THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
MEETING AS A COMMITTEE OF THE WHOLE

October 7, 2003

The Regents of the University of California met on the above date at Motorola Research Park, Los Alamos National Laboratory.

Present: Regents Blum, Dynes, Kozberg, Moores, Murray, Preuss, and Seigler

In attendance: Regents-designate Anderson, Novack, and Ornellas, Faculty Representatives Blumenthal and Pitts, Associate Secretary Shaw, General Counsel Holst, Senior Vice President Darling, Laboratory Director Nanos, and Recording Secretary Bryan

The meeting convened at 8:05 a.m. with Chairman Moores presiding.

1. **PUBLIC COMMENT**

Chairman Moores explained that the Board had been convened as a Committee of the Whole in order to permit members of the public an opportunity to comment on University-related matters. The following persons addressed the Board concerning the subjects noted.

A. Ms. Emily Hundemer, representing the Coalition to Demilitarize the University of California, commented that laboratory administration tends to downplay the laboratory's role in developing weapons of mass destruction. She advocated nuclear disarmament and hoped that the laboratory would turn its efforts toward the development of green energy.

B. Mr. Darwin Bondgraham, also representing the Coalition, observed that the laboratory did not list its development of thermonuclear weapons among its accomplishments. He believed that the laboratory was wasting public money and therefore the University's management of it did not qualify as a service to the public. He suggested that the laboratory turn its attention to creating something more beneficial than weapons.

C. Ms. Betty Gunther, chief steward of the Union of Professional and Technical Employees (UPTE), reported that union members supported the University's continued management of the laboratory. She commended Director Nanos for his efforts to correct problems at the laboratory, but she stated that union members continue to be concerned about whistleblower protections and safety issues.

D. Mr. Abe Jacobson, a Los Alamos laboratory employee, raised the issue of retirement should the University lose its management contract. He believed

that there was a discrepancy between the definition of vesting under the University's retirement system and vesting as defined in the management contract that could harm retirees under a successor management plan. He asked that the University's counsel examine the issue and report back to laboratory employees.

E. Mr. Chris Michels, an LANL retiree, believed that the visits of the President's Council on the National Laboratories' should be open to employees and allow them opportunities for input. He believed that the laboratory administration should keep the public informed about controversial issues such as project cost overruns and should publish updates concerning the contract renewal process and its ramifications for employees.

F. Mr. Jerry Leyba, a vice president of UPTE, believed that inequities existed among the salaries of women and minority laboratory employees. He commented that a recent study on laboratory compensation failed to address the issue, which he requested be reexamined.

G. Ms. Amy Williams, media network coordinator for Concerned Citizens for Nuclear Safety, urged the Regents to protect the Centers for Disease Control and Prevention's Los Alamos Historical Document Retrieval and Assessment Project, which is threatened due to budget cuts and heightened security. She believed it was important to provide public information on previous plutonium releases, increased incidences of cancer, and mortality in Los Alamos County.

H. Mr. Jay Coghlan, representing Nuclear Watch of New Mexico, noted that there were many citizens who had followed laboratory matters for years and could provide valuable input if given the opportunity. He believed that problems with projects such as the Dual Axis Radiographic Hydrodynamic Test facility and the relocation of Technical Area 18 had received insufficient attention, and he was concerned that the focus of advanced accelerator technologies had been shifted from basic science to nuclear weapons work.

[At this point, Committee on Oversight of the Department of Energy Laboratories Chair Preuss assumed the chair.]

2. INTRODUCTORY REMARKS BY PRESIDENT DYNES

President Dynes commented that he was pleased to be at Los Alamos National Laboratory and anticipated hearing from the employees, administrators, and community members associated with it. He acknowledged the work done by the laboratory's employees and recognized Director Nanos for his efforts to improve the University's management of its business operations. He noted that the University and the laboratory had performed an important national service for over 60 years and that he was proud of that relationship. In the coming year the Regents will have significant decisions to make concerning the possibility of competing for the contract that would

allow the University's continued management of the laboratory for the federal government.

3. **LABORATORY OVERVIEW BY DIRECTOR NANOS**

In his welcoming remarks, Director Nanos stated that the Los Alamos National Laboratory develops and applies science and technology to ensure the safety and reliability of the U.S. nuclear deterrent; reduces the threat of weapons of mass destruction, proliferation, and terrorism; and solves national problems in defense, energy, the environment, and infrastructure. He described some recent developments at the laboratory, including the restoration of the nation's pit manufacturing capability and the commissioning of the second axis of the Dual Axis Radiography Hydrodynamic Test facility (DARHT). He noted that certifying that the nation's nuclear weapons remain safe and reliable without underground testing remains the laboratory's biggest technical challenge.

Mr. Nanos observed that outstanding science is the intellectual underpinning of the laboratory's past and future. This year, laboratory scientists won the most R&D 100 awards of any national laboratory. These awards demonstrate the rich variety of research programs that directly and indirectly support the laboratory's basic mission. The laboratory's success depends on remaining at the forefront of multidisciplinary science. Although it is known for the technologies it has produced over the years – whether defending the nation, safeguarding nuclear materials, or discovering the secrets of the universe with unique sensors and instruments – all of its work evolves from basic research and the creativity of its scientists and engineers, who are the foundation for programmatic activities and the best way to attract and retain future generations of the best technical people available. He invited the Regents to talk with scientists and administrators as they toured the laboratory's facilities.

[At this point, Regent Marcus joined the meeting.]

4. **DRIVING TOUR AND BRADBURY SCIENCE MUSEUM and TECHNICAL AREA 18**

Mr. John Rhoades, Director of the Bradbury Science Museum, conducted a bus tour of the laboratory that highlighted key research buildings and emphasized the history of Los Alamos. The tour focused on the laboratory's current and future programs and provided perspectives on physical size, security issues, and technology activities. Sites visited included the emergency operation center, wellness center, environmental and safety division, TA54 Area G, Technical Area18 Pajarito site, plutonium facility, and national high magnetic and material sciences laboratories. The drive ended at the Bradbury Science Museum, where a guided tour of the exhibits was offered.

Some Regents toured Technical Area 18, where the presence of a spontaneous neutron emitter in plutonium had been discovered and which houses the national criticality safety program that defines safety criteria for handling, processing, and storing special nuclear materials. The facility was an essential proving ground for achieving trusted

verification systems for treaties involving the counting and destruction of nuclear warheads. More recently, the facility has been thrust into expanded roles and missions involving countering international terrorism using weapons of mass destruction.

5. **BRIEF HISTORY OF NUCLEAR WEAPONS AND RAVE (RECONFIGURABLE ADVANCED VISUALIZATION ENVIRONMENT) DEMONSTRATION and NICHOLAS C. METROPOLIS CENTER FOR MODELING AND SIMULATION**

The RAVE is the first and largest facility in the world for immersive visualization with visual-stereo depth perception. The RAVE facility permits the display of 3D-generated data and because of its size is well suited for the display of large data sets and large pixel counts. The facility is the most flexible display technology available to image complex equations and allows scientists from different fields to collaborate in understanding physical phenomena in 3D-color motion. Deputy Director of National Security John Immele introduced presenters who discussed their research projects and invited visitors to put on 3D glasses and enter the visual environment in which was displayed the simulation of the K-T impact event at Chicxulub, the ribosome in motion, and three-dimensional effects in core-collapse supernova.

The Regents also toured the Nicholas C. Metropolis Center for Modeling and Simulation, where they were given an overview of the nuclear weapons program by Deputy Associate Director for Advanced Simulation James Peery, Deputy Associate Director for Experimental Physics John McClelland, and Group Leader for Thermal Nuclear Applications David Harris. The recently opened facility houses the 20 TeraOP "Q" machine, one of the world's largest and most capable computers, and provides nuclear weapons designers with the means visually to evaluate and interpret the massive quantities of data generated by the Department of Energy's Advanced Strategic Computing network. This capability is facilitated by the use of "Power Walls," which permit the visualization of 3D-generated data.

6. **TOUR OF MANUEL LUJAN CENTER, LOS ALAMOS NEUTRON SCIENCE CENTER (LANSCE) and TOUR OF DARHT (DUAL AXIS RADIOGRAPHIC HYDRODYNAMICS TEST)**

The Regents were informed that the accelerator-based LANSCE National User Facility provides beams of protons and neutrons for work in basic and applied science for civilian and defense applications. The accelerator produces protons which can produce 21-frame "movies" of the implosion phase of a nuclear weapon and fast-neutron imaging of cross-section data to allow Los Alamos to certify the nation's nuclear weapons and to enhance the understanding of fundamental nuclear interactions. LANSCE Division Leader Paul Lisowski led a tour of the facility, where scientists use the center's state-of-the-art neutron instruments and pulsed beams of moderated cold, thermal, and epithermal neutrons to understand important properties of materials in diverse environments, such as under significant temperature or stress

or in the presence of strong magnetic fields. Key experiments also study fundamental neutron-induced nuclear physics symmetries.

The Regents also toured DHART, the Department of Energy complex's primary user facility for conducting radiographic hydrodynamic tests. The hydrodynamic experiments conducted at the site provide valuable information for studies of shock physics, high-velocity impacts, materials science, high-explosives science, and industrial applications. The results of these tests support, among other things, the continued certification of the stockpile by providing evidence that helps to validate the computer models needed for assessment and continued certification of aging stockpile weapons.

7. **BRIEFINGS AND POSTERS SESSION: THREAT REDUCTION AND HOMELAND DEFENSE, STRATEGIC RESEARCH, AND R&D 100 AWARDS**

Presentations at the briefings and posters session included a discussion by Associate Director for Threat Reduction for Homeland Security Donald Cobb in which the laboratory's contributions to the Human Genome Project were mentioned. The laboratory pioneered bioinformatics, a convergence of computer science and biomedicine, which permits researchers to organize, interpret, and disseminate the information generated by the project. The laboratory has built databases for the human immunodeficiency virus, influenza, and smallpox that are used by researchers around the world.

Mr. Paul Follansbee, Division Leader for the Materials Science and Technology Division, discussed strategic research. He listed the elements of stockpile stewardship and described developments in nanoscience, including the nano-engineering of porous foams and aerogels, and the modeling of the global climate.

Ms. Donna Smith, Industrial Business Development Division Leader, elaborated on the laboratory's eight *R&D Magazine*'s R&D 100 awards for the year. Among the winning projects were the Biological Aerosol Security and Information System, which protects civilian populations against terrorists who would use aerosol releases of microorganisms capable of inducing lethal infections; a portable field instrument that uses laser beams to provide a complete chemical analysis of a material at close and remote distances; and superconducting tape that can carry current with no resistance and is flexible enough to be wrapped into a tight coil with no loss of superconductivity.

8. **WRAP UP DISCUSSION**

Regents Kozberg, Marcus, and Murray expressed their appreciation to Director Nanos and his colleagues for the tour of the laboratory and acknowledged the many important accomplishments of its employees.

The meeting adjourned at 4:00 p.m.

Attest:

Associate Secretary