



... for a brighter future

APS/User Monthly Operations Meeting

J. Murray Gibson

January 30, 2008



U.S. Department
of Energy



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

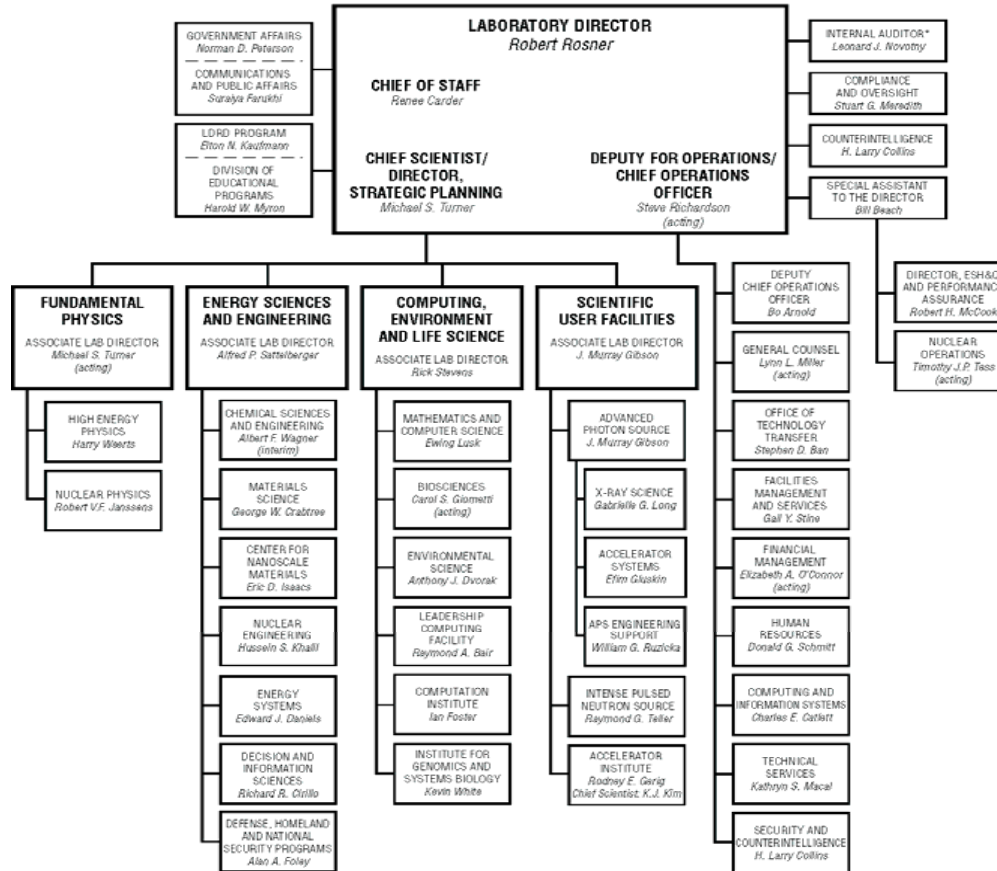
Agenda

- 2:30 p.m. Refreshments
- 2:45 p.m. APS Update – Murray Gibson
- 3:05 p.m. Strategic Planning for Beamline Upgrades – George Srajer
- 3:20 p.m. SPX Update – Jin Wang
- 3:45 p.m. Adjourn

Argonne Reorganized

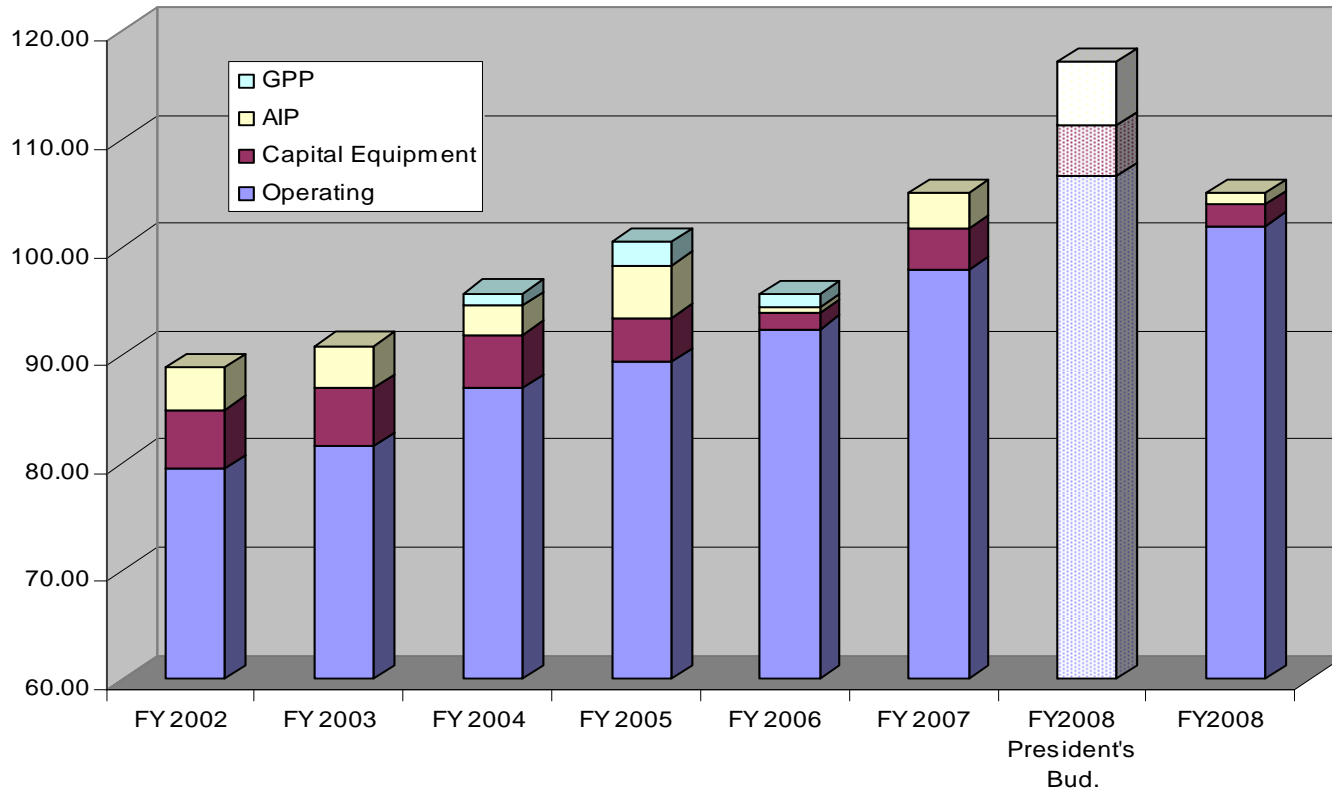
ARGONNE NATIONAL LABORATORY
 Managed for the U.S. Department of Energy
 by UChicago Argonne, LLC

Original signed by R. Rosner, January 29, 2008



*Internal Auditor reports directly to the UChicago Argonne, LLC CEO

APS budget issues for FY 08 – and impact on operations

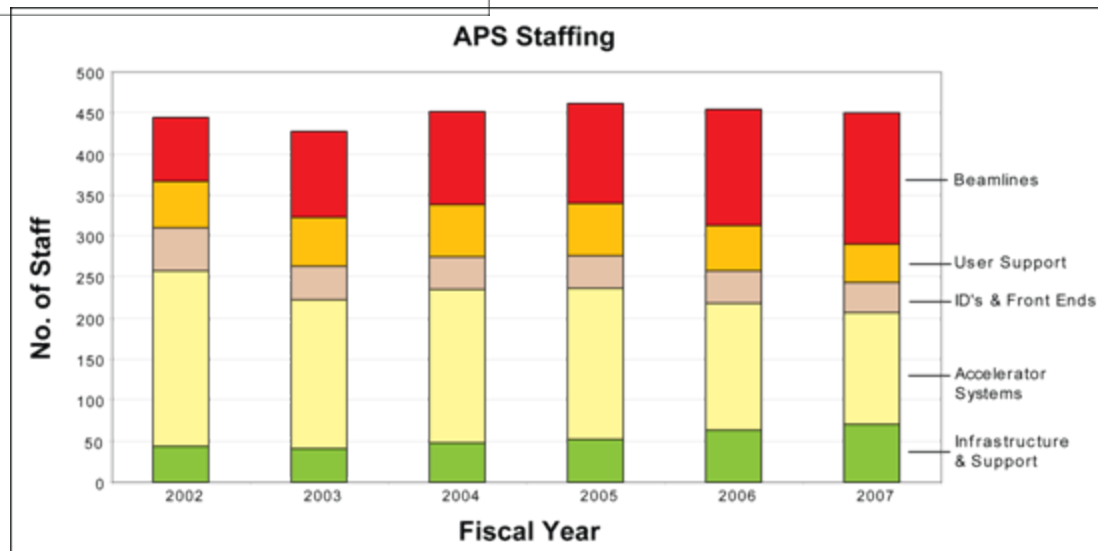
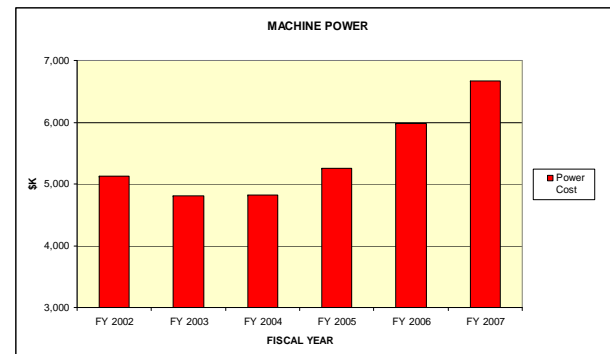
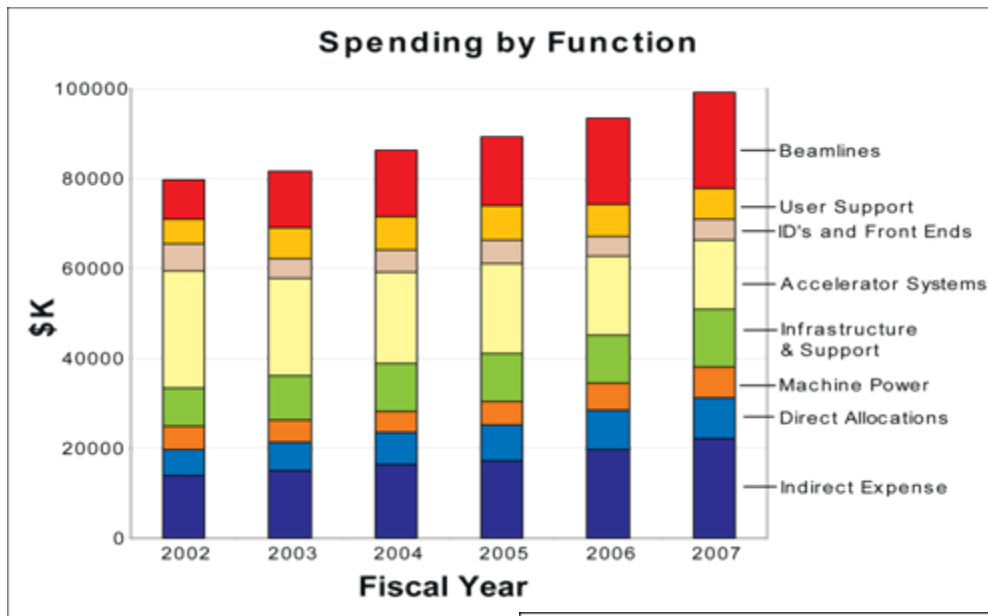


All DOE light sources in the same boat

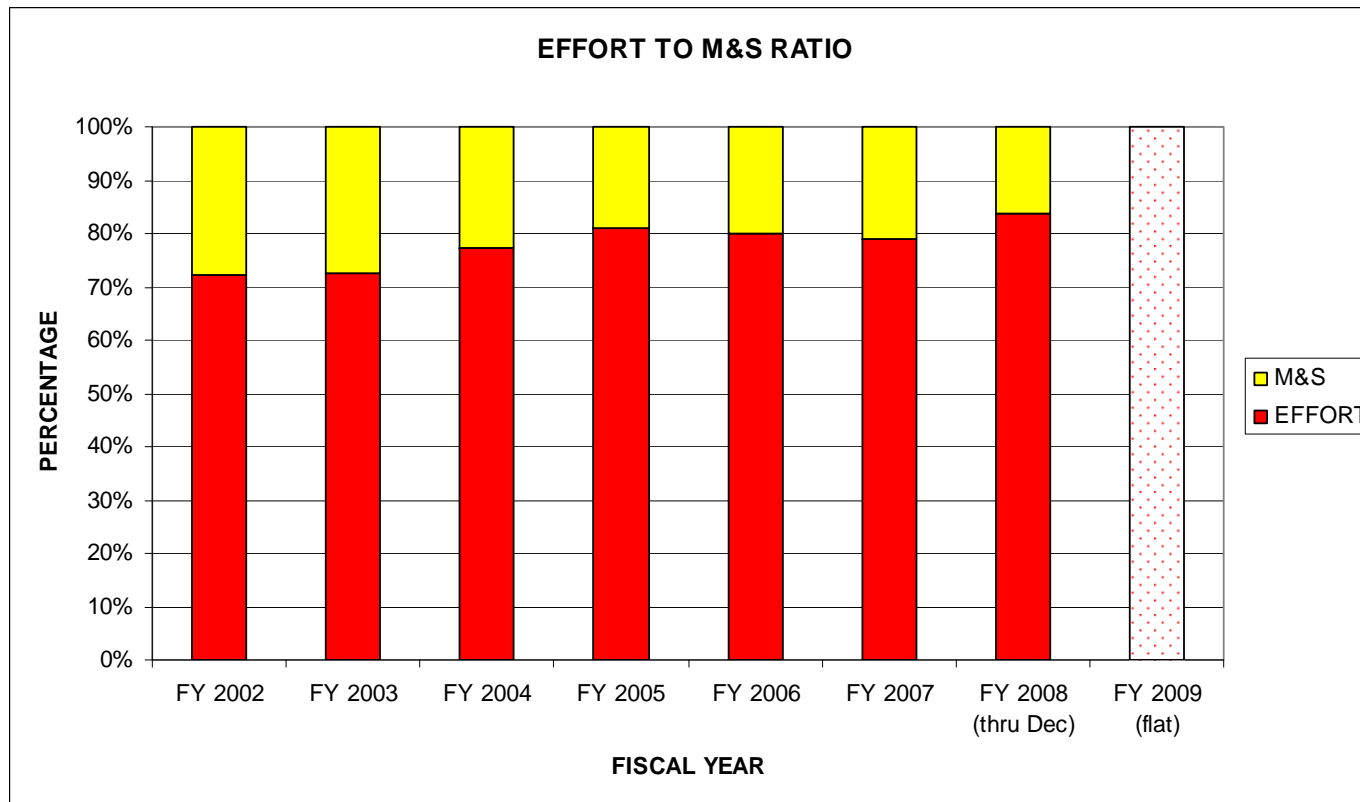
IPNS Shut down

- Budget reduced for '08
- Loss of most of the IPNS staff, with possibility of ~20 people retained for D&D
- Seeking to find opportunities for as many staff as possible around ANL
 - e.g. Instrument scientists and SAs
- Hope remains for some funding for ASI² proposal in FY2009

Functional analysis of APS DOE operating budget and staffing



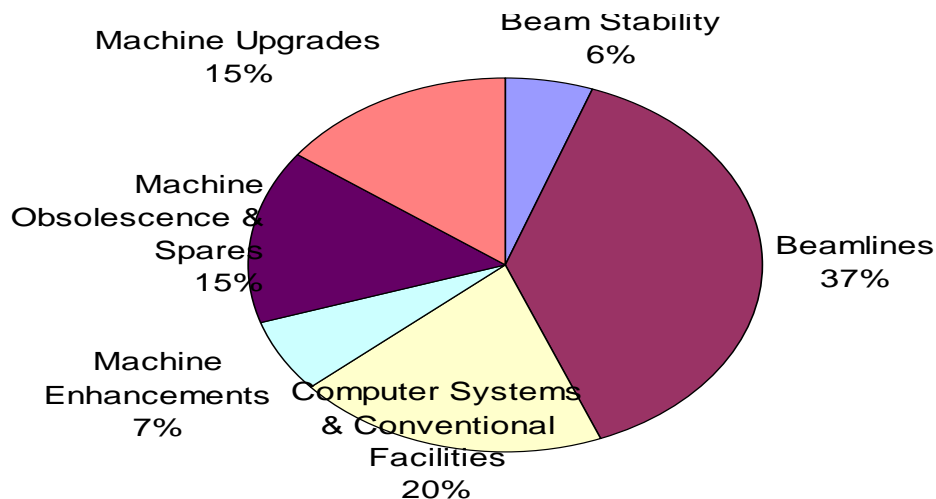
Effort ratio as a fraction of total budget for APS divisions



Some amelioration from external income (~5% annually)

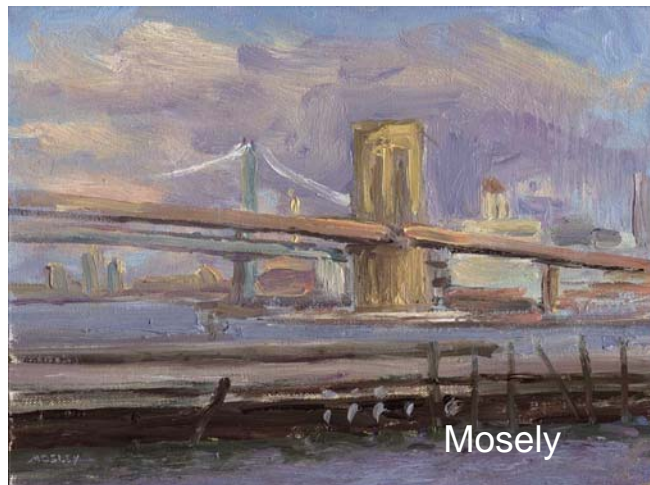
We cannot continue to defer machine and beamline maintenance

- Allocation of resources to accelerator and beamline improvements, repairs:



For 2006,7,8 we have allocated only \$12M capital and accelerator improvements (4% ops). Normal budget is ~10% ops, ESRF has 25%!

- “painting the bridge”



Reduced operating hours in FY'08 and beyond

- For a full fiscal year, the 20% reduction represents 6 weeks (1 week extension at each end of shutdowns)
- For FY'08, we are already through 1/3 of the year, the proportional reduction is 4 weeks, and we have submitted this proposed reduction in our quarterly report to Congress
- but we decided it is too late to remove time from Run 2008-01 (discussed at Ops Directorate)
- So we have proposed to remove 2 weeks from each end of run 2008-02
- We will also look at consolidating beamlines (e.g., reducing support to BM lines) due to staffing limitations
- If there is a supplemental appropriation in spring this *might* be reversed
 - at least in time for FY'09 schedule

Other DOE facilities are taking similar action to reduce hours in FY2008

- APS proposed reduction: 5000 hrs to 4380 hrs (12%)
- NSLS proposed reduction: 5000 hrs reduced to 4500 hrs (10%)
- SSRL proposed reduction: 5300 hrs to 4500 hrs (15%)
- ALS proposed reduction: 5500 hrs at least by 10% (5000 hrs)

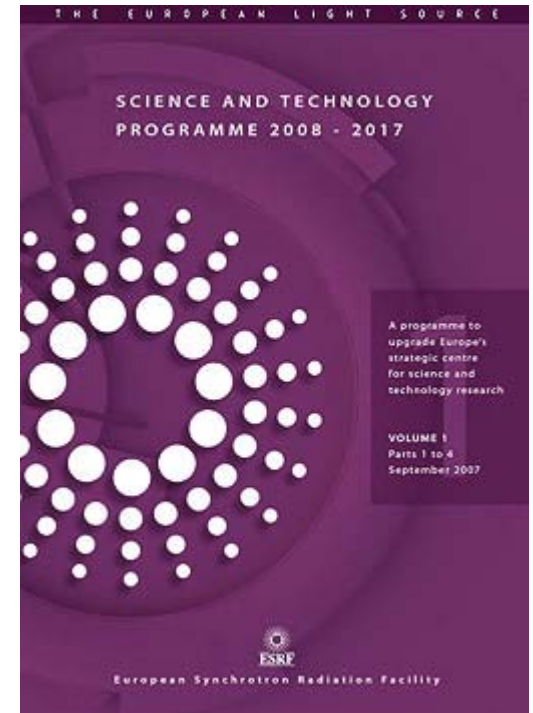
Near term upgrades to beamlines and accelerator?

- This is strongly supported by reviewers, by the National Academy report on CMMP last year, and most recently accepted by DOE
- Despite financial problems, there may be an opportunity in the near term for some significant investment here (we need several \$100 million dollars). This is a national problem for the light sources.
- Would like to identify a prioritized list, science based, of needs (similar to our XOR tactical plan, but APS wide, including CATs).

APS Strategic Plan for Renewal 2009-2014

An opportunity to address our compelling needs

- We will develop a plan for improvements to beamlines and accelerator for next 5 years
 - science driven
 - includes maintenance needs and innovative capabilities
 - will develop into prioritized plan during the User workshop of 2008 Oct 20-21
 - *George Srajer to say more about process on x-ray science side*
 - Rod Gerig soliciting input on machine side
 - will fold in both medium-term and long-term machine upgrades (ERL)
 - will use as template for our own capital/ARIM funds



Scientific Advisory Committee (SAC) Members



SAC Committee Members: Jens Als-Nielsen, Michelle Buchanan, Slade Cargill, Howard Einspahr, Miles Klein, Richard Leapman, Dan Neumann, Piero Pianetta, Michael Wasielewski, Soichi Wakatsuki, Glenn Waychunas, Donald Weidner, Pierre Wiltzius, Wei Yan, Tim Graber and Denis Keane

Recent SAC Meeting (Jan 2008) Outcomes

- Positive outcomes from XOR and other sector reviews in 2007
- Exciting new Letters of Intent presented to SAC
 - Advanced Imaging
 - Surface and Interface Scattering
 - Updates on Bionanoprobe, High-field magnet, XOR plans
- Strongly endorsed renewal planning, and scenario planning for tough times
- New policy on Reviews
 - All sectors will be reviewed in cross-cut science form
 - *Eight scientific areas, 2 each year*
 - Also, short sector management reviews will be held in conjunction
 - Ad hoc sector reviews can be held in more detail if needed
 - *e.g., for new sectors, or those facing serious challenges*

Eight subject areas proposed for cross-cut reviews

Proposed 2009 reviews

- *Atomic, Optical, Molecular, and Chemical Science*
- Condensed Matter and Materials Physics
 - (includes magnetism, superconductivity, and emergent materials)
- Engineering Applications/Applied Physics
 - (includes deformation, cements and mortars, shape memory alloys, superalloys, liquid sprays)
- *Geological, Environmental, and Planetary Sciences*
- Macromolecular Crystallography (MX)
- Materials Science and Technology
 - (includes photonics, semiconductors, nanomaterials, and liquid crystals)
- Polymers, Soft Materials, and Biology (excluding MX)
- Surfaces, Interfaces, and Thin Films

Pacesetter – Dave Wallis and Christy Dannenberg (AES)



In recognition of their efforts in the support of the XOR beamlines at sectors 9 and 11. Covers both general Support Requests and the beamline transition from a CAT beamline to a fully configured XOR beamline.

Plans for Improving IT Reliability for XOR Beamlines

- IT On-Call procedure for the MCR Operators and the Floor Coordinators.
- XOR Beamline Procedure for the IT group similar to the Accelerator procedure.
- Convert XOR from NIS+ to LDAP. LDAP is used for authentication on all other Unix/Linux/Mac computers at the APS.
- New Distributed Servers (Dservs) will be fully independent of beams/users when installation is completed. (Working with BCDA on the new file system configuration)
- IT hired Sun Engineer Arista Thurman to support XOR Beamlines.
- New XOR Sun cluster. Multiple High-Availability Clusters are required to support additional XOR beamlines because existing servers are overloaded.

from Ken Sidorowicz