

The Regents of the University of California

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

September 17, 2008

The Committee on Oversight of the Department of Energy Laboratories met on the above date at the Student Center, Irvine Campus.

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

In attendance: Regents Cole, De La Peña, Garamendi, Hopkinson, Island, Johnson, Kozberg, Lansing, Lozano, O'Connell, Reiss, Ruiz, Schilling, Scorza and Wachter, Regents-designate Bernal, Nunn Gorman, and Stovitz, Faculty Representative Powell, Secretary and Chief of Staff Griffiths, Associate Secretary Shaw, General Counsel Robinson, Chief Investment Officer Berggren, Chief Compliance and Audit Officer Vacca, Interim Provost Grey, Executive Vice Presidents Darling and Lapp, Senior Vice President Hoffman, Vice Presidents Beckwith, Broome, Dooley, Foley, Lenz, and Sakaki, Chancellors Birgeneau, Bishop, Block, Blumenthal, Drake, Fox, Kang, Vanderhoef, White, and Yang, and Recording Secretary Lopes

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

1. APPROVAL OF MINUTES OF PREVIOUS MEETING

Upon motion duly made and seconded, the minutes of July 17, 2008 were approved.

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

Committee Chair Pattiz provided a brief report, noting that the Los Alamos, Livermore and Berkeley laboratories continue to do outstanding work. With continued excellence in science and engineering, the three laboratories are meeting important missions. The laboratories collaborate with the UC campuses and other academic institutions. Leaders from the United States Department of Energy regularly praise the laboratory directors of all three facilities for their vision and focus.

As reported at the July Regents meeting, there is continuing concern that the federal budget for the Department of Energy will be constrained due to conflicting priorities for funding. The most crucial aspects of the laboratories' mission must be sufficiently funded, and the scientists and expertise must be sustained.

Executive Vice President Darling listed energy, climate change, national security and the need to contain the proliferation of weapons of mass destruction as being at the top of the national and international agenda. The nation's presidential candidates, the executive branch and the United States Congress look to Los Alamos and Lawrence Livermore National Laboratories to make major contributions to the solutions to these challenges. He reviewed examples of the work currently being undertaken at the laboratories. First, despite increasing international tensions, cooperation on nuclear non-proliferation between the United States and Russia continues. When the former Soviet Union dissolved, the laboratories worked with their counterparts in Russia to secure nuclear materials and nuclear weapons that were located in the former Soviet Republics. In addition, the laboratories are installing solar energy sources in thousands of Russian coastal lighthouses. These lighthouses had previously used nuclear energy sources. Second, Los Alamos is the international training facility for nuclear inspectors from the International Atomic Energy Agency. They are responsible for examining, monitoring and ensuring adherence to international nuclear treaties by Iran, North Korea and other proliferant countries. Third, research continues into secure energy sources that are critical for this nation and the community of nations. Somewhat less than 20 percent of all United States electricity is produced by nuclear power plants; half of the fuel supply for those nuclear power plants is harvested from dismantled Russian nuclear weapons, which reduces the availability of these nuclear materials to terrorists while, at the same time, generating electricity for American businesses and homes.

Mr. Darling pointed out that the challenge with nuclear power plants is the generation of nuclear waste that requires secure storage for thousands of years. The Lawrence Livermore National Laboratory is developing a technology based on the National Ignition Facility that will produce energy in a safe and sustainable manner without carbon dioxide emissions, a major contributor to global warming. Without generating nuclear waste, this new technology will burn existing inventories of materials from dismantled nuclear weapons and the waste products generated by nuclear power plants. The new technology will also allow nuclear waste to be removed from storage and be consumed as fuel.

Mr. Darling reported that the laboratories are advising the Congressional Commission on the Strategic Posture of the United States, a bipartisan effort. The Commission will make recommendations to Congress and the new administration on the future of U.S. nuclear weapons, missile systems and non-proliferation programs. The Commission is chaired by William Perry, former Secretary of Defense in the Clinton administration and a member of the Board of Governors for the Limited Liability Companies (LLCs) that manage the Los Alamos and the Lawrence Livermore National Laboratories.

Executive Vice President Darling introduced Los Alamos National Laboratory Director Michael Anastasio, noting that he is held in high regard by the Secretary of Energy, the head of the National Nuclear Security Administration, members of Congress and scientific leaders throughout the country.

Director Anastasio observed that this is an important time of transition for the laboratory, moving from a contracting and governance model managed by the University, to the new

model of a limited liability company in partnership with Bechtel, Babcock and Wilcox, URS and the University. The industrial partners are an important element in strengthening the operational and business facets of the laboratory. The science culture of the University of California has been embedded in the laboratory for over 60 years: a culture of innovation, creativity and integrity that enables the laboratory to best serve the nation. It is important that the new model preserves these elements in the future.

Director Anastasio narrated a slide presentation that highlighted some accomplishments over the last two years. The success of the laboratory in maintaining its mission has continued in core nuclear weapons activities, pit production, a new innovative radiographic facility, an airport MRI for the Department of Homeland Security, providing energy for NASA's Cassini satellite, the fastest computer in the world, climate modeling to assess the international climate changes in the ocean, research in the biosciences to understand the virulence of the HIV virus, and pandemic modeling used by the Centers for Disease Control and Prevention.

Excellence in mission, Director Anastasio underscored, is not sufficient. There must be simultaneous excellence in operational and business performance. Due to the new government contract, the laboratory is no longer managed by a non-profit entity. The Los Alamos laboratory also participates in the community of New Mexico, supporting education, economic development and charitable giving.

Director Anastasio next discussed challenges, including the laboratory's aging infrastructure that must be updated and recapitalized to allow the laboratory to attract and retain the quality of scientists necessary to realize its missions. Government funding for these purposes is not easily secured at this time so third-party financing is being sought for the first time. Finding sponsors to underwrite the long-term future of science is more challenging than finding sponsors for the benefits of existing science. Lack of funding has resulted in a workforce reduction of more than 2,200 people over the past two years and continues to constrain hiring.

Director Anastasio recognized that the relationship of the laboratory and the University of California is beneficial to students who are employed by Los Alamos while working on their degrees, and that it fosters collaborative research and joint publications by the laboratory and UC faculty, as well as strategic collaborations in engineering and high performance computing. Overall, \$15 million in research funding is available from the laboratory to the University for these various activities. He expressed his concern about the current overall challenge in funding graduate students to support the science needs of the country.

President Yudof observed that the laboratories have suffered from a readjusting of their mission, with unknown long-term effects. The relationship with the University is very important. Nuclear engineering departments at universities have declined nationally. The general impression is that the era of high-energy physics, of Ernest O. Lawrence and J. Robert Oppenheimer, is in the past. President Yudof observed that the form of physics central to the laboratories is not necessarily an area in which a majority of today's

physicists are specializing. He stressed the importance of strengthening the relationship between the University, the campuses and the national laboratories and asked Director Anastasio to address the research and degree collaborations and how they might be strengthened.

Director Anastasio responded that collaboration is very important to the laboratory, the University and the country as a whole. There are great opportunities for collaboration. The UC-Los Alamos Laboratory Institutes are focusing on materials design, multi-scale materials modeling and materials science, all central to the laboratory and industry. He pointed out that the laboratories could make a strong contribution to the global health proposal presented to the Regents earlier. The laboratory has the skill to bring together multidisciplinary science in a unique way.

Chairman Blum suggested that the laboratories actively recruit UC engineering graduates. Director Anastasio responded that there is active recruitment in place, but the laboratory's current hiring constraints present a challenge. The laboratory has the largest student population of any of this country's scientific laboratories, with approximately 350 postdoctoral researchers working full-time. Director Anastasio indicated his willingness to visit the campuses as well.

Regent Garamendi asked for clarification regarding the \$15 million research fees and the four categories of research for which the funds might be used. He stated that his preference was for research on the politics of international nuclear proliferation, and sought reassurance that in the research categories to be funded by the fee, science and social science/humanities are given equal weight. He queried the director regarding the transfer of technology generated by the laboratory and its availability for use. He expressed concern that by their involvement with the laboratory, the partners may acquire an inside track to technology developed at the laboratory, to the disadvantage of others.

Director Anastasio noted that the \$15 million are laboratory funds, not University fee dollars and suggested that Vice President Beckwith could more fully inform the Regents regarding the allocation of fee-funded research. He noted that the University has the Institute on Global Conflict and Cooperation to train policymakers, scholars, and international security analysts to deal effectively with the continuing nuclear threat. He explained, further, that as the laboratory develops intellectual property, it follows the required procedures to patent. Since the intellectual property is developed with federal monies, the method by which it may be made available is specified by the federal government. Director Anastasio reassured the Committee that there is no preference given to the laboratory partners. The laboratory owns the intellectual property, and that property is available for licensing by anyone under procedures that ensure no advantage to the owners of the LLC.

Committee Chair Pattiz emphasized that while the industrial partners in the limited liability company come together to work with the University for the laboratories' management, they compete with one another on other projects. While acting as the board

of the limited liability company, their commitment is to their fiduciary responsibilities to the LLC.

The meeting adjourned at 12:05 p.m.

Attest:

Secretary and Chief of Staff

