

The Regents of the University of California

**COMMITTEE ON OVERSIGHT OF THE  
DEPARTMENT OF ENERGY LABORATORIES**

July 17, 2008

The Committee on Oversight of the Department of Energy Laboratories met on the above date at University Center, Santa Barbara Campus.

Members present: Regents Blum, Pattiz, Shewmake, Varner, and Yudof; Advisory member Brown

In attendance: Regents Cole, De La Peña, Garamendi, Hopkinson, Island, Kozberg, Lansing, Reiss, Ruiz, Schilling, and Scorza, Regents-designate Bernal, Nunn Gorman, and Stovitz, Faculty Representative Croughan, Secretary and Chief of Staff Griffiths, Associate Secretary Shaw, Chief Investment Officer Berggren, Chief Compliance and Audit Officer Vacca, Provost Hume, Executive Vice Presidents Darling and Lapp, Vice Presidents Beckwith, Dooley, Foley, Lenz, and Sakaki, Chancellors Block, Blumenthal, Drake, Kang, Vanderhoef, and Yang, Acting Chancellor Grey, and Recording Secretary Johns

The meeting convened at 11:30 a.m. with Committee Chair Pattiz presiding.

**1. READING OF NOTICE OF MEETING**

For the record, it was confirmed that notice was given in compliance with the Bylaws and Standing Orders for a Special Meeting of the Committee on Oversight of the Department of Energy Laboratories to accommodate a date and time change.

Committee Chair Pattiz informed the Committee that the director of the Los Alamos National Laboratory was unable to attend to make a presentation, as originally planned, due to a recently scheduled Congressional Hearing. He noted that, a few weeks ago, he met with about a dozen members of the UC Student Department of Energy (DOE) Laboratory Oversight Committee, whom he found to be thoughtful, intelligent, and informed. He felt that the meeting, conducted in a mutually respectful atmosphere, was useful in providing a point of view, questions, and information which the Regents are unlikely to receive from other sources. He encouraged Committee members, if contacted by this student group, to engage in dialogue.

**2. UPDATE ON THE DEPARTMENT OF ENERGY LABORATORIES**

Vice President Foley provided a brief report on Lawrence Berkeley National Laboratory (LBNL). He recalled the May announcement of the retirement of David McGraw as Associate Laboratory Director and Chief Operating Officer. Director Chu has selected James (Jim) Krupnick to replace Mr. McGraw. Mr. Krupnick commenced these

responsibilities effective July 1. He has worked at LBNL since 1976. He is the recipient of a B.S. and an M.B.A. from UC Berkeley. His most recent position at LBNL was Project Director for the Molecular Foundry.

LBNL scientist Daniel Fletcher has been appointed as a White House Fellow for 2008-09. The White House Fellows program, founded in 1964 by President Lyndon Johnson, offers firsthand experience working at the highest levels of the federal government. Fellows participate in an educational program, including roundtable discussions with leaders from the private and public sectors, and study trips.

In research developments, LBNL received four R&D 100 Awards this year, bringing the total number of R&D 100 Awards won by the Laboratory to 48. The awards this year were for a DNA microarray that quickly and accurately identifies species in microbial samples from any environmental source without a need for culturing; a search engine that mimics the human cognitive process; an indexing technology faster than any other for searches in massive databases; and a polymer electrolyte that enables the development of rechargeable lithium metal batteries with an energy density at least a factor of two larger than that of existing technology.

LBNL researchers have invented a technique that allows DNA to be read and evaluated without elaborate chemical labeling or sophisticated instrumentation. This technique may realize the dream of personalized medicine, in which diagnostics, risk predictions, and treatment decisions are based on an individual's DNA, and it may make this technology widely available in the world, not only for the wealthiest nations. Mr. Foley concluded by remarking that research at LBNL, important for the nation and the world, continues to advance and grow.

3. **UPDATE ON BOARD OF GOVERNORS ACTIVITIES FOR LOS ALAMOS NATIONAL SECURITY, LLC (LANS), AND LAWRENCE LIVERMORE NATIONAL SECURITY, LLC (LLNS)**

Committee Chair Pattiz began by noting that the Los Alamos National Laboratory (LANL) and the Lawrence Livermore National Laboratory (LLNL) have completed workforce restructuring and downsizing. Directors Anastasio and Miller, working with the LANS and LLNS Boards and the Department of Energy (DOE), have diligently communicated with employees and the public about the current and future laboratory budget effects on the workforce. The Board of Governors supports the restructuring in order to adjust to the reality of smaller future federal budgets. Directors Anastasio and Miller provided testimony to the Senate Appropriations Subcommittee on Energy and Water Development, expressing concerns that scientific research is being squeezed out at the Laboratories due to funding constraints. The overall budgets of LANL and LLNL have been significantly affected by a 10 percent cut in DOE/NNSA laboratory funding, increasing costs due to the outcome of the congressionally mandated competitions to create the LLC structure, the requirement that LANL and LLNL pay substantial taxes, and increased costs associated with human resources. Laboratory leadership and the LLC

Boards at each facility have taken action to increase efficiencies and reduce costs. Both laboratories have reduced the size of their workforce over the last year.

Committee Chair Pattiz expressed serious concern that the scientific programs at LANL and LLNL, and their essential role of stewardship of the U.S. nuclear weapons program, could be in jeopardy in the future if adequate funding for science, engineering and the supporting workforce are not provided. Following the remarks of the LANL and LLNL Directors, Senate members have expressed concern about the situation and have asked to learn more. He noted that this is the first time since 2002 that the directors of LANL, LLNL, and Sandia Laboratories have testified together. Their testimony was well received, and Senate Committee members indicated they wished to continue this forum.

Executive Vice President Darling reviewed the four principal missions of the laboratories. The first is to perform research and develop technologies that enable the U.S. to verify compliance with international treaties that outlaw nuclear testing and mandate the reduction of nuclear weapons worldwide. As part of this mission, the laboratories also ensure the reliability and safety of the existing U.S. nuclear stockpile. The second mission concerns nonproliferation of weapons of mass destruction. The laboratories play a critical role in monitoring the attempts of other nations to develop and test nuclear weapons and in advising the U.S. government about such developments. The third mission is to conduct energy-related research to develop diversified sources of energy and improve the nation's energy security. The fourth mission is to conduct applied research in support of these missions and to conduct basic research that advances all fields of science.

Mr. Darling recalled the effect on the Lawrence Livermore laboratory of a \$280 million funding shortfall this fiscal year. He reported that LLNL Director Miller is working hard to improve morale following budget cuts and staff reductions. The Lawrence Livermore laboratory is now nine months into its new contract. It has improved efficiencies. Employee absences have been reduced by 60 percent as a result of reductions in safety incidents. Purchasing costs have been reduced by \$7 million and there is a \$20 million goal for savings next year. The laboratory has also reduced its overhead rates to fiscal year 2007 levels, and will continue to reduce them in order to make itself more attractive to other government agencies.

The Los Alamos laboratory has now completed two years under its new contract. It has improved safety by reducing job injuries by 50 percent and improved security by reducing classified removable electronic media by 66 percent. This includes memory sticks, CDs, and other materials with classified information. The laboratory has reduced classified parts by 40 percent. It has eliminated five vault-type rooms and six classified media laboratories. All this information has been consolidated into a single location which can be better monitored and safeguarded. LANL has improved its operational efficiencies by \$22 million in cost savings and cost avoidance through better business and operational practices.

Committee Chair Pattiz noted that the Los Alamos and Lawrence Livermore laboratories, like the Lawrence Berkeley laboratory, have received numerous, prestigious national awards.

Three issues at LLNL have received media attention since the last meeting. The first involved an audit of the laboratory's security readiness for protecting special nuclear materials. The second was a suggestion to speed up the timetable for shipping special nuclear material from Livermore to other sites to reduce the security demands on LLNL. The third concerns the sampling for beryllium during refurbishment of the Livermore Engineering shop building. The LLNS Board of Governors has responded to the DOE security audit and has provided expertise and manpower to help the laboratory quickly address the issues identified by the audit. The laboratory is working with the National Nuclear Security Administration (NNSA) to remove excess material as rapidly as possible. The Board of Governors is closely following improvements made to the beryllium program.

Mr. Darling recalled his presentation in May on the DOE security audit. Since that time the Livermore LLC has made improvements in security, working with the NNSA in implementing corrective actions. The NNSA will reschedule another examination to verify that these improvements meet its standards. Since the May meeting, Representatives Dingell and Stupak, leading members of the House Committee on Energy and Commerce, and Subcommittee on Oversight and Investigations, have asked the Government Accountability Office to review security at Livermore.

Mr. Darling reported that the Livermore laboratory has reduced its inventory of special nuclear materials by 25 percent, within the time schedule set by the NNSA. The acceleration of this process will be challenged in the future due to funding. He noted a recent newspaper article on beryllium use at Livermore. The NNSA was concerned about the laboratory's methodology in sampling the presence of beryllium. The laboratory and the LLC have taken aggressive action to clean up the facility, to monitor a small number of employees who were exposed to beryllium, and to ensure that the laboratory is a safer environment for workers. Mr. Darling concluded by noting that the Los Alamos and Livermore laboratories were the principal technical advisors to the six-party talks in Beijing that led to the elimination of some North Korean nuclear weapons capabilities.

Committee Chair Pattiz encouraged Regents to visit the laboratories and meet with their directors, and informed them of an upcoming briefing in September. He reiterated that his meeting with the UC student group was worthwhile and encouraged other Committee members to meet with them if interested.

Chairman Blum stated that the Regents must be informed about and understand events at the laboratories. He emphasized the Regents' responsibility, even though the laboratories are not the primary focus of the University's activities and the University does not have sole control of their management. As particular concerns, he cited the facts that each laboratory has at least \$200 million less than it had last year, that hundreds of employees have been laid off, and that some senior managers are concerned about whether funding

is sufficient to maintain stewardship of the nuclear stockpile. Science in the interest of global security could be jeopardized because scientists are being laid off.

Chairman Blum emphasized that the University spends more money on disassembling nuclear weapons than on repackaging them, and questioned the validity of numbers of weapons cited by individuals during the public comment period. The purpose of some minor repackaging under the proposed Reliable Replacement Warhead program is to make weapons more secure, for example, to prevent them from being triggered if they fall into enemy hands. He estimated that the worldwide nuclear stockpile is below 25,000, and pointed out that 95 percent of these weapons are controlled by the U.S. and Russia. It is a matter of concern that some weapons are still on 10-minute alert, years after the end of the Cold War. He emphasized that, if one understands the work of the laboratories, it is clear that the University should not abandon its involvement with them.

Mr. Darling added that, at the height of the Cold War, there were tens of thousands of nuclear weapons in the U.S. and the Soviet Union. The 2003 Moscow Treaty requires both sides to reduce their operationally deployed stockpiles to a range of 1,700 to 2,200, a substantial reduction, by 2012. He thanked Chairman Blum for taking Senator Feinstein to the Los Alamos laboratory earlier in the month, and noted the Senator's role in working for a positive budget outcome.

Regent Scorza asked if fee income from the laboratories is used for research on nonproliferation and projects that work toward a more peaceful world. Mr. Darling responded that the University has usually taken much or all of this fee income, after paying for laboratory oversight expenses, to fund scientific research including social science research. He noted the UC Institute on Global Conflict and Cooperation. Under the new LLC arrangement, the fee will likewise, after covering some costs, be made available for research. Vice President Beckwith, in collaboration with Associate Vice President Birely, has issued a Request for Proposals to the campuses and the laboratories to compete for these funds. They have received approximately 650 non-binding letters of intent to submit proposals. Expert peer review panels are being formed that will evaluate the proposals, which encompass the full range of science, including social sciences and the humanities.

Committee Chair Pattiz stressed that nuclear weapons are not and should not be a growth industry. Leaders in the U.S. and other countries are in support of moving toward a nuclear-free world; the challenge lies in determining how to arrive at that goal. The national laboratories are a great resource to the U.S., and it would be reprehensible not to use them in the effort to solve national and global problems. The University has discussed this with its private sector partners in the LLCs. Committee Chair Pattiz pointed out that these partners have their own interests, apart from the LLCs, but that the University, in its meetings with these partners, is very much focused on maintaining the use of its management fee for research and on the future development of the LLCs and their outstanding scientific resources.

Vice President Foley observed that approximately \$400 million is spent annually at the laboratories on what is called “work for others,” work in fields outside the laboratories’ nuclear weapons commitments. These include global warming, climate modeling, nonproliferation, security issues, and intelligence support. He noted that on the previous day, the NNSA Administrator Thomas D’Agostino announced that he would like to increase the proportion of “work for others” at the laboratories because their military function and utility in stockpile stewardship is diminishing. The amount of “work for others” at the laboratories increases every year, and Mr. Foley expressed optimism that, over the long term, the knowledge and talent of the laboratory scientists will be directed toward many other fields besides nuclear weapons work.

Mr. Darling informed the Committee that September 9 is the date of the next classified briefing. He stated that much of the work at the laboratories involves dual-use technology. The Los Alamos laboratory has developed a new nanostructuring technology to strengthen metals. This has the potential to revolutionize the aircraft, truck, and auto industries. This technology allows the creation of stronger materials which are thinner and lighter and thus more energy efficient. It also has potential medical applications, for arterial stents and for hip and dental implants. The Livermore laboratory has developed a new proton therapy system in conjunction with the UC Davis Medical Center for irradiating cancerous tumors that has been transferred to the private sector for commercial development. The current technology requires a large, three-story building and costs \$200 million per facility. The new technology can be installed in any hospital of normal size and reduces the cost to \$20 million. It allows a more precise targeting of the tumor, while preserving surrounding tissue in a way that the current technology does not.

4. **APPROVAL OF RESOLUTION TO EXCLUDE ACCESS TO CLASSIFIED INFORMATION FOR A REGENT**

The President recommended that the Regents adopt the following resolution pertaining to the University’s respective Department of Defense and Department of Energy Facility Security Clearances, as follows:

WHEREAS, current Department of Defense and Department of Energy Regulations contain a provision making it mandatory that the Chairman of the Board, Chief Executive Officer, and those other officers and officials who are to have access to classified information meet the personnel clearance requirements established for a contractor’s facility clearance; and

WHEREAS, said Regulations permit the exclusion from the personnel clearance requirements of certain members of the Board of Regents, provided that this action is recorded in the University Regents’ Board Minutes;

NOW, THEREFORE, BE IT DECLARED that the Chairman of the Board, at least an official quorum of the Board of Regents, and the Chief Executive Officer at the present time do possess, or will be processed for, the required security clearance; and

BE IT RESOLVED that in the future, when any individual enters upon any duties as Chairman of the Board, as a replacement for one of the cleared quorum of the Board, or as the Chief Executive Officer, such individual shall immediately make application for the required security clearance; and

BE IT RESOLVED FURTHER that the following member of the Board of Regents shall not require, shall not have, and shall be effectively excluded from access to all classified information in the possession of the Corporation and does not occupy a position that would enable her to affect adversely Corporate policies or practices in the performance of classified contracts for the Department of Defense, U.S. Department of Energy or contracts with other Federal User Agencies of the National Industrial Security Program:

<u>NAME</u>	<u>TITLE</u>
Deborah Cole	Regent

[Background material was mailed to the Committee in advance of the meeting, and copies are on file in the Office of the Secretary and Chief of Staff.]

Upon motion duly made and seconded, the Committee approved the President's recommendation and voted to present it to the Board.

**5. APPROVAL OF MINUTES OF PREVIOUS MEETING**

Upon motion duly made and seconded, the minutes of the meeting of May 15, 2008 were approved as amended.

The meeting adjourned at 12:05 p.m.

Attest:

Secretary and Chief of Staff