The Regents of the University of California

COMMITTEE ON THE
DEPARTMENT OF ENERGY LABORATORIES
January 15, 1998

The Committee on Oversight of the Department of Energy Laboratories met on the above date at UCSF - Laurel Heights, San Francisco.

Present: Regents Atkinson, Brophy, Davies, Gonzales, Johnson, Khachigian, Preuss, and Soderquist; Advisory Member Miura

In attendance: Regents Chandler, Leach, Lee, Levin, McClymond, Montoya, and Ochoa, Regent-designate Willmon, Faculty Representatives Dorr and Weiss, Secretary Trivette, General Counsel Holst, Provost King, Senior Vice President Kennedy, Vice Presidents Darling, Gomes, Gurtner, and Hopper, Chancellors Berdahl, Carnesale, Debas, Dynes, Greenwood, Orbach, Vanderhoef, Wilkening, and Yang, Laboratory Director Brown, and Recording Secretary Bryan

The meeting convened at 9:15 a.m. with Committee Chair Preuss presiding.

1. **AUTHORIZATION TO APPROVE AND EXECUTE MODIFICATION TO THE DEPARTMENT OF ENERGY CONTRACTS FOR THE LOS ALAMOS NATIONAL LABORATORY, LAWRENCE BERKELEY NATIONAL LABORATORY, AND LAWRENCE LIVERMORE NATIONAL LABORATORY TO AMEND CLAUSE 8.1, CONTRACTOR PURCHASING SYSTEM**

   The President recommended that he be authorized to approve and the Secretary be authorized to execute a modification to the provisions of contracts W-7405-ENG-36, DE-AC03-76SF00098, and W-7405-ENG-48 for the purpose of modifying Clause 8.1, Contractor Purchasing System, to increase the threshold for subcontracts requiring equal employment opportunity pre-award clearance from $1 million to $10 million.

   The Committee was informed that the Federal Register published a final rule regarding a change to Executive Order 11246 on August 19, 1997 with an effective date of September 18, 1997. The change increased the threshold for subcontracts requiring equal employment opportunity pre-award clearance from $1 million to $10 million. DOE has requested that Clause 8.1(1), Contractor Purchasing System, be amended in contracts W-7405-ENG-36, DE-AC03-76SF00098, and W-7405-ENG-48 to reflect the new threshold.

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

2. **ANNUAL REPORT OF THE PRESIDENT'S COUNCIL ON THE DEPARTMENT OF ENERGY LABORATORIES**

In accordance with the Schedule of Reports, Mr. Sidney Drell, Chairman of the President's Council on the National Laboratories, presented the Council's annual report. Mr. Drell reported that each of the three Department of Energy laboratories under University of California management continues to do very high-quality work. The Council ranked each of them between excellent and outstanding, which is the highest rating. He noted that the detailed analysis of the laboratories' performances has been presented to President Atkinson, who has transmitted it to the Department of Energy, as required by the laboratory contracts.

Mr. Drell reported that it is the Council's view that the continued management of the laboratories by the University significantly contributes to the quality of their performance. The Council supported renewing the contracts that have been negotiated to cover the next five years and that are sensitive to the preservation of the research and development atmosphere which is essential to the laboratories' continued excellence. He noted also that the new contracts contain a clause which allows for a five-year extension if supported by performance results.

One of the University's responsibilities in managing the laboratories is the appointment of a director. Mr. Drell expressed the Council's appreciation of Sig Hecker for his eleven years as Director of Los Alamos National Laboratory and welcomed Director John Browne to the position. He recalled that the Council consists of 22 members who represent the University faculty, academia in general, government service, private industry, the laboratory directors, leaders of the UC Academic Council, and members of the President's senior staff. The President's Council provides extensive management policy and technical expertise that crosses a broad spectrum of science and defense topics. The Council meets annually at each laboratory and focuses on both general and local concerns and plans for the future. In addition, its work is carried out by three working panels that explore specific areas in detail. These include the science and technology panel chaired by Chancellor Dynes, the work of which builds on peer review processes that exist in each laboratory division. The panel's assessments contribute to the Council's overall evaluation contained in its annual report. The panel on environmental safety and health is chaired by Dean Buffler, and the panel on national security, which overlooks strictly the work of the Livermore and Los Alamos laboratories, is chaired by Mr. Drell.

Mr. Drell noted that the primary strengths of the Lawrence Berkeley National Laboratory are excellent science, proximity to and close interaction with the Berkeley campus, and interaction with the whole University. The Berkeley laboratory, which excels in basic and applied research, is expert at designing and building accelerators and has contributed to the development of the dual axis radiographic hydro-test facility at Los Alamos, which is an important component of the nuclear stockpile stewardship and

management program. The fact that the Berkeley laboratory is now involved in the nuclear program and collaborating with the weapons laboratories has raised political concerns in the city of Berkeley, but the laboratory is addressing these concerns well. The Council views this work, which is unclassified and does not involve nuclear radioactivity, as excellent science that builds on the strengths of the Berkeley laboratory. It will assist in essential ways in providing the strong technical base on which the U.S. is relying to maintain its nuclear deterrent while treaty limits are under negotiation and in conformance with the comprehensive test ban treaty, which relies on the strength of the stewardship program at the laboratories.

Mr. Drell observed that the Lawrence Berkeley National Laboratory's major new facility, the Advanced Light Source, has gained an increase in users that has enhanced the facility's position; however, a review by a DOE national panel this year noted some serious management concerns regarding the use and development of this facility. The review could affect the facility's ability to compete for resources. The science and technology panel and the full Council are analyzing the report and will present their findings to the President.

Mr. Drell reported that a Joint Genome Institute (JGI) has been formed to marshal the strengths of the three DOE laboratories' genome centers into a single, coordinated national program. The JGI is a critical project which, to succeed, will require the use of talents and capabilities at each laboratory. The program has established meritorious goals and has made a credible start toward achieving them. The national goal in this program is to map the sequence of all three billing base gene pairs by 2005. A Council review disclosed that there needs to be some strengthening of the management as the project grows to its full capacity. The quality of science is essential to the success of a program of this sort, but it also must have strong organization, planning, management, review, processes, and resource planning and allocation. The Council has been encouraged over the last few months of following the project that its management team has been strengthened and that detailed planning is being conducted for the near term. The most recent review by the advisory committee set up by the DOE for this institute also has indicated substantial progress in a number of areas.

The Livermore and Los Alamos laboratories have a long track record of operating as a single unified program for national security. Mr. Drell reported that since it was formed in 1992, the Council has encouraged the emergence of such a unified national program between the laboratories and is gratified that improvement and enhancement continue in this area. Work done at one laboratory is subjected to an independent peer review process by the other laboratory. It is the commitment and competence of the employees of these laboratories that underlie the national position of seeking ratification of a comprehensive test ban that is currently in progress. He reported that the Livermore and Los Alamos laboratories are applying technical expertise in the cooperative national effort to produce better tools for addressing the growing threat of biological and chemical weapons. The Los Alamos laboratory operates a facility

responsible for producing a very limited number of plutonium pits for the existing nuclear stockpile to replace those pits destroyed during diagnostic and forensic studies on the arsenal. He assured the Regents that the planned scope of this pit manufacturing will not alter the essential character of Los Alamos as a research and development laboratory.

The Council continues to monitor both long-term and short-term laboratory activities, including the Accelerated Strategic Computing Initiative (ASCI) and the surveillance of the nuclear stockpile. The national security panel checks that the right balance is maintained between these two types of activity. The ASCI is developing rapidly, but the Council noted some concerns regarding the need for enhanced computer science expertise and for increased detailed planning to meet the challenging goals outlined for the program. Both the science and technology panel and the national security panel are monitoring its progress.

Mr. Drell reported that the Council is following the effort to move computer modeling techniques adapted from nuclear weapons development through Food and Drug Administration approval and into patient treatment as soon as possible. Researchers at the Livermore laboratory have adapted these techniques to analyze the interaction of radiation therapy with human tissues and bones in an effort to improve the efficacy of cancer radiation therapy by allowing for more accurate calculations of dosages.

Mr. Drell concluded his report by commenting on the work of the council's environmental safety and health panel, which helps the Council define the proper role for the laboratory's programs for protecting the environment and ensuring the safety and health of workers and the public. In its previous annual report, the council noted good progress in this area but pointed out some significant challenges that remained to be addressed. He observed that one of the laboratories was accused recently in the media of violating several procedures the result of which was the mishandling of plutonium. He assured the Regents that, although the situation currently does not pose a hazard, the Council is looking into the matter and will examine it and related issues when it meets in the upcoming week. He believed that overall, the laboratories' integrated safety management program is working well.

Regent Leach asked who on the Council had primary responsibility for monitoring the efforts to strengthen management in several areas of the genome project at the laboratories. Mr. Drell explained that the council's science and technology panel and its chairman, Chancellor Dynes, have primary responsibility, but he noted that several managers and biologists on the Council have provided helpful input. Regent Leach then suggested that Mr. Drell provide a written report at the next Board meeting that describes improvements in management both of the genome project and of safety programs at the laboratories. It was agreed that the Council's findings on these matters will be reflected in its upcoming report to President Atkinson.

Regent Ochoa observed that there are few women on the President's Council. Mr. Drell explained that women are not well represented nationally in scientific fields and particularly in positions of leadership in science.

Regent Johnson asked Mr. Drell to discuss the University's participation in the Virtual Laboratory. Mr. Drell explained that the Virtual Laboratory is a central administrative organization that assists outside industry by directing the distribution of cooperative research projects to the appropriate areas within the University's laboratories.

President Atkinson stated that the Council has made a great difference to the success of the University's management of the Department of Energy laboratories. He thanked Mr. Drell also for representing the University before Congress, at the White House, and within the international community.

3. **ANNUAL REPORT OF THE LOS ALAMOS NATIONAL LABORATORY**

Laboratory Director John Browne, who was appointed in November 1997, presented his first annual report. He noted that, although Los Alamos is a multi-program laboratory, its core mission is to reduce the global nuclear danger. The science-based stockpile stewardship program is a major challenge for both the Livermore and Los Alamos laboratories. To certify the safety and reliability of the stockpile without nuclear testing is a tremendous technical challenge. The second part of the Los Alamos laboratory's mission is to counter threats from weapons of mass destruction by addressing issues concerning the nonproliferation of nuclear, biological, and chemical weapons and countering any proliferation that occurs. Under a comprehensive test ban treaty there will be a call annually to certify the stockpile weapons for which each laboratory is responsible. The methodology being put into place will provide confidence that the laboratories know how to proceed with this task methodically.

Mr. Browne stated that another challenge is presented by the new University contract with the Department of Energy which contains a two-year special provision that addresses safety, environmental management, and community relationships. He reported that this provision caused him to consider changing the laboratory's management structure, focusing on six areas. The first area is the quality of the science and technology, because without that quality the laboratory cannot perform reliably. The second area is the integration of the science and technology with the laboratory's programs. One of the biggest challenges in that integration is how to make sure that the advanced science and technology being developed generate results that are positive for the programs for which the laboratory has responsibility. Another is to ensure that the laboratory's business and operations functions conform to overall institutional goals. The third focus area includes workforce diversity and excellence. The quality of the employees must be high, they must be working productively, and the best talent must be recruited for the future. The remaining areas of focus are operational excellence, community relationships, and customer relationships.

Director Browne recalled that in 1993 the laboratory flattened its management structure, which resulted in a very large number of people reporting to the director. In order to meet the challenges described previously, he decided to restructure the top management of the laboratory. The new structure is to include three new deputies: one for science, technology, and programs; a second for operations, covering the environment, safety, health, facilities management, and security issues; and a third for business administration and community outreach activities covering financial, human resources, and educational outreach and regional economic development activities. In addition, there will be two associate laboratory directors: one will focus on the stockpile stewardship program and have the primary customer relationship there; the second will pull together all programs in nonproliferation, counterproliferation, and non-nuclear Department of Defense work. A national search will be undertaken for the deputies.

Mr. Browne noted that about 25 percent of the laboratory's $1.2 billion budget is spent on civilian programs. He reported that he has put together strategic planning groups that include technical people at the laboratory and senior managers to examine how the laboratory contributes to the general knowledge about global climate change, bioscience, biotechnology, and nuclear waste management as well as research that could have long-term impacts on the country, such as high temperature superconductivity. He is also seeking to strengthen collaborations with other laboratories, with other universities, and with industry.

Mr. Browne recalled that one of the laboratory's nuclear facilities had a serious accident in November 1996 that raised questions about how the facility was being operated. In September 1997, operations were stopped at the facility because it was apparent that employees did not understand the safety systems that were in place. He reported that he recently decided to reorganize that facility by combining it with the laboratory's plutonium facility, which is more modern and has leadership that knows how to manage a nuclear facility in today's world. He decided that a common management for nuclear facilities would gain advantages through the commonality of training, practice, and building management. He reported that the change has been received well by the Department of Energy. Initial reactions within the laboratory were mixed, but once the director spent time communicating his goals to the employees, they accepted and supported the restructuring. He reported also that his meetings in Washington with the Secretary of Defense and his deputies and the time he has spent with the leadership of local Indian pueblos have improved communication and increased cooperation and understanding among the parties.

In closing, Mr. Browne indicated that his next steps will include setting long-term goals and short-term goals aimed at ensuring that the laboratory passes the special provisions of the contract. He stressed his belief that having a connection to the University is critical to the laboratory, not only in recruiting but in the ability to carry out its mission

and achieve its vision of continuing to be considered a premier laboratory throughout the world.

In answer to a question from Regent Preuss, Mr. Browne reported that the laboratory's cooperative efforts with industry are increasing, as are its non-defense-oriented work and non-government-oriented work. It is hoped that interactions with the local community will facilitate the siting of a research park near the laboratory, which would help increase collaborations with industry. Motorola, Xerox, and U.S. West have shown interest in locating facilities there, and regional development activities with smaller companies have started to proliferate.

Regents Khachigian and Gonzales praised Director Brown for his efforts to improve relations between the laboratory and the pueblos and to conduct more outreach. President Atkinson was impressed by the director's efforts to build closer relationships between scientists working at the laboratory and those working on UC campuses. Regent Johnson was pleased that he has identified maintaining the quality of science as his highest priority.

The meeting adjourned at 10:15 a.m.

Attest:

Secretary