The Regents of the University of California

COMMITTEE ON OVERSIGHT OF THE DEPARTMENT OF ENERGY LABORATORIES
May 15, 2008

The Committee on Oversight of the Department of Energy Laboratories met on the above date at Covel Commons, Los Angeles campus.

Members present: Regents Blum, Bugay, Dynes, Marcus, Pattiz, and Varner; Advisory members Scorza and Brown

In attendance: Regents Allen, De La Peña, Garamendi, Gould, Hotchkis, Island, Kozberg, Lansing, Lozano, Reiss, Ruiz, Schilling, and Wachter, Regents-designate Cole and Shewmake, Faculty Representative Croughan, Associate Secretary Shaw, General Counsel Robinson, Chief Investment Officer Berggren, Provost Hume, Executive Vice Presidents Darling and Lapp, Vice Presidents Beckwith, Foley, Lenz, and Sakaki, Chancellors Block, Blumenthal, Drake, Fox, Kang, Vanderhoef, and Yang, Acting Chancellor Grey, and Recording Secretary Bryan

The meeting convened at 9:25 a.m. with Committee Chair Pattiz presiding.

1. **APPROVAL OF MINUTES OF PREVIOUS MEETING**

Upon motion duly made and seconded, the minutes of the meeting of March 19, 2008 were approved as amended.

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

Vice President Foley reported on recent developments at Lawrence Berkeley National Laboratory (LBNL). He recalled that the laboratory earned 94 percent of its maximum fee under the contract last year. Based on performance at the laboratory since the initiation of the new contract in June 2005, the University is eligible for a three-year extension on that contract.

Mr. Foley mentioned three important personnel matters. The first was the appointment of Paul Alivisatos as Deputy Director. Mr. Alivisatos received his doctorate from UC Berkeley in chemical physics. As an assistant professor, he began publishing the results of his nano-crystal research in the early 1990s, and in 1995 received a full professorship. He is the foremost expert in nano-technology at the laboratory.

Mr. Foley reported that David McGraw, Associate Laboratory Director for Operations, will retire in June. In 2003, he led a successful overhaul of the

laboratory's business and administrative functions. A search committee has been established to find his replacement.

Finally, Mr. Foley reported that George Smoot, an astro-physicist and Nobel laureate who holds joint appointments at LBNL and UC Berkeley, has been elected to the National Academy of Sciences, one of the nation's highest honors. The society was formed in 1863 by President Lincoln for the furtherance of science and its use for the general welfare. Mr. Smoot's election to the academy brings the number of members from LBL to 61, which is 3 percent of the academy's total membership.

Vice President Foley commented that, in addition to these personnel matters, there were significant developments in research. He reported on one involving three researchers, two of whom, Michael Wehner and Lenny Oliker, were from LBL, who have proposed designing a cost-effective machine for running computer models to improve climate predictions using 20 million embedded micro-processors. Their machine would cost $75 million to construct as opposed to the $1 billion that would be needed to build a supercomputer capable of the same tasks, and it would consume low amounts of power.

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

Committee Chair Pattiz reported that Lawrence Livermore National Laboratory continues to confront a budget shortfall situation that has resulted in the need for a workforce restructuring initiative. Laboratory Director Miller, working with the board of Lawrence Livermore National Security, LLC (LLNS) and the Department of Energy (DOE), is taking aggressive steps to address the shortfall and has been diligent in communicating to LLNS employees and the public. In order to keep the public informed about the budgetary situation and the necessary steps to be taken, the Director has worked with the local media through editorial boards to assure that accurate information is available. Committee Chair Pattiz observed that the laboratories are facing problems similar to those of the University: diminishing federal support, budget cutbacks, and non-funded mandates. He invited Executive Vice President Darling to comment further.

Mr. Darling reported that the Livermore laboratory is facing a $280 million funding shortfall this fiscal year resulting from a variety of components. These include a $50 million increase in inflationary costs, a $100 million reduction in federal funding due to the National Nuclear Security Administration's budget reductions for Livermore, and items associated with the awarding of the new contract, the first of which is $86 million in increases mainly for retirement and health benefits compared to the costs the laboratory would have absorbed if it had remained part of the University. The second is $44 million in increased management fees and expenses that DOE agreed to provide to the winning

contractor. To accommodate the shortfall, the laboratory is reducing both its operational and labor costs, but as the majority of its budget is related to its employees, the laboratory is being compelled to reduce its workforce by 2,000 employees over a two-year period. Attrition, not filling vacancies, and voluntary employee separations have eliminated 981 positions. Five hundred employees were laid off from the supplemental labor force and flexible-term workforce of largely temporary and contract employees. Five hundred thirty-five layoffs will occur from the career workforce.

Mr. Darling reported that, as these employee actions are being taken, the laboratory is working to improve efficiencies, particularly in operations, to enable it to meet its science and technology and national security missions effectively. Improvements are being made to its financial systems, facilities management, information technology, energy efficiency, travel, and procurement. It reduced its operational cost for last fiscal year by $20 million and expects another $40 million in reductions this fiscal year.

Mr. Darling turned to the matter of a security audit of Lawrence Livermore National Laboratory that occurred in March and April. He noted that reports in the media have suggested that there were significant problems with the laboratory's security systems. He sought to provide some context for these reports, noting that, as the systems are highly classified, the information that may be disclosed in an open meeting is limited.

Mr. Darling reported that the federal audit team spent seven weeks at the laboratory. It reviewed everything from cyber security to the effectiveness of the protective force as well as physical information and personnel security. The purpose of the reviews was to test the systems to failure. At no time were nuclear or sensitive information at risk. The auditors reviewed eight areas; four were rated as achieving effective performance, and four were rated as needing improvement. As part of the effort, the auditors included a force-on-force simulation in which federal security forces conducted an exercise to attack the laboratory as though they were invaders. The attackers in such exercises, however, are given advantages in order to stress the system and identify any vulnerabilities. In this case, they were given insider knowledge, access to the inner perimeter of the site, facilities information, and communications and personnel advantages to which, in a real-world scenario, it is highly improbable most attacking forces would have access. The initial report from the DOE is still in draft form. It identified many positive findings as well as areas needing immediate attention. The laboratory, working with the four corporate partners – the University, BWXT, the Washington Group, and Bechtel – took immediate actions to ensure that any special nuclear materials at the laboratory were safe and secure and to begin to implement any corrective actions that are needed. The final report, most of which will likely be classified, will be available later in the month.

Committee Chair Pattiz emphasized the importance of recognizing that two years ago at the Los Alamos laboratory and nearly a year ago at the Livermore laboratory the University was responsible for safety and security. These are now the responsibility of the LLCs. Within the LLCs, the University's principal focus is on science, as well as oversight and management as members of the governing board. Those members of the LLC with expertise in safety and security have brought many of their individual business resources to bear on improving these operations. The testing is a part of the system and occurs in all the laboratories in order to make sure that security and safety systems are meeting the necessary standards. He believed that the LLC structure had freed the University to focus on the science and technology, which are its strengths, and brought the expertise of the University's partners in other areas to handle matters such as safety and security.

Regent Pattiz recalled that he had urged all Regents to take the opportunity to visit the laboratories and expand their understanding of the work that goes on there. Regent Bugay, who was one of several Regents to take his advice, commented that the work done at the laboratories is important on a global scale. He believed that, as stewards and fiduciaries, the Regents needed to develop the kind of understanding and absorb specific information that can be gained only by an on-site experience. Regent Ruiz echoed his comments. Executive Vice President Darling encouraged the Regents to visit the Livermore laboratory on either June 19 or September 9 to hear Los Alamos Director Anastasio and Livermore Director Miller describe the nuclear weapons and national security programs at these two laboratories.

Executive Vice President Darling returned to matters at Lawrence Livermore National Laboratory, noting that Director Miller has done a commendable job under trying circumstances, making sure that the laboratory is able to achieve its mission and to make the changes necessary to position the laboratory for the future. He observed that the employees there have remained focused on their mission. The National Ignition Facility construction and laser will be finished by March 2009, with initial ignition experiments to begin the following year. The early tests that have been done already mark it as the highest-energy laser in the world. Livermore's Blue Gene computer was recently declared the fastest supercomputer in the world. Using it, laboratory scientists, together with IBM, have won the Gordon Bell Prize for unclassified materials research simulations. In terms of national security, laboratory scientists are developing an instrument that can simultaneously detect explosive materials and biological and chemical agents. This instrument is intended to be deployed at airports across the country to improve screening techniques. Finally, he reported that climate researchers at Livermore have performed a 400-year, forward-looking global ocean and atmospheric climate simulation to simulate the probable effects of global warming and other climate changes on the earth.

Mr. Darling reported that Los Alamos National Laboratory, which is committed to improving its safety performance, reduced its accident rate by 25 percent last fiscal year and this fiscal year has achieved a further 18 percent reduction. Over the last 18 months the laboratory has reduced its physical footprint, which covers more than 40 square miles, by more than 500,000 square feet. The goal is eventually to eliminate over two million square feet of facilities in order to reduce costs. In focusing on efficiencies, it has reduced facilities maintenance costs by 11 percent and procurement of equipment, services, supplies, and travel by 24 percent. He reported that Los Alamos is also achieving remarkable scientific and programmatic results. Its Roadrunner supercomputer is on track to achieve a sustained performance at twice the speed of the Livermore laboratory's computer by this summer. The Dual Axis Radiographic Hydrotest facility has just completed the second axis of its imaging system, exceeding performance specifications just two weeks after having been commissioned. It will greatly enhance the ability to diagnose the nature of the initial implosion that occurs in a nuclear reaction, which is critical to underpinning the safety of the nuclear stockpile. Lastly, he reported that the laboratory is developing an antibody mimic that would prevent the anthrax bacterium's production of its deadly toxin, and it will soon field test a magnetic resonance imaging instrument to perform airport screening of fluids being carried on board by passengers.

Regent Garamendi recalled that at the Committee's previous meeting there had been a discussion about the manufacture of nuclear weapons pits at Los Alamos National Laboratory. He noted that the information provided at that time was that pits had been produced at Los Alamos. Executive Vice President Darling affirmed that the laboratory does produce pits – ten pits last year and an expected six pits this year. When questioned further by Regent Garamendi, Vice President Foley responded that the laboratory produced a range of pits over a period of years, although he believed never as many as 50. Regent Garamendi sought confirmation that, with the closing of Rocky Flats, the only place where pits were going to be produced in the future was Los Alamos. Mr. Foley responded that the only place capable at present was Los Alamos, but he noted that the government has the option to build a new facility there or somewhere else to produce whatever number of pits is desired. Regent Garamendi emphasized that this involves the University directly in the production of nuclear weapons.

Committee Chair Pattiz agreed with the statement that the University is involved in elements of the production of nuclear weapons, but he noted that it has been involved in the same process for the past 60 years, with the approval of the Regents and with funding from the government. Regent Garamendi stated his view that the University's involvement in any weapons production was not appropriate. Committee Chair Pattiz believed that implying that it would be appropriate for the University to provide the science for a portion of the manufacturing process as long as the results were then provided to a different entity to complete the pit manufacturing was tantamount to saying that the University should not be doing the science. Regent Garamendi acknowledged

that was part of his concern. He maintained that there is a distinction between pure science conducted at the University that has multiple purposes but could lead to the production of nuclear weapons, and the actual production of those weapons. It was his opinion that the University finds itself in a situation, as chair of the LLCs, of being the producer of the nuclear weapons.

Regent Pattiz summarized Regent Garamendi's comments by saying that Regent Garamendi does not appear to have concerns about the science performed at the laboratories, but opposes pit production. Regent Garamendi agreed with this summary.

In seeking to provide a context for the discussion, Chairman Blum commented that it was his understanding that the laboratory is in the process not of adding to the stockpile of nuclear weapons but of taking existing weapons and repackaging six to ten deteriorating ones a year. He noted that, while there is a political movement afoot to reduce the world's cache of nuclear weapons, there are also efforts in Washington to expand pit production substantially. Although he believed that expansion effort was unlikely to be funded, if the decision were made to create new weapons, the University would have to reassess its involvement with the laboratory.

Committee Chair Pattiz pledged to keep the Regents up to date on the issues that had been discussed.

4. **AUTHORIZATION TO APPROVE AND EXECUTE MODIFICATION TO THE DEPARTMENT OF ENERGY CONTRACT FOR THE LAWRENCE BERKELEY NATIONAL LABORATORY TO AMEND CLAUSES AS A RESULT OF CHANGES TO THE FEDERAL ACQUISITION REGULATIONS AND THE DEPARTMENT OF ENERGY ACQUISITION REGULATIONS**

The President recommended that he be authorized to execute a modification to the provisions of Lawrence Berkeley National Laboratory (LBNL) contract DE-AC02-05CH11231 as listed below in order to incorporate clause additions, deletions and revisions, and new clauses:

- *Clause H.46 Energy Efficiency in Energy Consuming Products (July 2006)* will be deleted and reserved, as a result of the addition of new clause I.22 (same title).

- *Clause H.47 Implementation of Designated Standard Clauses and Directives* will be added to establish a new prime contract appendix, Appendix P, that will contain supplementary understandings of the parties regarding implementation of designated standard clauses and/or directives. An example would be with regard to the new Clause I.124, Computer Security, referenced below, which contains a requirement that the

contractor obtain a written acknowledgment by users that they know and understand the restrictions for using a particular computer system. Appendix P would state that the requirement in Clause I.124 can be satisfied by an electronic signature rather than a paper signature. Such clarifications will be added to Appendix P to aid in contract administration and audit of contract compliance.

- *Clause I.74 DEAR 952.250-70 Nuclear Hazards Indemnity Agreement (October 2005)* is revised to provide for updates to the standard clause. New paragraph (l) ("Effective Date") acknowledges the earlier clause and explains that (1) the old clause governs the indemnity for incidents occurring prior to August 8, 2005, and (2) the new clause governs indemnity for incidents occurring on or after August 8, 2005 and (3) contractor's liability for violations remain the same as in the earlier contract (regardless of the language in paragraph (i) of the new clause).

- *Clause I.120 FAR 52.203-13 Contractor Code of Business Ethics and Conduct (December 2007)* is added to require a written code of business ethics and conduct and flow down the requirement to subcontracts.

- *Clause I.121 FAR 52.203-14 Display of Hotline Poster(s) (December 2007)* is added to require display of fraud hotline posters and flow down the requirement to subcontracts.

- *Clause I.123 FAR 52.223-16 IEEE 1680 Standard for the Environmental Assessment of Personal Computer Products (December 2007)* sets forth definitions and requirements for personal computer products.

- *Clause I.124 DEAR 952.204-77 Computer Security (August 2006)* sets forth the requirements for individual access to DOE computers.

- *Clause I.125 DEAR 952.235-71 Research Misconduct (July 2005)* sets forth the requirements for maintaining the integrity of research performed pursuant to the prime contract.

As a result of the changes, the table of contents for the LBNL contract will be revised accordingly.

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

The meeting adjourned at 10:10 a.m.

Attest:

Secretary and Chief of Staff