

The Regents of the University of California

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

September 19, 2013

The Committee on Oversight of the Department of Energy Laboratories met on the above date at Lawrence Livermore National Laboratory, Livermore.

Members present: Regents De La Peña, Island, Pattiz, Schultz, and Zettel; Ex officio member Varner; Advisory member Gilly

In attendance: Regents Feingold, Kieffer, Makarechian, and Ruiz, Regents-designate Engelhorn and Leong Clancy, Faculty Representative Jacob, Associate Secretary Anne Shaw, Provost Dorr, Vice President Mara, and Recording Secretary McCarthy

The meeting convened at 9:30 a.m. with Committee Chair Pattiz presiding.

Committee Chair Pattiz thanked Lawrence Livermore National Laboratory (LLNL) Director Parney Albright and his staff for arranging this visit. The day would include tours of the National Atmospheric Release Advisory Center (NARAC), a national center for planning, real-time assessment, emergency response, and detailed studies of hazardous incidents, the National Ignition Facility (NIF), by far the world's largest and most powerful laser, and the Terascale Simulation Facility. Mr. Albright and Livermore Mayor John Marchand would offer an overview of the LLNL, and Regents would have an opportunity to meet with LLNL senior managers and talk with early career scientists.

Committee Chair Pattiz pointed out that UC has been involved in the management of LLNL since its inception in 1952. LLNL, Lawrence Berkeley National Laboratory, and Los Alamos National Laboratory have enduring partnerships with UC, and their cultures are richly influenced by the University. UC's management of the National Laboratories has ensured world-class peer-reviewed research, exceptional programmatic leadership and staff, unbiased scientific advice and products in support of the nation, intellectual freedom and the intense competition of ideas, a commitment to developing the next generation of scientists and engineers, and an environment driven by technical excellence and the impact of scientific work.

In turn, the National Laboratories contribute to the University's research and academic richness through research funding for the University, joint UC/National Laboratory multidisciplinary research projects and appointments, access to unique Laboratory experimental facilities for UC researchers, Laboratory-affiliated professorships at UC campuses, and opportunities for UC-educated postdoctoral scholars to work at the National Laboratories. The relationship has benefited the State, nation, and world.

1. **PUBLIC COMMENT**

Chairman Varner expressed the Regents' appreciation to Committee Chair Pattiz for this visit which would show the Regents the incredible work done at Lawrence Livermore National Laboratory (LLNL). He thanked Mr. Albright and his staff for their hospitality.

Chairman Varner explained that this portion of the meeting was an opportunity to permit members of the public to address University-related matters. The following persons addressed the Committee concerning the items noted.

- A. California State Assembly Member Joan Buchanan welcomed the Regents to the 16th Assembly District of which LLNL and Sandia National Laboratory are an important part. Investment in innovation at LLNL and UC Berkeley is responsible for contributions to the aerospace, technology, and biotechnology industries, and enables numerous start-up companies. Ms. Buchanan emphasized the importance of LLNL to the local economy, K-12 schools, and community colleges. Partnerships bring students into LLNL, whose outreach programs help local science teachers.
- B. Livermore Valley Joint Unified School District Superintendent Kelly Bowers said that UC and the LLNL have an enormous effect on the 12,500 students in her district, 30 percent of whom live in poverty. Partnerships with LLNL offer local students outstanding career opportunities. LLNL personnel are mentors and judges for the district's Science Odyssey program in which 600 students pursue real scientific inquiry. LLNL retirees also work in the local schools to help science come alive for students.
- C. Mr. Lee Younker, retired LLNL scientist, commented on the enduring relationship between LLNL and UC. LLNL was founded by UC to integrate big science with engineering, which remains its signature capability. The outstanding workforce of LLNL is dominated by its association with the University, which is a major attraction for potential Laboratory employees. Mr. Younker highlighted the integration of LLNL and UC: 25-30 percent of LLNL employees earned their highest degrees at UC; 25-30 percent of LLNL's co-authored publications come from UC faculty; 20-25 percent of LLNL's postdoctoral scholars come from UC; 25 percent of students working at LLNL are from UC; 25 percent of peer-reviewers of publications were UC faculty. For 60 years, the nation has benefitted from this integration and the application of a very high level of science to the nation's most important problems.
- D. Ms. Elizabeth Lopez, a Granada High School biology and biotechnology teacher in Livermore, spoke about the many positive effects LLNL programs have on her students. LLNL offers Teacher Research Academies providing teachers with excellent materials and activities they can use in their classrooms. Students also benefit from LLNL's program in collaboration with the Waksman Institute of Microbiology at Rutgers, the Waksman Student Scholars Program. Students attend a two-week summer research program at LLNL, learn to mentor fellow

students, and have the opportunity to be published as contributing authors. The program also provides financial support for expensive biotechnology equipment at the high school.

- E. Mr. Thomas Shefler, Granada High School physics, astronomy, and mathematics teacher and faculty scholar at LLNL, cited the benefits of two LLNL programs. Science on Saturdays teams LLNL scientists with local teachers to present free, public talks and demonstrations on topics of LLNL research. The summer Teacher Research Academies are professional development programs in which middle and high school science teachers learn scientific content and pedagogy.
- F. Ms. Linda McKeever, executive director of Open Heart Kitchen, said that Open Heart Kitchen serves more than 263,000 meals per year to local seniors, children, and anyone else in need, with no government funding. LLNL employees provide support for 73,000 of those meals, through generous personal financial donations and volunteer hours. This help from LLNL is essential to Open Heart Kitchen's operations. Ms. McKeever described LLNL as the heart of the Livermore community.

2. **TOUR OF LAWRENCE LIVERMORE NATIONAL LABORATORY**

The Regents toured Lawrence Livermore National Laboratory (LLNL), first attending a welcoming session with LLNL Director Parney Albright. Livermore Mayor John Marchand recounted the history of Livermore and its valuable relationship and partnership with LLNL. Livermorium, the 116th element on the periodic table, was discovered at LLNL and named after the city. Mr. Albright highlighted LLNL's 60-year relationship with UC, underscoring the importance of academic freedom and intellectual honesty. Mr. Albright and Committee Chair Pattiz discussed the governance structure of LLNL.

The Regents then toured the National Atmospheric Release Advisory Center (NARAC) whose work assessing hazardous incidents including nuclear, radiological, chemical, biological, or natural, and particularly around the crisis at the Fukushima Daiichi Nuclear Power Plant following the March 2011 earthquake and tsunami, was described by NARAC Program Leader Gayle Sugiyama.

The Regents visited the Terascale Simulation Facility, where Associate Director for Computation Dona Crawford presented information about the history and uses of Sequoia, one of the world's most powerful computers. LLNL seismologist Arthur Rodgers demonstrated a Regional Scale Earthquake Simulation.

The Regents were given small group tours of the National Ignition Facility, the world's largest laser.

The meeting adjourned at 2:45 p.m.

Attest:

Associate Secretary