL/Modified NRTL Listed  
Electrical Equipment Approval Form**  
For use at Argonne National Laboratory

Division: \_\_\_\_\_ Manufacturer: \_\_\_\_\_  
 Equipment Owner: \_\_\_\_\_ Model Number: \_\_\_\_\_  
 Equipment Name: \_\_\_\_\_ Serial Number: \_\_\_\_\_  
 Equipment Location: Building \_\_\_\_\_ Room \_\_\_\_\_ ANL Property Number: \_\_\_\_\_  
 Label Number: \_\_\_\_\_

Multiple  Single

Unlisted equipment that is determined to be safe to operate will have a tracking sticker attached for identification. Equipment that does not pass this evaluation will have a REJECTED sticker attached.

Enclosure	Approve	N/A	Grounding	Approve	N/A
Operator not exposed to any hazard	<input type="checkbox"/>	<input type="checkbox"/>	Ground is properly terminated	<input type="checkbox"/>	<input type="checkbox"/>
Not damaged	<input type="checkbox"/>	<input type="checkbox"/>	All non-current carrying exposed metal is properly bonded	<input type="checkbox"/>	<input type="checkbox"/>
Appropriate materials used	<input type="checkbox"/>	<input type="checkbox"/>	All non-current carrying internal subsystems are properly bonded	<input type="checkbox"/>	<input type="checkbox"/>
Protects contents from operating environment	<input type="checkbox"/>	<input type="checkbox"/>	Equipment ground is run with circuit conductors	<input type="checkbox"/>	<input type="checkbox"/>
Adequate shock protection (components well secured)	<input type="checkbox"/>	<input type="checkbox"/>	Auxiliary ground is permitted	<input type="checkbox"/>	<input type="checkbox"/>
(Will contain any arcs, sparks and electrical explosions)	<input type="checkbox"/>	<input type="checkbox"/>	<b>Internal wiring</b>		
<b>Power source - cord and plug</b>			Polarity correct	<input type="checkbox"/>	<input type="checkbox"/>
Proper voltage and ampacity rating for plug and cord	<input type="checkbox"/>	<input type="checkbox"/>	Phasing correct	<input type="checkbox"/>	<input type="checkbox"/>
Grounding conductor included (if required)	<input type="checkbox"/>	<input type="checkbox"/>	Landing of ground correct	<input type="checkbox"/>	<input type="checkbox"/>
Not frayed or damaged	<input type="checkbox"/>	<input type="checkbox"/>	Separate line/high voltage from low voltage	<input type="checkbox"/>	<input type="checkbox"/>
Proper wiring of plug	<input type="checkbox"/>	<input type="checkbox"/>	Wiring terminals and leads ok (no tension on terminals)	<input type="checkbox"/>	<input type="checkbox"/>
Strain relief on cord	<input type="checkbox"/>	<input type="checkbox"/>	Proper wire size	<input type="checkbox"/>	<input type="checkbox"/>
<b>Power source - direct wired</b>			No loose parts (mechanical bracing)	<input type="checkbox"/>	<input type="checkbox"/>
Proper voltage and ampacity rating for wiring method	<input type="checkbox"/>	<input type="checkbox"/>	Proper overcurrent protection	<input type="checkbox"/>	<input type="checkbox"/>
Installation according to the NEC	<input type="checkbox"/>	<input type="checkbox"/>	Proper dielectric	<input type="checkbox"/>	<input type="checkbox"/>
Proper loading and overcurrent protection in branch circuit	<input type="checkbox"/>	<input type="checkbox"/>	Clearance/creepage distances for high voltage ok	<input type="checkbox"/>	<input type="checkbox"/>
<b>Foreign power supplies and equipment</b>			<b>Marking requirements</b>		
Connected to facility power with appropriate adapters	<input type="checkbox"/>	<input type="checkbox"/>	Power requirements (voltage, current, frequency)	<input type="checkbox"/>	<input type="checkbox"/>
Correct voltage, frequency and phasing	<input type="checkbox"/>	<input type="checkbox"/>	Restrictions and limitations of use	<input type="checkbox"/>	<input type="checkbox"/>
Correct wire ampacity for US use	<input type="checkbox"/>	<input type="checkbox"/>	Make, model and drawing number	<input type="checkbox"/>	<input type="checkbox"/>
			Hazards, including stored energy	<input type="checkbox"/>	<input type="checkbox"/>
			Requirements for access (LOTO, stored energy, PPE)	<input type="checkbox"/>	<input type="checkbox"/>



## Inspector Labels

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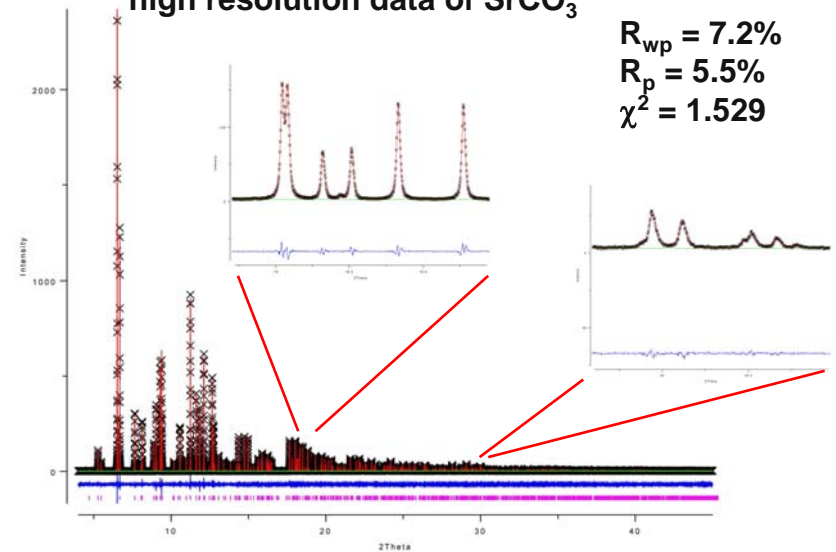
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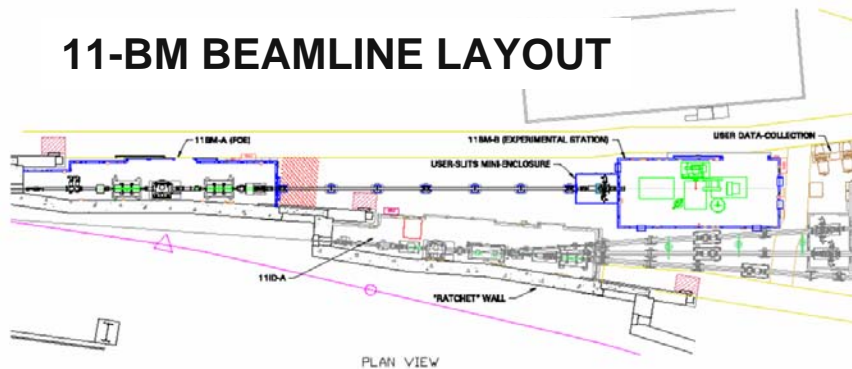
# Pacesetter to Xuesong Jiao and Tim Mooney for BCDA service to powder diffraction at 11-BM

- Job – establish EPICS-based beam line control system
- Xuesong Jiao and Tim Mooney are commended for the rapid creation of the 11-BM beam line controls using EPICS and the BCDA synApps software. Innovations in this process allow a four-fold improvement in the data throughput capabilities of the instrument.

Fly scan result at 30 keV:  
high resolution data of SrCO<sub>3</sub>



## 11-BM BEAMLINE LAYOUT



## 12 analyzer/detector system

