

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

June 12, 2002

The Regents of the University of California met on the above date in the Public Affairs Press Room, Lawrence Livermore National Laboratory.

Present: Regents Davies, T. Davis, Johnson, Lee, Marcus, Montoya, Moores, Preuss, and Seymour

In attendance: Regents-designate Ligot-Gordon and Terrazas, Faculty Representatives Binion and Viswanathan, General Counsel Holst, Associate Secretary Shaw, Provost King, Senior Vice President Mullinix, Vice President McTague, Laboratory Director Tarter, and Recording Secretary Bryan

The meeting convened at 8:30 a.m. with Chairman Moores presiding.

1. PUBLIC COMMENT PERIOD

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 address matters on the day's agenda. The following people addressed the Board concerning the subjects noted:

- A. Ms. Marylia Kelley, Executive Director of Tri-Valley Cares, believed that, under the Bush administration, nuclear weapons would continue to be the main focus of the laboratory and scientific initiatives would receive inadequate funding. She urged the laboratory administration to make information about the laboratory's work more easily available.
- B. Ms. Inge Olson, representing Tri-Valley Cares, believed that the Regents should call for independent evaluations in cases involving whistleblowers. She was opposed to the shipping of unsafe materials through the Livermore area and noted the lack of money being made available for environmental clean up.
- C. Ms. Barbara Mertis, representing the Los Positas Chabot Community College District, listed some of the laboratory's many outreach programs that had enhanced the Livermore area. She thanked the Regents for their support of the laboratory, whose scientists provide training opportunities and guidance to youth in the area.
- D. Ms. Jackie Cabasso, representing Western States Legal Foundation, stated that she was an advocate of nuclear weapons disarmament. She believed that the University's management of the Department of Energy laboratories provided them with a respectability they did not deserve.

- E. Ms. Phillis Olin, President of the Board of Western States Legal Foundation, believed that the University should get out of the business of producing weapons of mass destruction and instead should turn its efforts toward civilian causes.

2. **LABORATORY OVERVIEW**

Laboratory Director Tarter noted that the Livermore laboratory was celebrating its fiftieth year. He recalled its history from its inception to the present, noting that the emphasis of its work had changed over time. Initially, E. O. Lawrence provided a guiding philosophy and pushed for scientific innovation, in the process raising private money and building a team of scientists. The advent of the Cold War during the 1950s caused the laboratory's emphasis to change. The fact that intercontinental ballistic missiles could be carried on submarines posed a threat to the country that was addressed through an acceleration of the development of sophisticated weapons for defense. During the 1960s there was an extended moratorium on weapons testing. Biology and environmental projects started to come into greater focus at the laboratory. The gasoline crisis in the 1970s triggered a focus on energy. Lasers were developed then. The next decade brought the resumption of weapons testing for reliability and the creation of the Strategic Defense Initiative, and computers came into their own. When the Cold War ended in the 1990s, weapons stewardship replaced weapons development, and extensive work began on homeland security and counter-terrorism efforts.

Mr. Tarter reported that the laboratory, which is now a multidisciplinary facility, has a \$1.51 billion budget and 8,000 employees.

3. **TOUR OF LABORATORY SITE**

The Regents were given a guided tour of the laboratory site.

The meeting went into Closed Session at 10:00 a.m.

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The meeting reconvened in Open Session at 11:45 a.m..

4. **NATIONAL IGNITION FACILITY (NIF) TOUR**

The Regents toured the National Ignition Facility, which will use the world's largest laser to compress and heat small capsules of fusion fuel to thermonuclear ignition. NIF experiments will help scientists sustain confidence in the nuclear weapons stockpile without nuclear tests and will produce additional benefits in basic science and fusion energy.

5. **ADVANCED SIMULATION AND COMPUTING**

Associate Director Dona Crawford reported that the computational capability to support the laboratory's missions and programs relies increasingly on computer simulations to guide scientific discovery and engineering development. Advanced simulations require the power of parallel supercomputers working in tandem, the most sophisticated of which are those developed for the Accelerated Strategic Computing Initiative (ASCI), an important element of the stockpile stewardship program. The ASCI White computer system is capable of 12.3 trillion operations per second. In 2004, the Terascale Simulation Facility will support the laboratory's two newest supercomputer systems, the largest ever built, for ASCI.

The Regents viewed the laboratory's supercomputing facility.

The meeting went into Closed Session at 1:40 p.m.

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The meeting reconvened in Open Session at 2:45 p.m.

6. UNIVERSITY COLLABORATIONS

Ms. Laura Gilliom, Director of the University Relations Program, discussed the laboratory's program to encourage and expand research collaborations with universities as scientific partners in the UC system. She mentioned the five institutes that facilitate scientific partnership: the Center for Accelerator Mass Spectrometry, the Institute for Geophysics and Planetary Physics, the Institute for Laser Science Application, the Institute for Scientific Computing Research, and the Materials Research Institute.

Professor Jerry Nelson, Director of the Center for Adaptive Optics at the Santa Cruz campus, described the principles behind adaptive optics and some University collaborations with the laboratory in adaptive optics and large telescopes. He noted that Livermore laboratory researchers had worked in support of the Lick and Keck observatories, where they designed adaptive optics systems and installed laser guide stars, and in support of the California Extremely Large Telescope, which will be built and operated jointly by the University and Caltech.

Dr. DeVere White, Director of the UC Davis Cancer Center, reported on programs integrated between the University and the laboratory concerning the development of DNA repair, improved cancer imaging systems, and radioimmunotherapy, which is systemic radiation therapy using monoclonal antibodies tagged with radioactive isotopes that target tumor cells. Radioimmunotherapy is used in treating metastatic breast cancer, B-cell lymphomas, and prostate cancer that has not responded to conventional hormone ablation therapy.

Ms. Maria Pallazicini, a former professor at the UCSF School of Medicine and newly appointed Dean of Natural Sciences at the Merced campus, described how the

Livermore laboratory had been helpful in recruiting faculty for the new campus by providing specialized equipment and contributing to programmatic development. One of the programs which has benefitted from this collaboration is the new Sierra Nevada Research Institute, which will address environmental issues facing the region. The visibility of the SNRI has been a particularly strong attraction for many prospective faculty in both natural science and engineering who wish to focus on local ecological and environmental issues such as the quality of water and air, land-use impacts, soil quality, impacts and timing of control burns, the effect of population growth on agricultural and natural ecosystems, and the role of the global carbon cycle in climate change.

7. **SPECIAL PROJECTS**

Mr. Jeffrey Wadsworth, Deputy Director of Science and Technology, provided an overview of partnerships between the Livermore laboratory and industry. One such partnership is with Nomos Corporation for the commercialization of the Peregrine technology, a highly accurate computer system for calculating where and how much radiation is absorbed in the body during radiation treatment for cancer and other diseases. Other notable collaborations include the National Ignition Facility, which has partners in both government and industry to effect its missions of national security and technology advancement, and the rapid thermal cleanup of a contaminated industrial site in Visalia, California, in conjunction with Southern California Edison and SteamTech Environmental Services of Bakersfield, using the laboratory's dynamic underground stripping technology. Also mentioned was the laboratory's contribution to extreme ultraviolet lithography, using its skills in optics, precision machining, multilayer coatings, miniaturization, and other capabilities developed in its weapons work. The laboratory has collaborated with the Lawrence Berkeley and Sandia laboratories and Intel, Motorola, and Advanced Micro Devices to continue developing specific technologies in which EUV may be used.

The meeting adjourned at 4:30 p.m.

Attest:

Associate Secretary