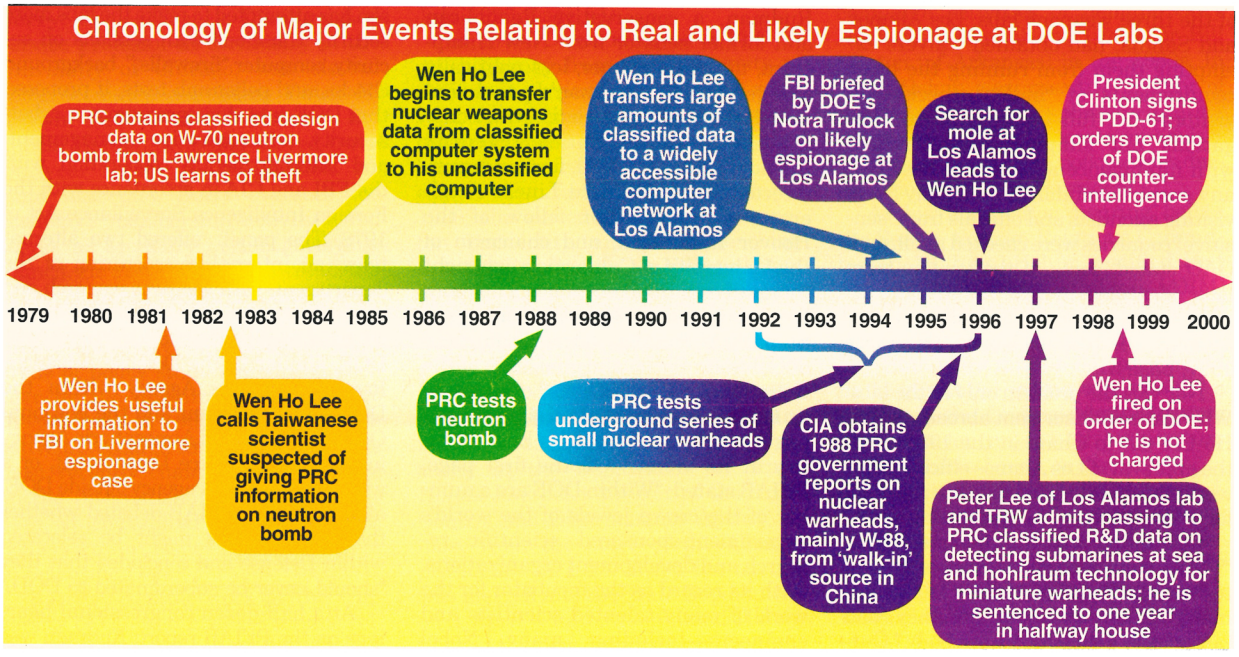
Confronted by Clinton and Congress Over Security, Richardson Drops Objections to DOE Agency

All things considered, the relentless flow of allegations that China's scientists purloined data on every nuclear warhead currently in the US arsenal is shocking. Since the first accounts appeared last February in *The New York Times*, top officials of the Department of Energy and the three nuclear weapons laboratories have devoted an inordinate number of days to answering questions from more than a dozen committees of Congress. Beginning in the 1970s—according to a three-volume report of 755 pages (with another 216 pages of notes and references) prepared by a special bipartisan House committee, chaired by Christopher Cox, a cool and telegenic California Republican—the People's Republic of China has acquired, by hook or by crook, design data on the US's most advanced nuclear arms, including the W-88, a warhead for missiles on Trident II submarines. Perhaps more disturbing is the fact that another 300 pages of revelations in the Cox report were considered too technically detailed or politically sensitive to disclose to the public.

Though the report was ready in January, the White House only agreed to its release in May, after news accounts had whipped up a furor on Capitol Hill over assertions that China had "leaped" from vintage 1950s bombs and rockets to "the most modern miniaturized thermonuclear weapons and long-range ballistic missiles." The press accounts, like the Cox report, tended to exaggerate China's nuclear weapons capability. In fact, both Cox and the committee's senior Democrat, Norm Dicks of the state of Washington, admitted at a press conference on 25 May that the report represents a worst-case scenario. The following day, Senator Bob Kerrey, a Democrat of Nebraska, noted that the Cox committee "has left the impression that China is a bigger threat to the United States in terms of nuclear weapons than Russia is. Nothing can be further from the truth." It was Jeremy Stone, director and CEO of the Federation of American Scientists, who provided a balanced perspective: "Whatever else might be said of China, its arsenal has been the very model of a minimal nuclear deterrent. China has only a small number of missiles, their missiles are de-alerted, and China has adopted a clear no-first-use policy. In this regard, it is the most responsible of the major nuclear powers."

The Cox report is also on shaky ground in alleging that China operates a vast spy network in the US, functioning through some 3000 front companies, as well as visiting students and scientists. It is especially critical of Loral Space Systems and Hughes Electronics, accusing them of handing over useful information that helped China improve its rocket launches to deploy communications satellites. The report is on firmer ground when it criticizes the security practices and counterintelligence operations at DOE's weapons labs. These do not meet even minimal standards, says the Cox panel.

Accordingly, the most unsettling finding in the Cox report is not the extent of China's spying, but the US's failure to prevent it. The first known cases of China's espionage at the weapons labs date from the late 1970s, when information about the W-70 neutron bomb was lifted from Lawrence Livermore National Laboratory. The most notorious case, the report claims, centers on Wen Ho Lee, a research mathematician born in Taiwan and a naturalized American, who was dismissed from his job at Los Alamos National Laboratory on 8 March for downloading more than a thousand files of classified "legacy codes" into his unclassified computer workstation, entering the information on a floppy disk and taking it home. Justice Department authorities say it is most unlikely that Lee will ever face criminal charges of espionage, because no evidence exists that he passed the information to PRC



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agents or to anyone else. Lee's attorney denies that Lee gave any nuclear warhead data to China or another country.

The Cox report described what had gone wrong: "No procedures are in place that would either prevent or detect the movement of classified information to unclassified sections of the computer systems." When Lee's security violation was detected by DOE investigators, no attempt was made by the department or by the FBI to do anything more than watch and wait.

This case history posed a problem for Bill Richardson, a former congressman from New Mexico and US ambassador to the United Nations, after he took command of DOE last August. He had been forewarned that security at the weapons labs would be his No.1 concern. Richardson was well aware of this by October when he engaged Edward Curran, a veteran FBI spycatcher who brought Aldridge Ames to justice for selling out his CIA colleagues to the Soviet Union. Curran was designated DOE's chief of counterintelligence, reporting directly to Richardson, as well as to FBI director Louis J. Freeh and CIA chief George J. Tenet. By upgrading espionage surveillance, Richardson was carrying out President Clinton's Presidential Decision Directive 61 (PDD-61), ordering the department to reorganize its security procedures.

In fact, since 1988, Congress's watchdog General Accounting Office had repeatedly reported serious security flaws in the department's foreign visitors program, which is supposed to restrict foreign scientists and engineers to nonclassified areas and quarantine them from weapons work. In 1997, GAO warned Congress that two of the three weapons labs, Los Alamos and Sandia, had obtained waivers exempting them from running the basic requirements of "indices checks" on visitors—not full background investigations but simple cross-references with intelligence agency databases for any suspicious information. Only 5% of visiting scientists and officials from "sensitive" countries were checked at all, and, GAO stated, some of the visitors were later identified in FBI records as suspected of having foreign intelligence connections (see PHYSICS TODAY, December 1997, page 51).

Nor was the problem only at the labs. When lab scientists went abroad, as Wen Ho Lee did to China in the 1980s with the approval of Los Alamos officials, they were often poorly briefed on the potential for leaking critical information.

Debriefing was lax or nonexistent. "There were scientists who had been to Soviet or Russian nuclear labs many, many times who told me they had never been debriefed by anybody," Curran said in an interview. The department responded to dozens of GAO reports with promises but little action. In 1997, Charles Curtis, then DOE's deputy secretary, made a serious attempt to tighten up security. But Curtis's six-point directive was never fully implemented, and it was apparently lost when he left later that year. The FBI's record for improving security has not been much better. "I'm the fourth FBI agent at the department," Curran said. "The structure of DOE prevented them from doing their job. Security to many people means guards, gates, and guns. Counterintelligence is not that at all."

Openness policy at DOE

An irony of PDD-61 is revealed in actions taken by Hazel O'Leary, Clinton's first Energy secretary. Praised in Congress for adopting a policy of openness, she encouraged foreign scientists to visit and take part in conferences at the weapons labs in the hope that this would lead to larger scientific exchanges, improved security techniques, and more nonproliferation activities. O'Leary also eliminated the colored badges worn by employees to indicate their level of security clearance. The badges had made it easy for security guards to know who could enter classified areas of the lab.

When the Cox committee submitted its classified report to the White House in January, some of Clinton's advisers cautioned that the report would unleash a frenzy of hysteria in Washington, and urged him to assign the President's Foreign Intelligence Advisory Board (PFIAB) to conduct a fairer examination of the problem. So Clinton assigned PFIAB's chairman, Warren Rudman, a conservative Republican and former senator from New Hampshire, to take a calmer, less politically charged review. Rudman's panel consisted of Ann Z. Caracristi, former deputy director of the National Security Agency; Sidney D. Drell, former deputy director of the Stanford Linear Accelerator Center, senior fellow of the Hoover Institution, and chairman of the University of California's oversight committee on the Los Alamos, Lawrence Livermore, and Berkeley labs; and Stephen Friedman, former chairman of Goldman Sachs and chairman of the Columbia University board of trustees.

On 14 June, PFIAB issued its 64-page report, "Science at its Best, Security at its Worst." On the first page, PFIAB stated: "Within DOE are a number of the crown jewels of the world's government-sponsored scientific research and development organizations. With its record as the incubator for the work of many talented scientists and engineers—including many Nobel Prize winners—DOE has provided the nation with . . . technological benefits and inspiration for the progress of generations . . . However, we believe that the dysfunctional structure at the heart of the department has too often resulted in the mismanagement of security in weapons-related activities and a lack of emphasis on counterintelligence." The board paints an abysmal portrait: DOE itself has been the subject of "a nearly unbroken history of dire warnings and attempted but aborted reforms . . . Second only to its world-class intellectual feats has been its ability to fend off systemic change . . . No president, secretary of energy, or Congress has been able to stem the recurrence of fundamental problems. All have been thwarted time after time by the intransigence of the institution."

PFIAB found DOE "a large organization saturated with cynicism, an arrogant disregard for authority, and a staggering pattern of denial. For instance, even after President Clinton issued PDD-61 *ordering* the department to make fundamental changes in security procedures, compliance by department bureaucrats was grudging and belated."

After its 90 days of inquiry, PFIAB concluded that DOE is "incapable of reforming itself, bureaucratically and culturally, in a lasting way, even under an activist secretary." The panel declared that DOE and the weapons labs "have a deeply rooted culture of low regard for and, at times, hostility to security issues. . . Therefore, a reshuffling of offices and lines of accountability may be a necessary step toward meaningful reform, but it almost certainly will not be sufficient."

While the panel noted that Richardson has attempted to make the labs more security conscious with sessions on security, computer "firewalls," background checks, and polygraph tests, it proposed that DOE introduce programs on cybersecurity, administrative management, and interpartmental cooperation with the FBI and CIA in accordance with the Foreign Intelligence Surveillance Act of 1978. The panel offered two alternatives: an internal restructuring of the department, with weapons research and stockpile management functions placed within a semi-autonomous agency within DOE, similar to the Defense Advanced Research Projects Agency within the Defense Department and the National Oceanographic and Atmospheric Agency inside the Commerce Department, or a wholly independent agency outside DOE, akin to NASA. PFIAB debated whether the weapons labs might be relocated within Defense and concluded that they "should never be subordinated to DOD."

At a half-dozen congressional hearings on the PFIAB report, Rudman was

adamant. The disdain of security measures at DOE and the labs, he contended, "conspired to create an espionage scandal waiting to happen." In all the years since PFIAB was established by President Eisenhower, it had never made a report public. "This one is different and will make a difference," he said at one hearing. When he handed a copy to Clinton in the White House, said Rudman, the President said he would "carefully review" its findings and reaffirmed that he remains "committed to taking the necessary steps to safeguard our nation's secrets."

Richardson, for his part, opposed both of PFIAB's concepts. During one three-hour hearing of four Senate committees, which at one point attracted 32 senators, Richardson resisted any plan to set up a new agency in the department. "I hate this 'agency' word. I abhor it," he said. "It connotes something that is a separate entity within my own department." He especially didn't appreciate PFIAB's suggestion that a new undersecretary at the agency would be able to go directly to the president or Congress and perhaps bypass the DOE secretary. The agency, he thundered, would be "a fiefdom within a fiefdom."

A semi-autonomous agency also had been under study for weeks on Capitol Hill after the publication of the Cox report. Republican senators Pete Domenici of New Mexico, Frank Murkowski of Alaska, and Jon Kyl of Arizona were the architects of a proposal they called the Agency for Nuclear Stewardship within DOE, though they admitted that the department and lawmakers would need to work out the details. In the House, Representative William "Mac" Thornberry, a Texas Republican, introduced a bill for a similar agency.

During the Fourth of July week, Clinton and members of Congress were in touch with Richardson on the proposal. By the end of the week, Richardson concluded that, like King Canute, he could not stem the tide. As long as the agency remained inside DOE and under the control of the secretary, he said, "I'm ready to move on it." Only a week earlier, he had argued that a new agency was unnecessary because he had already taken significant steps to tighten security, including the appointment of retired General Eugene E. Habinger, who once headed the Strategic Air Command, as the department's "security czar."

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Washington Ins & Outs

An Academy Election and Appointments at NASA, State, NSF

At the National Academy of Sciences's annual meeting in April, **Bruce Alberts** was reelected to a second six-year term as president. As NAS's chief executive, Alberts also heads the National Research Council, an enterprise of 1100 staffers who assist specialists in various fields on studies in science, engineering, and health issues. The research council's annual budget is about $180 million. Alberts, a renowned microbiologist, received his PhD in biophysics from Harvard University in 1965. His new term at NAS began on 1 July.

In the same election, **R. Stephen Berry**, James Franck Distinguished Service Professor in Chemistry at the University of Chicago, was elected home secretary, succeeding **Peter H. Raven**, director of the Missouri Botanical Garden, who had served three four-year terms in the position. As home secretary, Berry oversees the academy's membership activities and serves as secretary of the governing council. He also assumes chairmanship of the National Research Council's report review committee, which has ultimate authority for releasing hundreds of policy studies produced each year by the organization. Elected to the academy in 1980, Berry has been active in research council activities. He most recently chaired the committee on the international flow of scientific data, which resulted in the1997 report, "Bits of Power: Issues in Global Access to Scientific Data."

Berry's scientific work at the University of Chicago involves atomic collisions, thermodynamics, the efficient use of energy resources, and the behavior of subnanoscale particles and their relation to proteins.

NASA has lured **Kathie L. Olsen** from the National Science Foundation to fill the long-vacant job of chief scientist at the agency. Olsen had been a senior staff associate in NSF's Office of Integrative Activities for the past ten years and acting deputy director of the unit since 1993. Her predecessor at NASA, **France Cordova**, left in 1996 to become vice chancellor for research at the University of California, Santa Barbara (see PHYSICS TODAY, July 1996, page 51).

In 1979, Olsen received a PhD in psychobiology from the University of California, Irvine, and the following year, she became associate professor in the department of psychiatry and behavioral science at the State University of New York at Stony Brook. In 1988, she moved to George Washington University, and while teaching there she worked as an NSF program director in psychobiological and neuroendrocrinological programs.

On returning from the Fourth of July holiday, Congress confirmed **John D. Holum** as under secretary for arms control and international security at the Department of State. Holum had been director of the Arms Control and Disarmament Agency almost from the start of the Clinton presidency in 1993. When the agency was merged into the State Department on 1 April, Clinton nominated Holum to head the new organization. As such, Holum continues to be principal adviser to the president and secretary of state on arms control and nonproliferation matters.

Even while attending the George Washington University School of Law, Holum served as legislative aide to Senator George McGovern. Holum later was a member of the policy and planning staff at the State Department during the Carter administration, and then became a practicing attorney in a Washington law firm for the 12 years that Republicans ruled in the White House. A political operative, he took part in the exploratory presidential campaign activities of Senator Gary Hart (of Colorado) and Governor Bill Clinton (of Arkansas) in the 1980s. In 1992, Holum was executive director of the Democratic Party's platform drafting committee and then became an adviser on defense and foreign policy issues during Clinton's run for president.

At his nomination hearing before the Senate Foreign Relations Committee on 18 June, Holum testified that the 1972 Anti-Ballistic Missile (ABM) Treaty, which Democrats argued had legally prevented the development of any Star Wars missile defense, would no longer stand in the way of such a project in the Clinton administration. "The decision on [ABM] architecture will be made based on the threat . . . on security considerations," he stated. "We're not saying . . . tailor the defense to fit the treaty." In making the case for a missile defense, Holum said any revision of the treaty negotiated with Russia would probably not be completed before next June, which is