

# APS Monthly Operations Meeting

Dennis Mills

February 23, 2011

# Agenda

- APS Update
  - Safety Note
  - FY2012 President’s Budget
  - Staff recognitions
  - Upcoming Meetings and Reviews
- “Status and Plans for the *1-ID Upgrade*”,  
Ali Mashayekhi
- “Overview - The Institute for Atom-efficient Chemical Transformations ”,  
(better known as ANL’s Catalysis EFRC)  
Chris Marshall, Director, Institute for Atom-Efficient Chemical Transformations



# Electrical Inspection Reminder

## Requirement

- Inspect all non-NRTL Electrical Equipment by end of **FY 2011** (NRTL = Nationally Recognized Testing Laboratory).

## Action

- APS has approximately 30 DEEIs (Designated Electrical Equipment Inspectors) APS Divisions (AES, ASD, XSD) are generally meeting inspection quotas (>80% complete).
- Various non-APS CATs should step up their inspections. AES supplying inspectors.

## Request

- **Non-APS CATs continue to be pro-active in completing inspections.**



# We still have a way to go -

## Present APS Data

|         | White | Green | Red | Blue | %      |
|---------|-------|-------|-----|------|--------|
| ASD     | 5040  | 3465  | 261 | 1075 | 93.97% |
| AES     | 5065  | 3448  | 91  | 1075 | 88.70% |
| XSD     | 5114  | 2727  | 521 | 1594 | 92.27% |
| non-ANL | 2066  | 644   | 49  | 342  | 40.20% |
| APS     | 17285 | 10284 | 922 | 4086 | 84.90% |

|                               |       |       |
|-------------------------------|-------|-------|
| Goal for 80%                  | 10559 | 80.0% |
| Total at present with percent | 11206 | 84.9% |
| Needed to be done             | -647  |       |

|       |
|-------|
| Total |
| Total |
| Total |

Non NRTL Passed  
Rejected / out of service  
NRTL

$\% \text{ Complete Total} = (\text{Green} + \text{Red/White} - \text{Blue})$

“% Complete” DISCLAIMER – data is approximate.

See **Jim Lang** ([jwl@aps.anl.gov](mailto:jwl@aps.anl.gov))  
or  
**Clay White** ([cawhite@aps.anl.gov](mailto:cawhite@aps.anl.gov))  
if you have questions/concerns.

## Total From Non ANL Sectors 2066

### Individual Totals % Completed

|        |     |     |    |     |      |
|--------|-----|-----|----|-----|------|
| SEC 5  | 346 | 239 | 14 | 51  | 86%  |
| SEC 10 | 85  | 0   | 0  | 0   | 0%   |
| SEC 13 | 36  | 2   | 0  | 3   | 6%   |
| SEC 14 | 403 | 104 | 24 | 6   | 32%  |
| SEC 15 | 49  | 1   | 0  | 0   | 2%   |
| SEC 16 | 176 | 49  | 0  | 1   | 28%  |
| SEC 17 | 88  | 51  | 7  | 9   | 73%  |
| SEC 18 | 363 | 34  | 0  | 230 | 26%  |
| SEC 21 | 172 | 132 | 3  | 37  | 100% |
| SEC 22 | 136 | 0   | 0  | 0   | 0%   |
| SEC 24 | 122 | 18  | 1  | 5   | 16%  |
| SEC 31 | 90  | 14  | 0  | 0   | 16%  |

# FY2012 President's Budget Looks "Good"

- Overall increase in the FY2012 President's Budget for BES and the Scientific User Facilities Division.

## Basic Energy Sciences Funding Profile by Subprogram

(dollars in thousands)

|   | FY 2010 Current<br>Appropriation | FY 2012 Request  |
|---|----------------------------------|------------------|
| <b>Basic Energy Sciences</b>                    |                                  |                  |
| Materials Sciences and Engineering              | 353,423                          | 459,952          |
| Chemical Sciences, Geosciences, and Biosciences | 287,480                          | 394,717          |
| Scientific User Facilities                      | 803,825                          | 978,931          |
| <b>Subtotal, Basic Energy Sciences</b>          | <b>1,444,728</b>                 | <b>1,833,600</b> |
| Construction                                    | 154,240                          | 151,400          |
| <b>Total, Basic Energy Sciences</b>             | <b>1,598,968*</b>                | <b>1,985,000</b> |

(dollars in thousands)

|  | FY 2010 Current<br>Appropriation | FY 2012 Request |
|--|----------------------------------|-----------------|
| <b>Scientific User Facilities</b>        |                                  |                 |
| Research                                 | 35,989                           | 27,097          |
| Major Items of Equipment                 | 25,000                           | 97,000          |
| Facilities Operations                    | 734,994                          | 825,416         |
| Other Project Costs                      | 7,842                            | 7,700           |
| SBIR/STTR                                | 0                                | 21,718          |
| <b>Total, Scientific User Facilities</b> | <b>803,825</b>                   | <b>978,931</b>  |



# APS and APS-U See Increases in the President's Budget

|   |                |                |
|---|----------------|----------------|
| ▪ <b>Synchrotron Radiation Light Sources</b>      | <b>371,977</b> | <b>426,910</b> |
| Advanced Light Source, LBNL                       | 60,119         | 71,000         |
| Advanced Photon Source, ANL                       | 128,275        | 145,050        |
| National Synchrotron Light Source, BNL            | 39,000         | 40,725         |
| Stanford Synchrotron Radiation Light Source, SLAC | 33,950         | 42,235         |
| Linac Coherent Light Source (LCLS), SLAC          | 16,633         | 127,900        |
| Linac for LCLS, SLAC                              | 94,000         | 0              |

- The Advanced Photon Source (APS) at Argonne National Laboratory is one of the most productive light sources in the US, serving the largest number of users per year. It is a leading machine for physical sciences, having pioneered instruments and techniques in high-pressure science, x-ray photon correlation spectroscopy and inelastic x-ray scattering. Commissioned in 1996, many of the APS components—both accelerator and instruments—were designed in the early 1990s and are not optimized for today's needs. The Advanced Photon Source Upgrade (APS-U) project is to add new x-ray capabilities and increase the number of experiments that the APS can accommodate. The new APS-U MIE project (+\$20,000,000) would provide significant technical enhancements in the source's entire hard x-ray range, particularly above 20 keV, both in source brightness and intensity. Such capabilities are critically needed to examine real materials, in real time, in real environments, especially in extreme conditions encountered in advanced energy applications.





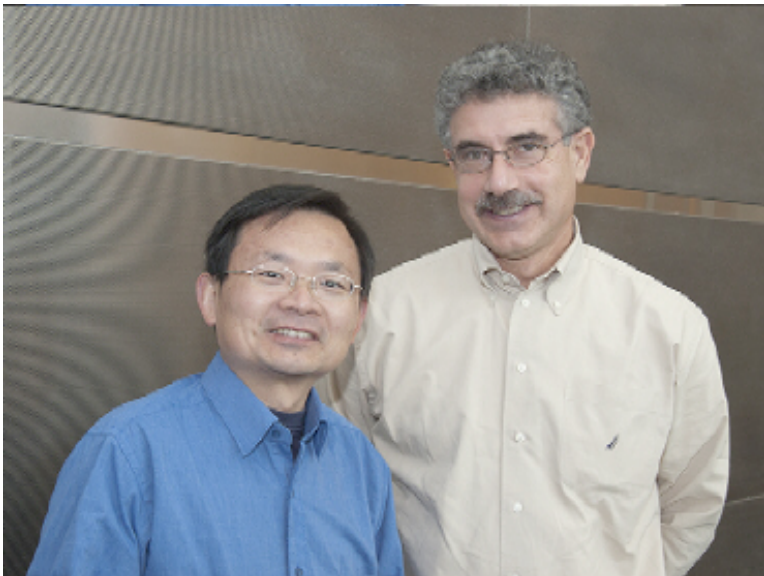
## But FY11 Will Be Difficult

- Most of you probably heard Eric Isaac's talk yesterday.
- Not much more to add at this point... we just have to wait and see what Congress does.



# APS Staff Recognized by Professional Associations

Lahsen Assoufid of the Argonne X-ray Science Division has been made a Fellow of the Optical Society “For contributions and leadership in x-ray optics, metrology, and nanofocusing optics development.”



George Srajer was elected a Fellow of the American Physical Society “For applications of synchrotron radiation to phase transitions and the structural and magnetic properties of single crystals, multilayers, and liquid crystals.”

Jin Wang was also elected a Fellow of the American Physical Society “For contributions to the understanding of nanoparticle/polymer thin films and superlattices, and for the development of time-resolved X-ray methods for characterizing the structure of dense liquid sprays.”





# SAC Meeting March 7-9, 2011

- **Monday, March 7, 2011 (SAC Members and Invited Reviewers)**
  - Parallel Panel Sessions to Review Science Cases (all day)
  - Combined Panels Discussion (First look at combined panel rankings by score)
- **Tuesday, March 8, 2011 (SAC Members and Invited Reviewers)**
  - Individual Panel Discussions (Final Scoring and Final Ranking) - morning
  - Presentations from Individual Panels, General Discussion- afternoon
- **Wednesday, March 9, 2011 (SAC Members only)**
  - Discussion and Final Combined Prioritization -morning
  - General APS Update – afternoon

| Panel | No. | Primary Areas Covered                                      | SAC Member                          | Guest Reviewer           |
|-------|-----|--|-------------------------------------|--------------------------|
| 1     | 8   | Ultrafast Dynamics/Spectroscopy                            | P. Bucksbaum, J. Corlett, B. Hedman | J. Wark, B. Bunker       |
| 2     | 8   | Coherence/Materials Science/<br>Interfaces                 | F. Van der Veen, D. Neumann         | J. Brock, S. Kevan       |
| 3     | 6   | Inelastic Scattering/High<br>Pressure/High Magnetic Fields | M. Klein, W. Stirling, G. Waychunas | J. Kortright, S. Bader   |
| 4     | 7   | Imaging/Coherence  | J. Kirz, S. Wakatsuki               | P. Pianetta, Q. Shen     |
| 5     | 6   | Bioscience   | H. Einspahr, L. Johnson             | R. Leapman, M. Kiskinova |



# Director's CD-1 External Review of the Advanced Photon Source Upgrade Project - March 14-16, 2011

Charge from Eric Isaacs to the Review Team:

I request that you organize and conduct a Director's External Review of the Advanced Photon Source Upgrade (APS-U) project at Argonne National Laboratory during March 14-16, 2011 in preparation of Critical Decision 1 (CD-1), Approve Alternative Selection and Cost Range. The purpose of this review is to assess all the aspects of the APS-U Conceptual Design Report and project plans – technical, cost, schedule, management, risk, and environment, safety, and health (ES&H).

The Mission Need Statement for the APS-U was approved at CD-0, Approve Mission Need, in April 2010. CD-1 approval is planned later in 2011.

In addition to being a key part of my oversight of this key Argonne project initiative, I want this review to be an important exercise in preparation for a planned May 17-19, 2010 Lehman DOE/SC/BES (DOE Office of Science / Office of Basic Energy Sciences) CD-1 Review of APS-U. Thus, I'd like you to develop an agenda similar to that of a Lehman Review and for the Committee to provide their findings, comments, and recommendations to myself and the project team at the end of their visit to Argonne for the conduct of this review.



# APS Presentation for the Office of Biological and Environmental Research (BER) at DOE

- A workshop on new facilities for structural biology is being organized by BER for May 9–11, 2011.
- The meeting is intended to identify the most significant new experimental capabilities on which BER should focus its structural biology activity during the next five to ten years.
  - “Structural biology” usually refers to determination of structure of biological systems at or close to atomic level resolution. Our program has however over the past 20 years covered a wider range of experimental capabilities, including imaging... so, we wish to clarify that the **full range of capabilities that could be significant for biological science may be covered in the presentation** for the facility you are representing.
- A panel of leaders in structural biology research and user facility technologies will discuss the capabilities and provide comments for a report that will be published shortly after the meeting.



# Additional Reviews and Meetings for APS

- APS SAC Meeting – March 7-9, 2011
- Director' Review of the APS-U Project – March 14-16, 2011
- APS/CNM/EMC User Meeting – May 2-5, 2011
- BER Presentation - May 9–11, 2011
- Lehman Review of the APS-U Project – May 17-19, 2011
- U of Chicago Annual Review of the APS - tentatively July 2011
- Triennial DOE/BES Facilities Review of the APS – tentatively the end of August 2011

