

The Regents of the University of California

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

July 19, 2000

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

Members present: Regents Atkinson, Bustamante, Davies, S. Johnson, Khachigian, Leach, Miura, Montoya, and Moores

In attendance: Regents Bagley, Connerly Fong, Hopkinson, O. Johnson, Kohn, Kozberg, Lee, Nakashima, and Sayles, Regents-designate Morrison and Seymour, Faculty Representatives Coleman and Cowan, Secretary Trivette, General Counsel Holst, Provost King, Senior Vice Presidents Darling and Kennedy, Vice Presidents Broome, Drake, Gurtner, and Saragoza, Chancellors Berdahl, Carnesale, Cicerone, Dynes, Greenwood, Orbach, Tomlinson-Keasey, Vanderhoef, and Yang, Vice Chancellor Bainton representing Chancellor Bishop, Laboratory Directors Browne, Shank, and Tarter, and Recording Secretary Bryan

The meeting convened at 8:30 a.m. with Committee Chair Leach presiding.

1. **APPROVAL OF THE MINUTES OF THE MEETING OF MARCH 15, 2000**

Upon motion duly made and seconded, the minutes of the meeting of March 15, 2000 were approved.

2. **REPORT ON THE LAWRENCE LIVERMORE NATIONAL LABORATORY**

Director Tarter presented an overview of the Lawrence Livermore National Laboratory, noting that it has been a year of significant successes in Livermore's research endeavors and major challenges to both programs and operations. He discussed programmatic activities and accomplishments in the following areas, as well as the status of continuing efforts to improve security.

Programmatic Activities:

- *The Accelerated Scientific Computing Initiative (ASCI)*. Using the ASCI Blue Pacific supercomputer, laboratory researchers completed in December 1999 the first-ever three-dimensional simulation of a nuclear weapon primary explosion. The simulation, which took nearly 500 hours of computer time, constitutes a major milestone in the Stockpile Stewardship Program and an important step forward in the full-system modeling of weapon performance.

- Livermore has just taken delivery of the ASCI White, the fastest computer in the world. In what continues to be a highly successful partnership, IBM delivered the machine to Livermore in July. ASCI White's computational capability exceeds performance requirements by 23 percent.
- *The National Ignition Facility (NIF)*. NIF is an essential element of the Stockpile Stewardship Program. Its construction was started with too small a contingency and requires more costly laser assembly procedures than those initially planned. An intense effort was made this year by a new management team to reestablish a baseline for the program, and the revised plans continue to be intensely reviewed. The NIF project greatly benefitted from the prompt actions taken by UC to assemble an expert team that provided timely criticism and support for the project's overall soundness. Researchers have achieved success in many technology areas to make NIF possible. The DOE is committed to completing NIF, and the project is proceeding.
- *The Joint Genome Institute (JGI)*. A joint effort of the three UC laboratories, the JGI completed a draft of the genetic information on chromosomes 5, 16, and 19. They contain more than 300 million base pairs, which is about 11 percent of the total human genome. As an example of its role as one of the largest publicly funded genome centers, the JGI sequenced in one day the entire genome of a harmful bacterium that is resistant to antibiotics and a leading cause of hospital-acquired infections.

Laboratory Operations:

- *Security*. Security at the laboratory remains under intense scrutiny. Over the past year, upgrades in physical security, cyber security, and counterintelligence have been made to address newly arising threats and deal with perceived weaknesses. In December 1999, the laboratory received an overall Satisfactory rating from DOE's Office of Independent Oversight and Performance Assurance. Since the Los Alamos incident, the laboratory has been implementing enhanced protection measures.

Regent Leach recalled that the National Ignition Facility project had been problematic and asked if management's approach to it had changed. Director Tarter responded that it is his hope that a review in August by an outside consulting group will validate the laboratory's expectation that the project can be completed satisfactorily and within a reasonable time frame. He noted that the consulting group has been used by the Department of Energy for many of its projects. He explained that Congress must appropriate additional funds for the project during this year's budget process before it can proceed.

Regent S. Johnson asked whether the laboratory has sufficient financial resources to offer competitive employment packages to prospective employees. Mr. Tarter believed

that employee recruitment is challenging in many parts of the high technology world. He believed that, in the absence of some of the security issues that have been of concern recently, the laboratory remains competitive because it offers an attractive and exciting working environment.

Regent S. Johnson recalled that last year Mr. Tarter had reported that the laboratory had developed a new program to treat cancer. She inquired about its status. Mr. Tarter responded that the program, which confines radiation treatment specifically to tumors, has found an industrial partner to which it is licensed, but it has yet to reach the clinical trial stage.

[For speakers' comments, refer to the July 19 minutes of the Committee of the Whole.]

### 3. **REPORT ON SECURITY AT THE NATIONAL LABORATORIES**

Director Browne discussed events at the DOE laboratories that have led to the scrutiny of their security measures. He recalled that in the winter of 1998, Los Alamos National Laboratory experienced national attention with regard to the transfer of classified material to an unclassified environment. Several federally sponsored reviews identified areas of weakness in existing practices, particularly in the area of cyber security.

The University hired a security expert and established a Laboratory Security Panel within the President's Council. A comprehensive, systematic security improvement program called Integrated Safeguards and Security Management (ISSM) was initiated at both laboratories. LANL and LLNL undertook aggressive corrective action efforts and over a period of eight months achieved the DOE's highest ratings for all areas of security. Examples of actions taken include the following:

- Los Alamos made major improvements in protecting its classified nonnuclear weapons parts by significantly reducing the number of storage locations for these parts from 105 to 22, organizing these locations into security clusters, and giving them better protection by augmenting the protective force.
- Both Los Alamos and Livermore substantially increased their annual security budgets to improve physical security, increase protective force personnel, and replace antiquated equipment.
- Livermore initiated an action plan for the installation of a firewall between the open and restricted portions of its unclassified network to better protect sensitive information. (Los Alamos already had an adequate protective system in place, and Livermore's firewall was installed in March 2000.)
- Both Los Alamos and Livermore instituted controls to prevent any unauthorized classified information transfer from classified to unclassified computer systems.

- As funds became available, both Los Alamos and Livermore upgraded their cyber security capabilities to adapt to changing technology and an evolving threat.

These were accomplished despite limited funding for such initiatives.

Notwithstanding these improved practices, fundamental security policies established by DOE were unchanged. The revision of such policies has begun under the direction of the DOE Office of Security; however, the presence of relaxed national security policies since the late 1980s has affected overall security practice at the national laboratories and other federal entities.

The recent loss of computer hard drives at Los Alamos is the result of flawed security policy, less than adequate security oversight, and inappropriate action of cleared laboratory employees. The University and the laboratory are and must be accountable for implementing DOE security policy effectively and for protecting classified information and materials. The senior management of the University has communicated directly with the DOE senior management its concern over this incident and its absolute commitment to the protection of the nation's secrets. President Atkinson has authored letters to DOE, laboratory management, and laboratory employees concerning the need to improve security.

Steps that have been taken to ensure that both LANL and LLNL take appropriate corrective actions include the following:

- Locking down all portable, concentrated collections of information classified at, or above, the secret level until enhanced controls are in place.
- Mandating a "cradle to grave" accountability system, beyond that required by current DOE directives, for the most sensitive secret material stored on portable electronic media.
- Limiting the amount of classified information stored on portable drives, disks, and other electronic media.
- Reducing the number of personnel with authorized access to vault-type rooms and vaults and requiring the use of biometric or cyber techniques to record all entries into these storage facilities.
- Encrypting classified information in electronic form when such material could be taken off-site.

In addition, the University and the laboratories have done the following:

- Accelerated the implementation of ISSM.
- Initiated an in-depth review of the hard drive incident. (The review is postponed until the FBI investigation reaches a stage where there will be no interference with its investigation.)
- Proposed a comprehensive review of current security practices, existing policy, and relevant organizational issues through the use of a major consulting firm to assemble national security and organizational experts.

The current status is that the new head of the National Nuclear Security Administration (NNSA) has joined the Department of Energy and has been directed by the Secretary to work with the University to establish appropriate restructuring of the management contracts to provide for the application of industrial security expertise. A deadline of September 5 has been established. The laboratory is working with the Department to ensure that an appropriate level of security is established.

Director Browne emphasized that there is an ongoing Department of Justice investigation into the missing hard drives and that his remarks were restricted. He explained that the missing hard drives belong to the Nuclear Emergency Search Team (NEST), which has been in existence for 20 years. The team consists of experts at all the laboratories who go into the field when there is a nuclear incident in order to advise ordinance people if there is a device to be disabled. They have tool kits containing computers loaded with the information necessary for analyzing whatever type of device they may find. The hard drives in question were either misplaced or taken deliberately sometime last spring. Mr. Browne explained that access to them required individuals to pass through several security checkpoints into areas accessible only to those with top secret clearances. He emphasized that all DOE procedures for handling classified information within the laboratory were in place and that the vast majority of laboratory employees follow the appropriate procedures and understand fully the importance of protecting their work. He explained that, at the end of the Cold War, the government removed its requirement that every piece of classified information be strictly accounted for. There was a wholesale lowering of the rules for handling secret information. He recalled that in March 1999, he, Director Tarter, and the director of the Sandia laboratory had formally requested the Undersecretary of Energy to require DOE to return to its previous level of accountability for secret restricted and top-secret restricted data. There was no response to that request.

Mr. Browne noted that the University's contracts for managing the DOE laboratories specifies that the University is responsible for implementing all DOE security rules. The University appoints the laboratory directors and senior management teams and expects them to carry out the requirements of the contracts. He believed that the responsibility for security should be shared with DOE because it sets the rules. DOE maintains that the University is not prevented from going beyond its rules in implementing security measures. At the same time, DOE has conducted numerous audits

during the past year and has given the Los Alamos laboratory its highest rating in the area of security, meaning that the laboratory is in compliance with all existing DOE procedures and policies in a variety of areas. He noted further that the laboratories do not receive separate budgets for security. DOE may change its security requirements without providing increased financial support, making it necessary for the laboratories to balance their priorities between safety and security.

Mr. Browne reported that he had made significant improvements in security since becoming director of the Los Alamos laboratory that go beyond DOE requirements. He stressed that his discussions with laboratory employees have convinced him that they are dedicated public servants who are deeply concerned about security issues. As public servants, they must share the responsibility and accountability for the public trust. The new ISSM program allows the laboratories to make its individual employees more accountable. Mr. Brown commented that, regardless of the security system used, the ultimate outcome depends on people's willingness to protect the information. In response to a question from Regent Leach, Mr. Browne reported that the new security system was initiated in summer 1999 as a result of problems with safety compliance. The new program shows employees simple ways of doing their jobs securely and safely.

Regent Lee commented that the recent case of suspected espionage at the laboratory involving Mr. Wen Ho Lee caused him concern about the treatment of different ethnic groups who work there. Mr. Browne stated that various groups have different issues, and the laboratory tries to bring them together through an open dialogue that addresses problems as they arise. Data indicate that there has been a slight drop in applications for post-doctorate work by Asian-Americans since the Lee case.

Regent Khachigian reported that there seems to be a lot of misinformation within the Legislature concerning the University's handling of the case of Mr. Lee. She believed that the University has been criticized unfairly.

Regent Bustamante believed that the number of Asian scientists at the laboratory has dropped dramatically. Mr. Browne questioned this. He reported that there are about 170 Asian-Americans at the laboratory, about 40 of whom are scientists or engineers. He suggested having the laboratory's Asian-Pacific-American working group report to The Regents about their experiences with the laboratory environment.

Regent Bustamante asked about the laboratory's three security perimeters. Mr. Brown reported that about 7,000 people have access to the first perimeter (L and Q) and about 700 have access to the second perimeter (Q only). The third ring is accessible to 70 people (Q on an approved list).

Regent Bustamante asked for a chronology of the case of the missing hard drives. Mr. Browne noted that there is conflicting information that the FBI is trying to clear up. He reported that he was told without explanation on the afternoon of June 1 that the hard drives were missing. He directed the security division immediately to inform DOE,

which it did via facsimile. It can be verified that others knew the hard drives were missing three weeks previously. The FBI is investigating why that was not reported. It was suggested early in the case that the missing hard drives could be connected with the major fire Los Alamos suffered in May, but the prevailing belief is that they were missing before that. Protocol requires employees to inform the laboratory director immediately when secure material is lost. It is not known who is responsible for the disappearance or what their motives are. It appears to be a human error, whether unintentional or deliberate. The University was denied the right to bring in an independent team to investigate the matter, and no employees have been disciplined. Once information is available from the federal investigators, the laboratory will be in a position to take action. The laboratory was in compliance with all the rules, and its employees were trained to comply with them. It seems that not every individual in the laboratory complied with those rules. Mr. Bustamante had understood that it was only last year that the laboratory developed a nuclear weapons program that provided for a specific security plan. Mr. Browne explained that the laboratory has always been required to have security plans in place to operate. There is a requirement by the DOE to develop site-wide plans. A security plan existed, but it was not approved by the DOE. When he became director in 1997, he restructured the laboratory to make an independent security organization, and the laboratory immediately developed a plan that was approved by the DOE.

In response to a further question by Regent Bustamante, Mr. Browne reported that in the past ten years the laboratory received a less-than-satisfactory rating from the DOE four times. He explained that ratings occur in many categories. In those ten years there were several categories that had unsatisfactory ratings. Any rating of less than satisfactory results in corrective action by management that is documented and approved by the DOE.

Regent Bustamante asked about the concerns of Congressional members and staff within the DOE related to changes in the relationship between the DOE and the University. He requested that a future report indicate how security can be improved, notwithstanding that previous security protocols were ignored by some employees. President Atkinson pointed out that none of the nation's top security installations has ever received continuous satisfactory ratings. He believed that the University-managed laboratories are comparable if not superior to the average.

Regent Bustamante noted that changes were made during the previous federal administration as a result of the end of the Cold War. The intensity of the management of secret facilities and documents began to wind down. Mr. Browne believed that there was a cost factor relative to the diminishing budgets for defense, but there was also a push for more openness in general.

Regent Bustamante opined that the University and the laboratory director are responsible for security at the nuclear weapons laboratories. There cannot continue to be the kinds of security breaches that have taken place in the past year. The University

must be on guard constantly and should make sure a system is in place that will prevent future lapses.

Regent Leach asked whether there was an inventory or some event that confirmed a specific time when the hard drives were where they belonged. Mr. Browne responded that his information was incomplete because of the ongoing federal investigation, but he knew that a Y2K inventory had shown that the hard drives were safely in place in the vault.

Regent Connerly believed that the University has always taken its responsibility for security at the weapons laboratories very seriously. He noted, however, that anyone administering the laboratories would be subject to the same kinds of security breaches that have been experienced. He believed that the issue has been highly politicized because of the upcoming Presidential election. He stressed that the situation should be viewed within the context of this political reality.

Regent Connerly noted that, in the past few years, there has been a demand within the culture for a greater level of scrutiny of Americans of Chinese descent. He advocated resisting any appearance of racial profiling within the laboratories. Mr. Browne stated that the laboratories are not engaged in that type of activity and that extra steps are being taken in the laboratories to discuss these topics with employees.

Regent Sayles asked for details of the employee training program. Mr. Browne explained that new employees get intensive training and are assigned mentors to help them understand how to work with classified information. Every year employees must take refresher training in order to maintain their security classifications. In addition, outside experts are brought in to give talks about changes in the environment that could indicate new threats. The DOE has rated the laboratories' training programs as satisfactory, which is its highest rating.

Regent S. Johnson asked about unallowable costs that affect funding for security. Mr. Browne reported that he was hopeful that the relationship with the DOE will improve sufficiently to ensure that appropriate financial resources are put in place to make it possible for the laboratories to comply with all security requirements.

Regent Fong agreed that there is heightened scrutiny and discrimination against Chinese Americans. He reported that he had reviewed comments from Asian laboratory employees who have reported hostile work environments. Reports indicate that upwards of 700 individuals may be asked to take polygraph tests. Mr. Browne recalled that a law was passed that required polygraph testing by the DOE. It was written originally so as to cover tens of thousands of DOE employees. Secretary Richardson has chosen to take a subset of employees who have access to the most sensitive information and require them to take counterintelligence polygraphs as opposed to lifestyle polygraphs. The number of employees at the Livermore and Los Alamos laboratories who have been required to date to take counterintelligence polygraphs

number fewer than 200, and fewer than 100 have actually been tested. The tests can produce false positive results that make them controversial among employees.

Regent Kohn noted that much has been made of the laboratory's compliance with the rules and regulations as promulgated by the DOE. The DOE discerns whether there is compliance through its auditing system. He believed that audit results can be dependent on individual auditing teams. Mr. Browne reported that there is a category on physical security that deals with the laboratory's protective force and its ability to respond in a certain time frame to a certain type of incident. There are audits on personnel security to see how well people keep up their training. Materials control is examined to ensure that all plutonium and uranium is accounted for. The transmission of information is audited. An overall rating is a function of performance in each category. The laboratory has had 19 audits by the DOE in the last five years. None of those turned up any particular problem related to the missing hard drives. He noted that occasionally a change in the level of outside threats to security could result in the laboratory's receiving a less-than-satisfactory rating.

President Atkinson stated that, in view of the comments from Regents, he would call for a report to review the history of the laboratories with regard to security and audits.

Regent Leach asked whether the laboratories should be doing anything to enhance security that they have not done already. Mr. Browne believed that both laboratories are confident that they have taken all necessary measures. The greatest threat they perceive currently is in cyber security. A plan was developed last year with the DOE that was aimed at making the laboratories best in class in cyber security. To date, the plan has not been funded.

Provost King reported that in the previous month the University proposed to the DOE that a consulting contracting organization should be brought in to assess security policies and practices and to advise the University and the DOE. The concept was that it would be an intense team effort followed by recommendations, with sustained involvement by the outside firm. The DOE elaborated on the proposal and turned it into a broader approach of contract restructuring with regard to security, certain production activities, construction management, and possibly other non-science and technology areas of management. A wide variety of possible approaches to bringing in additional expertise, include subcontractors, are being contemplated by the DOE. A two-month process with the National Nuclear Security Agency will work out options, and a proposal will be presented to Secretary Richardson in early September.

[For speakers' comments, refer to the minutes of the July 20 meeting of the Committee of the Whole.]

4. **AUTHORIZATION TO APPROVE AND EXECUTE MODIFICATIONS TO THE DEPARTMENT OF ENERGY CONTRACTS FOR LAWRENCE BERKELEY NATIONAL LABORATORY, LAWRENCE LIVERMORE NATIONAL**

**LABORATORY, AND LOS ALAMOS NATIONAL LABORATORY TO AMEND  
CLAUSES AS A RESULT OF CHANGES TO FEDERAL ACQUISITION  
REGULATIONS AND DOE REGULATIONS**

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-ACO3-76SF00098, and W-7405-ENG-48 in order to incorporate revisions to the following clauses:

**CLAUSE 3.9 — Administration of Cost Accounting Standards**

- Minor change which clarifies and reduces redundancy.
- Date change in title from APR 1996 to NOV 1999.

**CLAUSE 6.9 — Clean Air and Water**

- Removed and reserved.

**CLAUSE 8.9 — Utilization of Small, Small Disadvantaged, and Women-Owned  
Small Business Concerns**

- Title change deletes “small, small disadvantaged, and women-owned.” Adds hubzone language.
- Date change in title from OCT 1995 to OCT 1999.

**CLAUSE 8.10 — Small, Small Disadvantaged, and Women-Owned Small Business  
Subcontracting Plan**

- Title change to “Small Business Subcontracting Plan.” Addition of hubzone language and expansion of definitions and sourcing information.
- Date change in title from AUG 1996 to OCT 1999.

**CLAUSE 8.11 — Liquidated Damages - Subcontracting Plan**

- As a result of changes to Clause 8.10, there are wording changes. Paragraph (b) adds a statement regarding performance measurement.
- Date change in title from OCT 1995 to JAN 1999.

**CLAUSE 8.13 — Buy American Act - Supplies**

- Adds “Balance of Payments Program.”
- Change from DEAR 952.225-3 to FAR 52.225-1
- Date change in title from JAN 1994 to FEB 2000.

**CLAUSE 8.14 — Buy American Act — Construction Materials**

- Adds “Balance of Payments Program” to title. Clarifies definitions, establishes factor for determination of unreasonable under Balance of Payments Program.
- Date change from JUN 1997 to FEB 2000.
- FAR citation change from 52.225-5 to 52.225-9.

**CLAUSE 8.15 — 52.225-11 — Restrictions on Certain Foreign Purchases**

- Changes in wording which removes the express provision that allows for exceptions to be made by contracting officers.
- Date change in title from AUG 1998 to FEB 2000.
- FAR citation change from 52.225-11 to 52.225-13

As a result of the changes, the table of contents for each contract will be revised accordingly.

The Department of Energy contracts for LANL, LBNL, and LLNL were executed on September 18, 1997. Since that time UC and DOE review has indicated the need to make minor corrections and clarifications to the contract clauses as a result of updates to the Federal Acquisition Regulations and the Department of Energy Acquisition Regulations. The changes do not involve any substantive difference to the underlying agreement between the University and DOE and are more administrative in nature. The recommended changes reflect the most accurate and up-to-date language agreed to between the parties.

The UC Laboratory Administration Office has confirmed with the Laboratories that they concur with the DOE proposed changes to clauses 3.9, 6.9, 8.9, 8.10, 8.11, 8.13, 8.14 and 8.15 for all three contracts.

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

The Committee went into Closed Session at 10:40 a.m.

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The meeting adjourned at 11:10 a.m.

Attest:

Secretary