

## **ACADEMIC COUNCIL SPECIAL COMMITTEE ON LAB ISSUES ANNUAL REPORT 2010-11**

### **TO THE ASSEMBLY OF THE ACADEMIC SENATE:**

Academic Council established the Academic Council Special Committee on Lab Issues (ACSCOLI) at its April 25, 2007 meeting to replace the Academic Council Special Committee on National Labs (ACSCONL). ACSCOLI's term, unless changed by the Academic Council, is effective from July 2007 through May 2013. ACSCOLI's primary charge is to provide regular and broadly-based Senate oversight of UC's relationship with Los Alamos National Laboratory (LANL), Lawrence Berkeley National Lab (LBNL), and Lawrence Livermore National Laboratory (LLNL). For the 2010-11 academic year, ACSCOLI held three face-to-face meetings and one video conference call.

#### **Plutonium Pits Production**

Per the Academic Assembly's 2008 [\*Resolution on Limiting UC's Role in Manufacturing Nuclear Weapons\*](#), ACSCOLI continued to monitor the Labs' manufacture of plutonium pits. In his October 12, 2010 letter, President Yudof informed Academic Council Chair and ACSCOLI Chair Daniel L. Simmons that LANL delivered six pits in FY 2010 (October 1, 2009 to September 30, 2010); LLNL does not produce any plutonium pits. This brings the total of pits produced over a four-year period (FY 2007 to FY 2010) to 27. The National Nuclear Security Administration (NNSA) has made a commitment to build 31 pits; this goal is expected be reached in the second quarter of FY 2011.

#### **Visits to the National Labs**

ACSCOLI held two of its meetings at local National Labs this year -- LBNL in May and LLNL in July. Both meetings highlighted the scientific work and achievements at each of these Labs, as well as the value-added that they bring to the University.

#### **Lab Fees Research Program Funding**

Due to the bad budgetary environment over the past year, the UC Administration proposed that a portion or all of the Lab fee revenues, which had been used to fund the Lab Fee Research Program (LFRP), be used instead to fill gaps in the budget. ACSCOLI members remained almost equally divided on this issue, with a small majority supporting a second round of grants under LFRP and the remainder recommending that the \$20M in fee revenue be used to offset budget cuts. Due to this impasse, ACSCOLI did not make a formal recommendation to Council on this issue. In the end, approximately \$17M is planned to made available to the LFRP. A RFP will be released sometime in fall 2011.

#### **LBNL's Second Campus**

LBNL has proposed the development of a second campus to accommodate its past and future growth, which is currently constrained by a lack of space (approximately 25 percent of its facilities are in leased space). LBNL is currently evaluating the project's viability, affordability, financing, and risk mitigation. ACSCOLI is primarily concerning with the project's financing and its long-term viability. LBNL has articulated its preferred financing approach as follows: 1) UC debt finances and owns the facilities (\$350M for

the first phase); 2) UC ownership fosters collaborations and partnerships with UC campuses and industry; and 3) contract modification to allow the Department of Energy (DOE) to reimburse full debt service during occupancy.

LBNL is currently evaluating a number of short-list contenders on the following articulated preferred site characteristics: a world-class research environment; proximity to LBNL main site; sustainable development; compatible with surrounding neighborhoods and amenities; 2M square feet of total capacity; a welcoming community; a minimal amount of environmental remediation needed; a low-vibration environment; public transit availability; low development costs and lower cost utilities; and finally, an open site with a campus atmosphere. The following sites are being considered: 1) Richmond Field Station; 2) Albany Golden Gate Fields; 3) Berkeley Aquatic Park West; 4) Berkeley Aquatic Park/Emeryville; 5) Emery Station; 6) Brooklyn Basin; and 7) Alameda Point. LBNL is planning for a final Regents vote on the Second Campus by May 2013 with occupancy by early 2016. ACSCOLI and the University Committee on Budget and Planning are planning for additional briefings in 2011-12, and will continue to follow this issue closely.

### **Lab-Campus Interactions & Cooperation**

ACSCOLI received briefings on Lab-campus interactions and cooperation at both LANL and LBNL. LANL has made a \$20M institutional investment in its Educational Institutes and Science and Mission Innovation Centers that work with both UC and New Mexico Universities to recruit, retain, and revitalize its national security mission workforce; as well as engaging university collaborators in program development efforts. UC-specific Institutes include the Engineering Institute (UCSD); the Institute for Multi-Scale Materials Studies (UCSB); the Information Science and Technology Institute (UCSC); the Materials Design Institute (UCD); the Institute for Geophysics & Planetary Physics (IGPP) with six UC campuses, and the Seaborg Institute. The Centers include the Center for Non Linear Studies, the Center for Biosecurity Science, the Energy Security Center, and the Information Science and Technology Center. At LBNL, Director Alivisatos informed ACSCOLI that there have been recent discussions about making some group hires that would be part UCD employees and part LBNL employees.

### **National Policy Issues**

Over the course of the year, ACSCOLI followed a number of policy issues of national import, which included:

- *DOE Restructuring*: There are ongoing discussions about the possibility of spinning off the National Nuclear Security Administration (NNSA) from the DOE, perhaps by spring 2012, as a separate agency.
- *National Academy of Sciences (NAS) Study of the Nuclear Security Laboratories*: The National Defense Authorization Act calls for an examination by the NAS on the impact of the new contracts for LANL and LLNL. The U.S. Senate expanded this study to include the management and operation of all of the national nuclear weapons labs, and the final legislation places the focus on the maintenance of quality at the Labs (also includes the quality of scientific research, the quality of engineering work; the criteria of conclusions; any relationship(s) between the current quality of the Labs

and the contracts; and the Labs' relationship(s) with other national agencies). The National Lab Directors have all testified before the NAS Committee, emphasizing three points: 1) NNSA administrative requirements have grown exponentially; 2) the management of both LANL and LLNL has improved; and 3) both LANL and LLNL are doing a superb job in attracting post-docs from around the country. The NAS Committee's report should be released in December/January, which will mark the end of phase one. Phase two will concentrate on the quality of science and engineering at the nuclear weapons Laboratories.

- *START Treaty*: The New START treaty was signed by President Obama in April 2010, and the Senate ratified it on December 22, 2010. The Russian Parliament ratified the treaty in January 2011.

### **Laboratory Management Issues**

ACSCOLI was informed, and continued to monitor and seek improvement (where necessary) on the following laboratory management issues:

- *LANL and LLNL Directors*: The new LANL Director is Charles F. McMillan. A search committee to select a new LLNL Director has been formed and is meeting; ACSCOLI member Dan Simmons is serving on this committee. The Regents revised their [\*Policy on the Appointment of Lab Directors/Senior Lab Salaries\*](#) (policy #7701) due to the fact that these are the first director searches after the management of LLNL and LANL was shifted to the limited liability corporation (LLC) structure.
- *Budget*: The budget environment, which had been very strong, is projected to be weaker with the projected curtailment of federal funding. Indeed, Energy Secretary Chu announced a two-year DOE salary freeze in December. However, the NNSA has been scheduled for an \$85B increase over the next ten years. For 2011, Laboratory Management projected the following budget increments: 8 percent for LBNL; 12 percent for LANL; and 7 percent for LLNL.
- *DOE Performance Assessments*: For the 2010 calendar year, LANL, LBNL, and LLNL received positive performance assessments, thereby extending their contracts by one year.
- *LANL Fire*: LANL shut down for ten days at the beginning of July due to the Las Conchas fire; it surrounded LANL but did not strike it directly. The long-term consequence is mainly cost at \$65M. Of this total cost, \$35M is associated with paying LANL employees who were not doing meaningful work; the other \$30M is associated with fire fighting in and around the Lab.
- *Next Generation Light Source (NGLS)*: LBNL Director Alivisatos has championed the cause for the NGLS to be built at LBNL, which represents the next generation of the Linac Coherent Light Source, which is located at the Stanford Linear Accelerator (SLAC). The key issues are science, cost, cost controls, and location. The NGLS could be located on the proposed Second Campus or on the main campus.
- *Morale at the Labs*: ACSCOLI remains concerned about ongoing morale issues at all of the National Laboratories; these concerns focus on freedom to pursue research, time to effectively manage work/research teams, procurement/safety restrictions, as well as recruitment and retention of talented junior and senior Laboratory personnel. At both of its visits to LBNL and LLNL, ACSCOLI discussed these issues with small groups of Laboratory scientists, researchers, and engineers in executive sessions.

- *LLNL/Sandia CA Open Campus Proposal*: LLNL and Sandia National Lab are moving forward on an initiative for an open campus site to foster academic and private sector collaborations for non-classified research and work. This space will be physically separate from the security areas of both Sandia and LLNL (“outside the fence”), and will incorporate the Combustion Research Facility at Sandia and Hertz Hall; the full build-out will be 110 acres. While the National Ignition Facility (NIF) will stay “inside the fence,” the Open Campus will facilitate NIF operating as a user facility by providing space for users to work in unclassified environment (e.g., access NIF via computers, etc.). In June, LLNL opened the High Performance Computing Innovation Center, which will facilitate national lab/industry collaboration. With respect to Hertz Hall, a Davis faculty member will retain office space within the building, but it will become DOE property, with Davis being relieved of future maintenance obligations. Finally, there is interest in developing a science and technology park across the road with an academic presence.

### **Membership**

In July 2011, Academic Council appointed two new at-large members for three-year terms (beginning in 2011-12): Ram Seshadri (UCSB) and Darrell Long (UCSC). Robert Powell was selected as the 2011-12 ACSCOLI Chair and its representative on the LBNL Advisory Board.

### **Presentations**

ACSCOLI members heard a number of presentations on the science being performed at the Labs: Advanced building materials (LBNL), California energy systems/Smart Grid (LLNL), exascale computing (LLNL), Joint BioEnergy Institute (JBEI) tour, high energy density science (LLNL), Matter-Radiation Interactions in Extremes (MaRIE) project at LANL, NGLS (LBNL), and the plutonium research strategy (LANL).

### **Acknowledgements**

The committee is grateful to have had valuable input from and dialogue with the following consultants at UCOP: Bruce Darling, Vice President for Laboratory Management; Steven Beckwith, Vice President for Research and Graduate Studies; Glenn Mara, Associate Vice President for Laboratory Management, John Birely (retired); Anita Gursahani, Deputy to the Associate Vice President in Laboratory Management; Bill Eklund, General Counsel; Mary Croughan, Director of Research Grants, ORGS; William Frazer, Chair of LANS/LLNL S & T Committee; Ron Nelson, Executive Director, Contracts & Administration in Laboratory Management; Robert Van Ness, Associate Vice President for Lab Management; and Elaine Stamman (Laboratory Management).

Respectfully submitted,

Daniel L. Simmons, Chair (Council  
Chair)  
Robert Anderson, ACSCOLI Vice Chair  
(Council Vice Chair)  
Henry Powell (Past Council Chair)

Clare Yu (UCI)  
Michael Todd (UCSD)  
Michael Colvin (UCM)  
Eugene Haller (UCB)  
Harry Tom (UCR)

Robert Powell (UCD)  
Phokion Kolaitis (UCORP Chair/UCSC)

Bernard Minster (UCPB Vice  
Chair/UCSD)