

The Regents of the University of California

NATIONAL LABORATORIES SUBCOMMITTEE

November 16, 2016

The National Laboratories Subcommittee met on the above date at UCSF–Mission Bay Conference Center, San Francisco.

Members present: Regents De La Peña, Napolitano, Pattiz, and Schroeder; Ex officio member Island, Advisory members Chalfant and Mancia; Chancellors Khosla and Yang

In attendance: Regents Brody, Ortiz Oakley, and Ramirez, Assistant Secretary Lyall, Provost Dorr, Senior Vice President Peacock, Vice Presidents Brown and Holmes-Sullivan, and Recording Secretary McCarthy

The meeting convened at 12:40 p.m. with Subcommittee Chair Pattiz presiding.

1. APPROVAL OF MINUTES OF PREVIOUS MEETING

Upon motion duly made and seconded, the minutes of the meeting of September 14, 2016 were approved.

2. NATIONAL LABORATORIES UPDATE AND PRESENTATION ON THE STATE OF LAWRENCE LIVERMORE NATIONAL LABORATORY

[Background material was provided to Regents in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

Subcommittee Chair Pattiz commented that the National Nuclear Security Administration was in the process of re-competing the management contracts for Sandia National Laboratory and the Nevada Test Site.

Vice President Budil introduced Lawrence Livermore National Laboratory (LLNL) Director William Goldstein to provide an update. Mr. Goldstein expressed pride that LLNL was celebrating 65 years of pushing the frontiers of science and technology to help make the nation more secure. LLNL plays a unique role in the nation's innovation, partnering with academia and industry to address long-term science and technology-based problems.

Mr. Goldstein reported that LLNL, established in 1952, had 6,500 employees including about 1,400 Ph.D.s. and was growing. LLNL is on a compact footprint, enabling collaboration and teamwork. Its 2017 annual budget was more than \$1.8 billion. LLNL is operated by the Lawrence Livermore National Security LLC, a partnership of UC, Bechtel, BWXT Government Group, Inc., AECOM, and Battelle. LLNL's culture is inextricably linked to its UC heritage. The University provides leadership, guidance, and

assurance that its mission is executed with excellence and integrity, and that LLNL's science and technology meet the highest standards. LLNL's mission is dominated by nuclear security and the stockpile stewardship program, which has successfully ensured the safety, security, and reliability of the nation's nuclear stockpile for 21 years without nuclear testing. LLNL's mission also extends to countering the threat of weapons of mass destruction, support to the Department of Defense, and work on climate security.

In the current year, LLNL hosted a nuclear security summit event for the Secretary of Energy, with participation at LLNL of ministers from 40 nations, the United Nations, Interpol, and the International Atomic Energy Agency. LLNL's international security program supports threat-reduction activities and counters weapons of mass destruction. Currently LLNL has staff in Baghdad, Iraq training local first responders to detect, characterize, and deal with biological and chemical weapons. LLNL leads a Department of Energy multi-Laboratory team that is developing the Accelerated Climate Modeling for Energy project's earth systems simulator to help understand the interactions of climate change with the energy economy.

LLNL's modeling and simulation prowess is an important element of its unique value to the nation. The Sequoia computer, delivered to LLNL in 2012, was the most powerful computer in the world at that time with a 20-petaflop computing speed. The Sierra computer that would be delivered to LLNL later in the current year would be a 150-petaflop machine, expected to recapture the title of the world's fastest computer. Quantum computing and other new computing paradigms hold great promise for advancing machine learning, pattern recognition, data analytics, and precision medicine. LLNL had taken delivery of the leading neuromorphic, or brain-inspired, supercomputer called TrueNorth. LLNL spearheaded a number of projects adopted by the federal Cancer Moonshot Initiative, including collaborations with the National Cancer Institute, UCSF, UC Berkeley, and the Lawrence Berkeley National Laboratory.

Mr. Goldstein noted that LLNL's workforce faces a high rate of demographically driven turnovers at the same time its workload is increasing. UC is LLNL's major partner in academic collaborations, and the Laboratory offers UC students and faculty unique appointment opportunities and facilities use. LLNL also has a partnership program with Las Positas College, training veterans for LLNL positions. LLNL was ranked 102nd among Forbes' 500 America's Best Employers in 2016, the only National Laboratory on the list. Of Bay Area companies, LLNL was in the top ten. LLNL was ranked by Willis Towers Watson ninth out of 32 Bay Area firms for its perquisites, largely because of the educational opportunities offered to its staff.

The meeting adjourned at 1:00 p.m.

Attest:

Secretary and Chief of Staff