

A History of the U.S. Department of Energy
During the Clinton Administration
1993-2001



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Department of Energy Chronology 1993 - 2001

Date	Event
November 3, 1992	William Clinton is elected president.
November 23, 1992	President-elect Clinton, in his first post-election press conference, declares that the Department of Energy (DOE) will play a major role in stimulating the Nation's economy and creating jobs. He tells reporters that he considers the secretaries of energy and commerce to be "very major appointments." He adds that how they "pursue the missions of those departments will affect the success or failure of this administration's economic efforts."
December 21, 1992	<p>President-elect Clinton announces the appointment of Hazel R. O'Leary, a vice president at Northern States Power Company of Minneapolis, Minnesota, as Secretary of Energy. O'Leary has strong energy credentials, having served in the Federal Energy Administration in the mid-1970s and in the Department of Energy from 1977 to 1980. As an African-American woman, she helps Clinton fulfill his commitment to diversity.</p> <p>In making the announcement, Clinton describes energy as the "Achilles' heel" of the economy. He claims that his energy priorities will be "greater reliance on American natural gas, greater energy efficiency, greater development of alternative energy resources, a greater commitment to making good energy policy and good environmental policy good economic policy for America."</p>
January 19, 1992	O'Leary, at her confirmation hearing, declares that it is "unconscionable for the nation and . . . for those who have attempted to set policy" that the United States is no better off in terms of dependency on foreign oil than it was in 1974. She also decries government "command-and-control regulation" of energy production and distribution. "I have learned through bitter experience," she observes, "that it's very hard to mandate on high."

January 22, 1993

O'Leary is sworn in as Secretary of Energy.

February 17, 1993

President Clinton reveals his economic recovery plan in his State of the Union message. The plan consists of a short-term "job investment" economic stimulus package, a long-term investment program, and a deficit reduction program of spending cuts and tax increases. The \$30 billion short-term stimulus package contains over \$200 million of energy-related expenditures, including funding for weatherization grants, technology transfer, and the purchase of alternative-fueled vehicles. The \$160 billion long-term investment program covering fiscal years 1994-1998 contains almost \$5 billion of energy-related expenditures. \$1.9 billion is earmarked for additional funding for conservation and renewable energy research.

The Department also sustains cuts of over \$8 billion in the President's \$703 billion deficit reduction program for 1994-1998. The bulk of the cuts--\$4.5 billion--come in defense programs, a reduction made possible, Secretary O'Leary notes, "by recognizing that the Cold War is over."

President Clinton also proposes a "broad-based" energy tax increase. He recommends adoption of a BTU tax on the heat content of energy not only to raise revenue to reduce the deficit but also to combat pollution, promote energy efficiency and independence, and reduce greenhouse gas emissions by about 25 million metric tons. Estimated annual revenue from the tax, which would apply to all energy sources, would be \$22 billion by 1997. The tax would add about 8 cents per gallon of gasoline.

March 3, 1993

President Clinton announces that Vice President Al Gore will head a team of mostly federal employees to conduct a six-month review of the federal government. The goal of the National Performance Review, as it is termed, is "to make the entire federal government both less expensive and more efficient, and to change the culture of our national bureaucracy away from complacency and entitlement toward initiative and empowerment." The initiative becomes popularly known as "reinventing government."

April 2, 1993

Secretary O'Leary reorganizes the Department into three "missions teams": energy, weapons and waste cleanup, and science and technology. The energy mission team reports to the deputy secretary, who is also the chief operation officer of DOE within the Office of Secretary. The other two mission teams report to the under secretary. Legislation that would have

provided DOE with three under secretaries to oversee the three mission areas fails to clear Congress in 1993.

April 1993

The administration's proposed FY 1994 budget for the Department reflects the changed priorities of President Clinton's economic plan. At \$19.6 billion, the request is slightly more than the estimated FY 1993 budget of \$19 billion. National security programs, including naval reactors, receives a significant cut from \$7.7 billion to \$6.6 billion. Energy efficiency, natural gas research and development, and technology transfer all receive sizeable funding increases. The environmental restoration and waste management program is up \$1 billion to \$6.5 billion.

April 21, 1993

President Clinton, in his Earth Day address, announces that the United States will stabilize greenhouse gas emissions at the 1990 level of 1,464 million metric tons by the year 2000. Without stabilization efforts, greenhouse gas emissions will increase about 7 percent by the year 2000 to 1,568 million metric tons. The President offers no specifics on achieving stabilization. With energy playing a central role in any such efforts, the Department emerges as the lead agency.

May 14, 1993

At a National Security Council meeting, the Joint Chiefs of Staff and the Defense and State Departments propose resuming nuclear weapons testing with a nine-test series directed toward safety improvement and stockpile reliability. In fall 1992, Congress, despite President George Bush's vigorous opposition, had imposed a nine-month moratorium on testing.

Secretary O'Leary, instead of whole-heartedly endorsing the proposal, urges further study. According to the *Washington Post*, this is the "crucial turning point" on the testing issue. No secretary of energy had ever come out against nuclear testing, and O'Leary is not speaking for a united Department. The directors of the nuclear weapons labs argue the clear and present need for testing for safety and reliability purposes. "I have never," one official present notes, "felt more frigid air in the room at an NSC meeting."

May 18-19, 1993

Secretary O'Leary convenes a seminar on nuclear weapons testing. Against strong objections from the lab directors, physicist Frank Von Hippel and former Secretary of Energy and Defense James Schlesinger argue that proposed safety tests would bring little benefit and there is no reason for warhead reliability tests when there is no indication that warheads have deteriorated. In the administration debate, O'Leary then joins with Thomas

Graham, acting director of the Arms Control and Disarmament Agency, and John Gibbons, White House science adviser, in advocating a "no-first-test" policy.

May 27, 1993

The House by a vote of 219 to 213 passes the administration's five-year deficit reduction and reconciliation bill, which includes a weakened BTU tax after special interests secure exemptions and concessions. Unyielding Senate Finance Committee opposition to the BTU tax convinces Senate leaders and the administration to drop the tax altogether. In its place, the Senate substitutes a 4.3 cents-per-gallon increase in the tax on gasoline and other transportation fuels.

May 1993

Following a hearing of the House Energy and Commerce's Subcommittee on Oversight and Investigations at which Chairman John Dingell (D-Michigan) cites a pattern of waste, mismanagement, and "even outright corruption" in DOE's contracting, Secretary O'Leary forms a Contract Reform Team, headed by Deputy Secretary William White, to review contracting procedures.

The Department and its predecessor agencies have relied on contractor operation of their government-owned facilities dating back to the Manhattan Project. These are known as management and operating--or M&O--contracts. M&O contracts assign responsibility for all aspects of running a facility to a single prime contractor. To attract private industry to the "high-risk and secretive job" of designing and producing nuclear weapons, M&O contracts traditionally relieve contractors of most financial risk and provide for only limited external oversight of contractor activities. As the largest civilian contracting agency within the federal government, DOE in FY 1993 spends about \$15.9 billion, or well over three-fourths of its budget, on M&O contracts.

June 10-11, 1993

The White House stages the Conference on Global Climate Change attended by representatives from the private sector, the environmental community, academia, and others. Secretary O'Leary tells the conference that preparing an action plan for stabilizing greenhouse gas emissions at 1990 levels offers "a unique opportunity to come together." Although "everything is on the table," she stresses that she is "not so impressed that command and control will get us all the answers."

June 25, 1993

The House votes 280 to 150 to end funding for the Superconducting Super Collider (SSC). Approved by President Ronald Reagan on January 30, 1987, the SSC was designed to

be the world's largest particle accelerator. Its 10-foot-diameter racetrack-shaped tunnel would be 52 miles in circumference. Initial estimated costs were \$4.4 billion. On November 10, 1988, Secretary of Energy John S. Herrington announced that a site in Texas, 25 miles south of Dallas, had been chosen for the SSC.

Ever-increasing cost estimates and ongoing reports of mismanagement dogged the SSC. In January 1991, the Department estimated project costs at \$8.25 billion. Secretary O'Leary told Congress that the SSC "has been managed very gently. By that, I mean inappropriately." Despite a statement by O'Leary that she was not "passionate" about the project, the administration works hard to save the SSC. O'Leary invites 49 mostly undecided lawmakers to visit the site. The Secretary and Vice President Gore make telephone calls to uncommitted House members. President Clinton appeals to the House to approve SSC funding, noting that "abandoning SSC at this point would signal that the United States is compromising its position of leadership in basic science--a position unquestioned for generations." The administration's appeals are to no avail.

July 3, 1993

President Clinton adopts a "no-first-test" policy and extends the nuclear weapons testing moratorium for at least fifteen months. He calls on other nations to observe a similar moratorium while negotiating a permanent test ban. The President also states that the United States will "explore other means" than testing to maintain the safety, reliability, and performance of the nuclear arsenal. Clinton directs DOE to maintain a capability to resume testing in the event another nation does so first.

July 13, 1993

Vice President Gore addresses Department employees on "reinventing government" in an interactive "Town Hall Meeting." Secretary O'Leary is in the forefront of the administration's reinventing government/quality management effort. Gore describes her as "one of the leaders of [the] whole process." He states that "the Department of Energy has been helping to lead the way in identifying new ideas and new approaches and efforts to bring what the private sector has called the quality revolution into the federal government."

July - August 1993

Secretary O'Leary and sixty of the Department's top executives, including laboratory directors, field managers, and key program managers, attend six days of quality improvement training at the Motorola-Milliken Quality Institute in Schaumburg, Illinois. The purpose of the sessions is to begin building a management cadre

- dedicated to meeting customer expectations by providing quality products and services.
- August 1993 President Clinton signs deficit reduction and reconciliation bill that includes 4.3 cents-per-gallon increase in gasoline tax after bill squeaks through the House by a vote of 218 to 216 and the Senate by 51 to 50.
- September 7, 1993 Vice President Gore releases reinventing government report, *From Red Tape to Results: Creating a Government that Works Better and Costs Less*.
- September 27, 1993 President Clinton, emphasizing the importance of non-proliferation, issues a directive dealing with management of the growing accumulation of fissile materials from dismantled nuclear weapons.
- September 30, 1993 The Senate votes 57 to 42 to fund the SSC. House Speaker Thomas Foley (D-Washington) declines to name any SSC opponents to the ensuing conference committee, and, as a result, House and Senate negotiators agree to fund the SSC.
- October 4, 1993 China conducts an underground nuclear test. Ignoring the provocation to immediately resume testing, President Clinton issues a directive to the Department to maintain readiness to test. Secretary O'Leary agrees that this is "prudent and necessary."
- October 1993 A bipartisan group of thirty fiscal conservatives in Congress led by Representatives Timothy J. Penny (D-Minnesota) and John R. Kasich (R-Ohio) advance an ambitious deficit-reduction proposal that includes significant cuts for some of DOE's programs and a recommendation that DOE be merged with NASA, EPA, and much of the Department of Commerce into a Department of Science, Space, Energy and Technology. Penny and Kasich contend that merging the agencies could save \$1 billion in administrative costs and elimination of duplication. The Penny-Kasich proposal is defeated in the House by a narrow vote of 213 to 219.
- October 19, 1993 The House votes 283 to 143 to return the Energy and Water Development Appropriations bill containing the SSC to the conference committee with instructions to kill the project. With no hope of significantly narrowing the large margin of opposition, SSC proponents admit defeat.

- October 19, 1993 President Clinton and Vice President Gore unveil *The Climate Change Action Plan*, emphasizing voluntary cooperation by businesses and industries and consisting of nearly fifty individual initiatives, ranging from accelerating tree planting to developing fuel economy labels for tires. Energy efficiency and conservation count for some 70 percent of the plan's anticipated emissions reductions. Government expenditures will be a relatively modest \$1.9 billion through the year 2000. The administration contends that the relatively small amount of federal money will leverage an estimated \$60 billion in private investment. Secretary O'Leary states that DOE will spend \$222 million annually to implement the plan.
- October 21, 1993 Secretary O'Leary announces a revised strategy for opening the Waste Isolation Pilot Plant (WIPP) for disposing of transuranic wastes located outside Carlsbad, New Mexico. The new strategy involves laboratory radioactive waste tests instead of underground tests at WIPP itself. The Department hopes that this will save over \$100 million and accelerate by two years the regulatory compliance needed for a disposal decision. The Department projects that a disposal decision will be made by October 1997, with disposal operations beginning the following April.
- October 28, 1993 President Clinton signs the Energy and Water Development Appropriations bill ordering that the SSC be killed.
- November 1993 The Department, the Environmental Protection Agency, and the State of Washington, relying on substantive input from "stakeholders," reach a tentative agreement on a revised Hanford Tri-Party Agreement for cleaning up the Hanford site. The agreement was first signed in 1989. "We have carved out a new regional consensus about Hanford, and we have changed the political equation in the Northwest," a member of a local advocacy group declares. "We are in agreement on a new cleanup approach that no one believed was possible." Both Secretary O'Leary and Assistant Secretary for Environmental Management Thomas P. Grumbly envision an open and accessible process across DOE's nuclear weapons complex in which stakeholders--state and local governments, local citizenry, Native Americans, environmentalists, and others--contribute to decisions on cleanup priorities, budgetary allocations, and land use policies.
- December 7, 1993 Secretary O'Leary launches her "openness initiative" at a press conference before an overflow audience in the auditorium of the

Forrestal building. She announces that, as part of President Clinton's commitment to a more open government, DOE is taking the first step in lifting "the veil of Cold War secrecy." This step consists of releasing previously classified material, which she describes as "the biggest delivery of declassified material in the history of this department." O'Leary passes out a large packet of fact sheets revealing that one-fifth of the Nation's nuclear weapons tests have been kept secret, identifying locations and quantities of weapons grade plutonium, providing information about fusion energy, and documenting the large quantities of mercury used in weapons production. O'Leary commits DOE to releasing additional material within six months. She also encourages whistle blowers and provides information on human plutonium experiments. O'Leary terms the openness initiative "breaking the silence."

O'Leary's openness initiative soon assumes a life of its own. Attention quickly turns to the issue of radiation experiments on humans, such as the plutonium injection program begun near the end of World War II. Despite the fact that some of this information has been publicly released years and even decades earlier, the media seizes on the issue. As information and misinformation on radiation experiments and informed-consent issues earns top billing in both national and international newspapers and broadcasts, DOE instructs its offices to search files for anything related to human experimentation. O'Leary appears on a number of national news shows. The Department sets up an "800" telephone number to field inquiries, which are soon averaging 700 per hour.

O'Leary does not hesitate to point out government responsibilities. "My view is that we must proceed with disclosing these facts and information regardless of whether it opens the door for a lawsuit against the Government," she notes. "And many have suggested, and I tend to agree personally, that those people who were wronged need to be compensated." President Clinton defends O'Leary's handling of the situation, and the administration extends the search for information on human experiments to all federal agencies.

January 3, 1994

The Human Radiation Interagency Working Group, tasked by the White House with coordinating the search for human experimentation records, holds its first meeting. The group includes the secretaries of Energy, Defense, Health and Human Services, and Veterans Affairs. Directors of the Central

Intelligence Agency and the Office of Management and Budget are also included.

January 1994

Secretary O'Leary creates a department-wide project for control and disposition of surplus fissile materials.

January 18, 1994

President Clinton establishes the Advisory Committee on Human Radiation Experiments to provide advice and recommendations to the Human Radiation Interagency Working Group. The fifteen-member advisory group consists of experts in medicine, science, and ethics. At the same time, DOE establishes its own Office of Human Radiation Experiments, which assumes responsibility for records research, liaison with the advisory committee, and written and telephone inquiries from the public. Over the next year, well over 200 people devote all or most of their time to the effort to find, declassify if necessary, evaluate, and make publicly accessible and usable the Department's records related to human radiation experiments.

February 2, 1994

Secretary O'Leary announces the formation of a panel, headed by former Motorola CEO Robert Galvin, to advise her on alternative futures for DOE's laboratories. O'Leary tasks the fifteen-member group with addressing various options including redirection, restructuring, and/or closure of parts of the system. O'Leary and her panel are under pressure to make substantial changes. "Every administration sets up a panel to review the national labs," notes Brookhaven Director Nicholas Samios. "The problem is that nothing is done." When asked whether the panel was likely to consider a major realignment of the labs, Presidential Science Adviser Jack Gibbons replies, "They'd better. We're sure not interested in just going through the motions again."

February 1994

Secretary O'Leary announces the release of her Contract Reform Team's findings, entitled *Making Contracting Work Better and Cost Less: Report of the Contract Reform Team*. Punctuating the team's call to "reinvent" DOE's contracting practices, she displays a mock-up of a check for \$18 billion and then scribbles the word "void" across it. "This kind of check," she declares, "is void from now on." O'Leary admits that the fundamental problem is that the Department is "not adequately in control of its contractors," and she concedes that the Department is "not in a position to ensure prudent expenditure of tax-payer dollars in pursuit of our principal missions." To remedy this, she explains, the contractor system requires a "major overhaul."

The Contract Reform Team calls for forty-five specific reform actions. Most important is the proposal to replace DOE's traditional cost-reimbursement M&O contracts, with their vague scopes of work and elimination of most financial risk, with "performance-based management contracts." These new contracts will provide "well-defined, objective performance criteria" that will allow the Department to measure outputs, hold contractors more accountable for fines and penalties, and require stricter control of management expenses. At the same time, they will provide financial incentives for cost reductions and superior performance. Unlike traditional M&O contracts, which typically are extended and rarely competed, performance-based management contracts will be put out to bid at least every ten years. In addition, M&O contractors will not necessarily perform most site operations, especially when specific functions can be subcontracted at a lower cost to a specialized contractor. With the shift from weapons production to waste management and environmental restoration at many sites, the review team notes, M&O contractors usually possess defense credentials but lack specialized expertise in handling waste and in cleanup. Plus, environmental work typically is more project than product-oriented. The review team therefore envisions the Department increasing the use of fixed-price contracts to accomplish these as well as many routine functions.

February 1994

As part of the administration's FY 1995 budget request, DOE's budget of \$18.5 billion, which Secretary O'Leary describes as "lean," is about three percent less than the estimated FY 1994 funding level of \$19 billion. With the demise of the SSC, science and technology programs sustain the biggest cuts, down about fourteen percent. National security programs decrease about thirteen percent, from \$6.5 billion to \$5.6 billion. Following five years of massive increases, funding for environmental management programs begins to level off, up only \$180 million to \$6.5 billion.

The funding request for energy resources, up some five percent from \$3.5 billion to \$3.7 billion, reflects DOE's shifting priorities. Funding for energy efficiency and conservation increases from \$699 million in FY 1994 to a requested \$993 million in FY 1995. Solar and renewable funding is up from \$347 million to a requested \$398 million. By contrast, the nuclear energy and fossil energy requests are down considerably.

In the appropriations process, the Democratic-controlled Congress deviates most significantly from the administration's request in the funding for energy efficiency and conservation.

Congress appropriates \$794 million for the program, which is twenty percent less than requested but still fourteen percent more than energy efficiency and conservation received in FY 1994.

April 1994

Secretary O'Leary releases the Department's first comprehensive strategic plan, entitled *Fueling a Competitive Economy*. O'Leary notes that the end of the Cold War and the election of President Clinton have engaged a "new national agenda," with the strategic planning process envisioning a "massive reshaping" of DOE's "missions, priorities, and business practices" to meet the new agenda. "Tinkering around the edges," the strategic plan declares, is "not enough." The strategic planning process thus produces, according to O'Leary, "new and more sharply focused goals: fueling a competitive economy, improving the environment through waste management and pollution prevention, and reducing the nuclear danger."

Key to meeting these goals is the effort to "define and integrate the business activities" of the Department. The strategic plan identifies five core "businesses" or mission areas: industrial competitiveness, energy resources, national security, environmental quality, and science and technology. This last area, science and technology, is the linchpin uniting DOE and its various businesses around a common theme. Science and technology, the strategic plan notes, provides the "core competencies" that enable all of the Department's businesses to succeed in their missions.

April 1994

Martha Krebs, director of DOE's Office of Energy Research, tells a congressional hearing that the Department is planning to move toward an applied research approach on magnetic fusion. "The fusion development program is in a period of major transition," she says, "from a program focused on research to one focused on engineering development, from a laboratory and university base to an industry base, from a domestic program to an international program."

In real terms, funding for fusion has shrunk by half over the past fifteen years, leaving the United States ranked third behind Europe and Japan in monies spent on fusion. From a high of nineteen major machines on line in 1984, the Department now has only three: the Tokamak Fusion Test Reactor (TFTR) at the Princeton Plasma Physics Laboratory, the DIII-D at General Atomics in San Diego, and the Alcator C-Mod at the

Massachusetts Institute of Technology. None is funded to run at full capacity.

Krebs's retooled fusion program consists of three critical elements: 1) the proposed \$742 million Tokamak Physics Experiment (TPX) to be built at Princeton will use superconducting magnets to demonstrate continuous plasma confinement at high pressure; 2) the International Thermonuclear Experimental Reactor (ITER), to be designed and built as a multinational engineering project at an estimated cost of \$8 to \$10 billion, will demonstrate continuous power production in the billion-watt range; 3) the \$250 million-a-year base research program in areas such as plasma physics and the development of materials will continue in order to fill in major technological gaps. Funding is the big issue. For DOE to carry out all of its plans, the FY 1995 magnetic fusion budget of \$368 million will have to more than double or even triple by the year 2001.

June 1994

Twenty state governments and fourteen electric utility companies, unhappy that DOE will not begin taking possession of civilian high-level waste in 1998 as required by federal regulations, join in filing suit against the Department. Secretary O'Leary contends that although DOE has a "moral obligation" to claim ownership of the waste, it is not legally bound to take possession until it opens a repository. Utility executives and state regulators disagree. "We signed a contract with the federal government . . . to take our spent nuclear fuel beginning in 1998," James J. Howard, chairman and chief executive officer of Minneapolis-based Northern States Power Company, observes. "We've sent them a lot of money--my company over \$200 million, [the nuclear power] industry about \$8 billion."

July 1994

In the ongoing effort to characterize and eventually open the Yucca Mountain repository for civilian high-level nuclear waste, Office of Civilian Radioactive Waste Management Director Daniel A. Dreyfus institutes what he calls the "new Program Approach." The approach establishes a "sequence of suitability and licensing decisions" that will be "made on the basis of a knowledge base that is increasing with time." Decision making milestones are set whereby the Department will evaluate the technical suitability of the site by 1998, deliver a site recommendation and environmental impact statement to the president by 2000, and submit a license application to the Nuclear Regulatory Commission by 2001.

In support of pushing the program forward, Congress increases funding for Civilian Radioactive Waste Management in FY 1995 some thirty-seven percent to a level of \$523 million. Dreyfus views the increase as "a vote of confidence in our new approach."

September 1994

President Clinton approves the Nuclear Posture Review, which identifies post-Cold War nuclear weapons requirements. In presenting the results of the review, Secretary of Defense William Perry stresses a policy of "lead and hedge." Forces and budgets once allocated to countering the Soviet Union will continue to be reduced, Perry observes, but there is a need to hedge against the prospect of the return to power in Russia of factions hostile to the U.S. and the West.

The Nuclear Posture Review thus affirms the need for the continued maintenance of the safety and security of stockpile weapons and for the development of a reliable supply of tritium. The review also calls for a renewed capability to design and fabricate warheads, even though the production of new-design nuclear weapons will not be required for the foreseeable future.

October 1994

Secretary O'Leary establishes a thirty-member independent task force composed of leading experts from industry, academia, and the research community and tasks it with reviewing and assessing DOE's energy research and development programs and identifying \$1.2 billion in savings over five years. The task force is headed by Daniel Yergin, Pulitzer Prize-winning author and president of Cambridge Energy Research Associates.

October 28, 1994

The Department issues a Federal Register Notice on reconfiguration of the nuclear weapons complex. Because of "significant changes in the world," especially with regard to projected requirements for the nuclear weapons stockpile, DOE separates the Reconfiguration Programmatic Environmental Impact Statement (PEIS) announced in January 1991 into two PEIS's:

Tritium Supply and Recycling PEIS: Tritium is required for all the weapons in the stockpile. The radioactive isotope of hydrogen has a half-life of 12.3 years and decays at the rate of about five percent per year. None has been produced in the U.S. since 1988. Current stockpile requirements are being met by recycling tritium from dismantled weapons. Recycling will meet stockpile requirements under the START II Protocol, with a five-year reserve, until 2011. Given the long lead time of possibly ten to

fifteen years required to establish a new tritium production facility, DOE seeks to make an early decision on how to proceed. Technologies being considered are accelerator production of tritium, advanced light water reactor, heavy water reactor, and modular high temperature gas-cooled reactor. Candidate sites are Idaho, Nevada Test Site, Oak Ridge, Pantex, and Savannah River.

Stockpile Stewardship and Management PEIS: Although the Department and its predecessor agencies have been performing stockpile stewardship responsibilities for decades, the moratorium on nuclear testing makes necessary the development of the capability to prove weapon safety and reliability through means other than testing. The brainchild of Assistant Secretary for Defense Programs Vic Reis, the science-based stockpile stewardship program is developed in outline form at a three-day workshop in Albuquerque in early February 1994. The program aims to ensure the safety and reliability of the nuclear arsenal without actual testing through a sophisticated combination of computers, materials and manufacturing techniques, and physics facilities. Among the new facilities, the \$1.1 billion National Ignition Facility, to be built at the Lawrence Livermore National Laboratory, would be a 1.8-megajoule, 192-beam laser designed to direct energy on a ball-bearing sized capsule containing hydrogen and simulate nuclear detonations. At Los Alamos, the \$124 million Dual-Axis Radiographic Hydrotest Facility (DARHT) would be an indoor high-explosives facility that would simulate the first-stage detonation of a nuclear weapon.

November 1994

The Department, to reduce the proliferation threat, partners with the Department of Defense to transport 600 kilograms of highly enriched uranium--enough material for up to three dozen nuclear warheads--from Kazakhstan, a former republic of the Soviet Union, to the Oak Ridge Y-12 plant. A team of 27 volunteers from the Y-12 plant spends six weeks in Kazakhstan preparing the material for shipment.

November 4, 1994

Deputy Secretary White asks senior departmental officials each to nominate from two to five individuals to develop a plan for the strategic realignment of DOE. As the next step following the April release of the strategic plan, this would realign DOE both to match the business lines and goals identified in the strategic plan and to make departmental operations more efficient and effective. White states that realignment will require the "full-time effort" of roughly fifty employees over a three to four month

period beginning in December. Their task will be to "assess and breakdown" the activities of DOE, at headquarters and in the field, and to "propose a restructuring." The project, White asserts will "fundamentally alter how we look and how we conduct business in the Department."

November 8, 1994 Republicans win majorities in the House and the Senate. Government downsizing is at the forefront of the Republican agenda, and dismantlement of DOE, as well as several other federal agencies, becomes a hotly debated issue.

November 19, 1994 Soon-to-be Senate Majority Leader Robert Dole (R-Kansas) states that he favors combining DOE with another agency. "I don't see," the senator says in reference to the Department, "any useful purpose it serves." Incoming Senate Governmental Affairs Committee Chairman William V. Roth, Jr., (R-Delaware) issues a "draft blueprint for government in the 21st century" that suggests consolidating functions government-wide to reduce the number of federal agencies by up to half, with DOE included among the "candidates for elimination through restructuring/reorganization." Other Republican leaders, meanwhile, urge caution. A spokesperson for Senator Pete Domenici (R-New Mexico), chairman of the Budget Committee and with a sizeable DOE presence in his state, notes that the senator has been "working to try to get the leadership not to make any drastic changes like getting rid of an entire agency." The spokesperson adds that Domenici believes that the Department is "much too big to consider cutting the whole agency."

In early December, several White House staffers propose abolishing DOE as a sign that the administration is serious about downsizing government. The proposal includes transferring the national laboratories to the Department of Commerce and nuclear weapons activities to the Department of Defense, privatizing the power marketing administration, and consolidating the remaining departmental programs within the Department of the Interior. With administration officials seriously considering the proposal, even Secretary O'Leary vacillates in her commitment to preserving DOE. Responding to Dole's comments, she states that DOE provides the most cost-effective structure for the "necessary functions" that it performs. She adds that she will be "pleased to engage in the debate of where and under what circumstances [the functions] take place." As pressure mounts and rumors circulate that DOE is in deep trouble, O'Leary tells the *Wall Street Journal* that she does not "want to be in the position of defending the thing."

O'Leary soon stiffens, however, in her resolve to defend DOE. She tells the trade journal *Inside Energy* that she is not "leading us down a path to dismantle the Department of Energy." With the help of Vice President Gore, O'Leary prevails by convincing the White House that she could deliver a smaller and more effective department.

December 15, 1994 President Clinton, instead of abolishing and consolidating departments, proposes a middle-class tax cut that would be paid for by cutting the budget of DOE and four other federal agencies. The Department's portion of budget reductions is pegged at \$22.7 billion over five years. More than half of the reductions--\$12.1 billion--will come from the anticipated privatization of the power marketing administrations. The remaining \$10.6 billion, representing over ten percent of DOE's budget, is expected to come primarily from program reductions and savings to be realized through strategic realignment.

December 1994 Secretary O'Leary, after receiving assurances of White House support for her agency, launches her strategic realignment initiative, suggesting that it will result in a leaner, more efficient agency that Congress will find harder to kill. "I want to focus," she says, "on how best to save money and get on with making this government much more responsive to citizens and aligning the work so it makes sense."

The threat of dismantlement serves to expedite the process. Review, analysis, and submission of recommendations are telescoped into a four month time frame because, as O'Leary puts it, "we can't afford to do it any slower." At the same time, O'Leary seeks to make the process as inclusive and comprehensive as possible. She sets up a "structure team" of forty employees from various offices at headquarters and in the field. Working full-time and with a mandate to review the "functions of all federal DOE employees," the structure team is broken down into six sub-teams looking at administration, energy programs, field management, project management, science/technology, and national security/environment. In addition, a full-time "staffing and constraints team" is established to develop a plan to "overcome the many existing hurdles to implementing a DOE realignment plan." Finally, a part-time "communications team" is charged with "keeping everyone informed about team activities and progress in the initiative." The communications team puts out a weekly "Strategic Alignment Initiative Bulletin" that is distributed to all employees. One of the

primary purposes of the bulletin is to deal with the numerous questions and rumors that are circulating around the Department. All employees are also sent a questionnaire that asks them to make specific suggestions about how DOE should be realigned.

February 1, 1995

The Galvin panel charged with reviewing alternative futures for DOE's laboratories issues its report. The panel emphasizes that the "essence" of what the Department and the laboratories "should and do stand for [is] the energy agenda." Energy, broadly speaking, is the unifying element shaping the labs' mission. The common but mistaken view at the labs and at DOE, the panel states, is that the labs need to expand their mission into new areas of research. Rather, the labs need to focus on their traditional areas of energy expertise, which include national security, energy technologies, environmental science and technology, and fundamental science. The panel stresses basic research against applied research that directly serves industry. Developing technologies for the benefit of the private sector, the panel notes, "is not an appropriate mission for the national laboratories."

The Galvin panel's core findings and recommendations deal with laboratory governance and the "counterproductive federal system of operation." The panel determines that the existing GOCO (Government-Owned, Contractor-Operated) system is "broken and should be replaced by a bold alternative." Overly prescriptive congressional management and excessive oversight by the Department has resulted in a host of problems, including excess overhead costs, poor morale, gross inefficiencies, and lack of clarity concerning mission. As a solution, the panel advocates that DOE and Congress "de-federalize" the labs and create a "new not-for-profit R&D corporation" governed by a board of trustees consisting of scientists and industry executives appointed by the President. The Department would be the "government sponsor" of the new entity, as well as its "customer," but departmental and congressional influence would be limited to controlling the level of funding. Virtually all program decisions would be made by the new corporation. The three weapons labs, the panel concedes, might be excluded from the system. As a fall back position to this "radically new" reordering, the panel suggests management reforms largely aimed at eliminating excessive and duplicative departmental oversight and replacing directives with well-defined performance measures.

Although finding that the national laboratory system is "oversized for its current mission assignments," the Galvin panel does not make any recommendations about the possible closure of specific labs. The panel suggests shifting over a period of five years most nuclear weapons work done at Livermore to Los Alamos. Coming forth with its report in the midst of the struggle over dismantling DOE, the panel recommends against transferring the nuclear weapons laboratories to the Department of Defense. The panel notes that there is "much value in maintaining an independent and technically expert organization." Moving the weapons labs to the Defense Department would eventually threaten the quality of their scientific work and increase the likelihood that weapons safety and reliability issues would receive less attention. Nor does the panel support eliminating DOE. The nation's energy agenda requires "central, federal, senior cognizance and appropriate government sponsorship in the interest of the short-term and long-term overall quality of life in America and the world." In addition, the labs require "a strong federal financial support and linkage or sponsorship."

February 1995

The Department releases *Human Radiation Experiments: Roadmap*, which provides a guide to the history and records pertaining to human radiation experiments.

February 6, 1995

Secretary O'Leary briefs reporters on the Department's FY 1996 budget following the administration's unveiling of the overall budget. The \$17.8 billion budget, which she claims "proves that we can deliver more results for less," is \$300 million more than the FY 1995 budget. The Department originally asks for \$18.1 billion, but the White House, seeking to offset the anticipated revenue losses from Clinton's middle class tax cut, directs the agency to cut the proposed budget by \$600 million. Resisting such a large reduction because of the short period of time in which major cuts involving sales of assets and privatizations would have to be carried out, departmental officials opt for a cut of only \$300 million. The Department is, as one official puts it, "pushing all the pain into the out-years."

The budget projects increases for three of DOE's four major "business lines." Energy resource programs are up, with energy efficiency increasing from \$771 million to \$891 million and solar and renewables increasing from \$418 million to \$452 million. Science and technology programs are up slightly. Reversing a downward trend, national security programs are up significantly, with most of the increases occurring in the areas of

nonproliferation and maintenance of the nuclear weapons stockpile in the absence of underground testing. Only environmental quality programs decrease, with the core environmental management programs declining some four percent.

O'Leary is philosophical about the increases. "The truth is you sometimes have to spend money to save money," she observes. "Further savings--to the tune of more than \$10 billion--will show up next year and beyond as we realign the department's operations and run them more effectively at lower costs. Fiscal year 1996 will be a transition year to build a platform to drive down costs and deliver what the taxpayers, the president and the Congress demand."

February 8, 1995

At a hearing before the House Commerce Subcommittee on Energy and Power, Chairman Dan Schaefer (R-Colorado) promises Secretary O'Leary that he will go over the agency's budget with a "carving knife." The next day at a Senate Energy and Natural Resources hearing, Chairman Frank Murkowski (R-Alaska) tells her that his committee is going to cut her budget, and he asks her to submit a list of programs DOE would sacrifice if forced to cut between \$500 million and \$1 billion in spending. The following week at a hearing before the House Science Subcommittee on Energy and Environment, Chairman Dana Rohrabacher (R-California) states that Congress will cut the Department's proposed budget. "With or without DOE's help," he declares, "we are going to get the job done."

February 1995

The Department and the President's Committee of Advisors on Science and Technology (PCAST) convene a nine-member panel headed by John Holdren of the University of California, Berkeley, to review the magnetic fusion program and make recommendations in light of potential budget cuts. The panel is directed to report back to the PCAST by July.

February 14, 1995

A group of seventy-three House Republican freshmen announce that they have established task forces to determine what should be done with the remains of four cabinet-level agencies targeted for liquidation--the Energy, Commerce, Education, and Housing and Urban Development departments. The task forces will examine which functions can be turned over to state or local governments, which can be privatized, and which can be eliminated or transferred into other federal agencies. The task forces will also draft legislation to implement dismantlement.

Representative Todd Tiahrt (R-Kansas) chairs the task force on eliminating DOE.

The freshmen are joined at their press conference by several members of the House leadership, including Budget Committee Chairman Kasich and Appropriations Committee Chairman Bob Livingston (R-Louisiana). Kasich notes that he can not "think of one of these departments that should be retained." In addition, House Speaker Newt Gingrich (R-Georgia) and House Majority Leader Richard K. Armey (R-Texas) give the freshmen Republicans free rein to pursue their dismantlement campaign. Gingrich promises that by the end of the year the House will pass legislation to close two of the four departments.

In the Senate, Majority Leader Dole pursues his own dismantlement campaign. Dole sets up a Senate task force on eliminating government agencies to complement that of the House freshmen. He describes the task force as "an important step toward truly reshaping the relationship between government and citizens--getting rid of meddlesome, unnecessary and wasteful government agencies."

Secretary O'Leary fights back, seeking to counter those proposals calling for elimination of DOE. In her opening statement before a House Commerce subcommittee in early February she lists the various reasons why DOE should continue to exist. The Department's nonproliferation and national security functions, she notes, are "appropriate civilian functions" that should not be handed over to the Pentagon. The Department's environmental management program ought not to be farmed out to another agency, she argues, because DOE has proven that it can improve the program and has "earned a right to continue." O'Leary adds that cabinet-level representation is essential if energy supply and demand issues are not to be lost in administration debates over policy.

March 2, 1995

Physicists at DOE's Fermi National Accelerator Laboratory announce the discovery of the subatomic particle called the top quark, the last undiscovered quark of the six predicted to exist by current scientific theory. Scientists worldwide had sought the top quark since the discovery of the bottom quark at Fermilab in 1977. The discovery provides strong support for the quark theory of the structure of matter.

March 1995

Secretary O'Leary discusses DOE's response to the Galvin report on the national labs before a Senate committee. The

Department, she notes, accepts twenty-four of the Galvin panel's twenty-nine recommendations "without any discussion." She distances herself, however, from the proposal to consolidate weapons activities at Los Alamos, noting that any shift of functions from Livermore could not be done in five years and "we would need to do that very carefully." She rejects the panel's core recommendation of de-federalizing and corporatizing the labs. The proposed system, she observes, does not appear to be "either practical in the near-term or sustainable over the long-term." Pointing out that over \$100 billion has been invested in the national lab system, O'Leary says she is "loathe to submit [the labs] to some experiment, noble as it may be."

As an alternative, less drastic approach, O'Leary establishes the Laboratory Operations Board to ensure that management attention is provided on a continuing basis to cost and performance issues at the labs. Consisting of an equal number of DOE senior officials and external members, the board is chaired by Under Secretary Charles Curtis. The external members provide semiannual reports through the Secretary of Energy Advisory Board.

March 1995

Delegates from over one hundred nations meet in Berlin at the first high-level worldwide meeting on climate change since the 1992 Rio Earth Summit to discuss the adequacy of the commitments made at Rio. At Berlin, the delegates agree to negotiate within two years a new set of targets for developed countries to meet in reducing greenhouse gas emissions in the post-2000 period. The delegates also move to set up a "joint implementation" pilot program in which developed nations would receive emissions credits for projects undertaken by their utilities and other industries in developing countries.

Both Republicans and Democrats in Congress express concern that the "Berlin Mandate" will result in expensive long-term commitments that will leave the United States at a competitive disadvantage vis-a-vis developing and possibly other nations. Senate Energy and Natural Resources Committee Chairman Murkowski states that he is disappointed that the process adopted will result in greenhouse gas reductions in industrialized nations only. He notes that "we agreed to a process where China and South Korea, significant trading partners of ours, will participate in a negotiation to set new U.N. mandates for greenhouse gas reductions that are binding on us, but not on them, and that's crazy." Murkowski accuses the administration of using the negotiations to build up international pressure on the

United States to enact additional energy taxes, and he adds that the administration's position on climate change is based "not on science, but on emotion." Some House Republicans believe, Murkowski continues, that "if the administration is no longer paying attention to science, there's no sense in continuing to fund research on climate change."

March 29, 1995

Secretary of Defense William Perry, in a letter to the chairmen of the House National Security Committee and the Senate Armed Services Committee, states that the Department of Defense is opposed to taking over the Department of Energy's nuclear weapons complex. Perry asserts that the "clear and distinct separation" of nuclear weapons-related roles between the two departments has "served the Nation well by creating institutional checks and balances." The Department of Defense needs to focus on its "current missions," he adds, "rather than adding functions that more appropriately belong in the Department of Energy."

April 3, 1995

The Department releases the *Baseline Environmental Management Report* (BEMR) describing the activities and total potential costs required to address the complex's waste, contamination, and surplus nuclear facilities. Estimated total costs range from \$200 billion to \$350 billion in constant 1995 dollars over a seventy-five year period. The Department's best estimate is \$230 billion, a figure comparable to the total U.S. nuclear weapons production costs. The BEMR estimates exclude the \$23 billion already spent as well as cleanup costs both for currently active facilities such as Pantex and the national laboratories and for activities for which no feasible cleanup technology exists such as with most contaminated groundwater. The Department bases the estimates on a variety of assumptions that include significant productivity increases over time, adherence to current compliance agreements, and use of existing technologies.

The most critical variable cited by the BEMR is land use. Land use options considered range from keeping existing contamination in place and restricting public access to removing all contaminants and opening the land for a wide variety of uses including farming and public recreation. Depending on the land use options chosen, total costs could range from \$175 billion to \$500 billion. "What does the nation want to buy?" asks Assistant Secretary for Environmental Management Thomas Grumbly. "What we found was that the future use of the land and facilities will largely determine if the cost is higher or lower." He adds that

"this estimate [of \$230 billion] is a reasonable projection given current technologies to stabilize--not completely scrub to 'green fields' status, which is not technically feasible in many cases."

April 10, 1995

President Clinton signs a supplemental appropriations bill for \$3.1 billion of new FY 1995 defense spending to pay for unbudgeted military operations in Haiti and elsewhere. Because of Republican insistence that no additional appropriations would be made without offsetting spending cuts, the new spending is more than offset by cuts in both defense and non-defense spending. The Department is targeted for reductions of \$200 million in the clean coal program and a like amount in the environmental cleanup program for the nuclear weapons complex.

April-May, 1995

Following twenty-five years of relative success in preventing the spread of nuclear weapons, the Nuclear Non-Proliferation Treaty (NPT) is up for mandatory review by the NPT Review and Extension Conference held at the United Nations. Going into the conference, the U.S., seeking an indefinite and unconditional extension of the treaty, fears that the conference might not agree to an extension because of the lack of progress by those nations possessing nuclear weapons in achieving nuclear disarmament. At the conference, the U.S. achieves the indefinite extension of the treaty but with certain conditions. Among the "Principles and Objectives" approved by the conference is the call for the successful negotiation of a "universal and internationally and effectively verifiable" Comprehensive Test Ban Treaty by no later than 1996.

May 1995

Representative Martin R. Hoke (R-Ohio), chair of the House Budget Committee working group on national security, discovers that the Department has transferred \$400,000 from unobligated balances within Defense Programs to pay for security guards for Secretary O'Leary's foreign trips. Probing further, Hoke, irritated by what he considers to be O'Leary's neglect of her responsibility for maintaining the nuclear weapons stockpile, learns of possible excesses and lavishness in her travel. He asks the General Accounting Office to scrutinize the Secretary's trade missions, and, in a series of statements made on the House floor, describes her trips as "safaris" and "boondoggles." Hoke claims that O'Leary's trade missions are unnecessary, and he argues that most of the contracts that have been formalized during the O'Leary visits were arranged beforehand.

May 3, 1995

Secretary O'Leary announces the results of the renamed Strategic Alignment and Downsizing Initiative. Apart from privatizing the power marketing administrations and the naval petroleum reserves and separating the Federal Energy Regulatory Commission from DOE, actual restructuring planned for the agency is limited. The various energy offices will be organized into a new energy cluster, and an Administrative Services Center will be set up to provide personnel, procurement, and administrative services. In addition, the six headquarters organizations dealing with emergency management will be consolidated into one office.

Downsizing efforts form the core of the initiative. On top of planned program cuts of \$7.0 billion over five years, most of which will be borne by environmental management, realignment will save DOE \$1.7 billion through office closures, cutbacks in travel and management services, and workforce reductions. Twelve of sixteen offices in the Washington, D.C., area are slated for closure by 1999. Another dozen field offices will be closed or consolidated, but no operations offices or other major facilities are included. Travel outlays will be cut by almost half, and management costs will be reduced by limiting the use of support service contractors for activities such as technical analysis, communications, and administrative functions. The Department's workforce will be reduced by 27 percent over five years. Headquarters staffing will be slashed by 34 percent from 6,850 to 4,510. Some 1,450 positions will be lost in the field, a reduction of 21 percent. Department officials hope that workforce reductions can be achieved through normal attrition and buyouts but admit that layoffs, although "an absolute last resort," are possible. Contractors are expected to make similar reductions that will decrease the complex-wide workforce to 109,000 by FY 2000.

May 11, 1995

The House Budget Committee approves a budget resolution for FY 1996 that recommends abolishing the Departments of Energy, Education, and Commerce. A week later, the House approves the resolution.

The Senate Budget Resolution proposes abolishing only the Department of Commerce.

June 8, 1995 The task force on dismantling DOE set up by the group of seventy-three House Republican freshmen introduces its abolishment legislation at a "pep-rally-like" news conference with Dole, Armey, Kasich, and House Minority Whip Tom DeLay (R-Texas)

in attendance. The proposed legislation incorporates the agency's nuclear weapons complex and complex cleanup functions into a civilian Defense Nuclear Programs Agency within the Department of Defense, eliminates most of DOE's energy research program, creates an energy laboratories commission to make recommendations on which laboratories to shut down, refocuses the civilian nuclear waste program to build a short-term storage facility that will be constructed by the Army Corps of Engineers, transfers a much-reduced Energy Information Agency to the Treasury Department and the Strategic Petroleum Reserve to the Interior Department, and privatizes the Power Marketing Administrations and the Naval Petroleum Reserve.

Despite the enthusiasm of the House freshmen, the Republican leadership in Congress lacks consensus on dismantlement. In the House, Commerce Committee Chairman Thomas Bliley (R-Virginia) states that "merely moving programs from one department to another" will not "save any money in the long run." He adds that abolishing DOE in the short term might cost the federal government more money because of the "administrative costs associated with shuttling programs and people from one department to another." Commerce Subcommittee on Energy and Power Chairman Schaefer observes that "many of my colleagues would like to use a hatchet to chop away at the department. I think we need a more responsible approach." In the Senate, Energy and Natural Resources Committee Chairman Murkowski and Budget Committee Chairman Domenici both are cool to the idea.

Only hours after the task force announcement, five Republican House members with sizeable Department of Energy facilities in their districts urge the House Budget Committee to accept language in the Senate budget plan that will save the agency.

June 13, 1995

The independent task force examining DOE's energy research and development programs and headed by Daniel Yergin releases its report. In the so-called Yergin Report, the task force documents the decline of research and development funding at DOE since the late 1970s. Federal funding for energy research and development peaked in 1978 at \$9.7 billion, in constant 1995 dollars, and declined steadily some 75 percent to \$2.5 billion in 1995. This latter amount comprises only about 0.5 percent of the nation's total annual energy expenditures of \$500 billion. Additional cuts, the task force notes, "would not be prudent, given the strategic importance of energy to the nation." The task force recommends elimination of unnecessary administrative and

overhead expenses with the reduction of funding going directly to the researchers. Energy research and development, the task force concludes, is needed "to help mitigate the severe economic risks of possible disruptions in the nation's future energy supplies."

At a press conference, Yergin states that the major message of the task force report is that energy research and development programs are at a "critical crossroads." The "current scientific and technical base is one of the country's most important assets," he declares, "but without investment it cannot be maintained or renewed." Noting those critics who contend that the energy shortages that gave birth to DOE and many of its research and development programs have ended, Yergin, whose award-winning book traces the history of the oil industry, warns that oil shocks could reappear. With the previous energy shortages having cost the nation "trillions of dollars," he says, energy research and development represents a wise investment. "There will be a need for new technologies in the global marketplace to meet new energy needs in an environmentally sound manner," Yergin states, but such technologies could not be "summoned on short notice." Yergin concludes that "it looks to us like this is a bad time to cash out our energy r&d investment."

June 22, 1995

House and Senate conferees drop the House provision on dismantlement from the budget resolution. Although, the House freshmen vow to fight on, Deputy Secretary White notes that the Department "has turned the corner."

July 1995

In a supplement to the February 1995 "roadmap," the Department issues *Human Radiation Experiments Associated with the U.S. Department of Energy and Its Predecessors*, providing summaries of the more than 425 human radiation experiments conducted from the early 1940s through the early 1970s.

July 1995

The Holdren Panel on magnetic fusion outlines a scaled-back fusion program consisting of a delayed or canceled TPX at Princeton, a cheaper and less versatile ITER with a reduced U.S. funding commitment, and support for a core technology program and the continued operation of existing tokamaks. The panel assumes an annual budget of \$320 million.

The Department's multinational partners will not agree to a scaled-down version of ITER. The Holdren Panel recommendations on ITER are "preposterous and [have] no

credibility in the international arena," fumes an ITER official. "Imagine the U.S. conjuring up a machine that the Europeans and Japanese have no interest in and suggesting that they build it."

Also in July, the National Research Council releases a report suggesting that concentration on applications like tokamak fusion is excluding basic research, particularly in plasma science. The fusion program as a whole, notes one Princeton researcher, may need a new infusion of basic research.

July 27, 1995

President Clinton signs a \$7.2 billion FY 1995 supplemental appropriations bill for disaster relief. The appropriations are offset by rescissions of \$16.3 billion. The Department absorbs \$330 million in cuts, including \$18 million from fossil energy research and development, \$50 million from energy conservation, and \$74 million from energy supply research and development funded through the Energy and Water Development Appropriations bill.

The Republican majority produced an initial bill in late May only to have Clinton, upset that too many of his social-welfare priorities were targeted, issue his first-ever veto. Cuts in DOE's budget are \$50 million more in the second bill than in the vetoed bill.

August 11, 1995

President Clinton announces that the U.S. will support a zero yield comprehensive test ban treaty. He notes that Secretary O'Leary and the directors of the nuclear weapons labs have assured him that the nation's nuclear deterrent can be maintained without nuclear testing through the science-based stockpile stewardship program. He nonetheless warns that any treaty must contain the right to "exercise our 'supreme national interest'" and "conduct whatever testing might be required" if the stockpile stewardship program should "fall short of its objectives."

September 7, 1995

The Department, as part of the Accelerated Strategic Computing Initiative (ASCI), announces that it is entering into a collaborative effort with Intel Corporation to build a supercomputer ten times faster than any in existence. Through the year 2002, the Department plans to spend almost a billion dollars in pursuit of computers that will surpass current machines by a factor of a million in processing speed and in storage capacity.

September 1995

Representative John Ensign (R-Nevada), a member of the House task force on eliminating the Department, admits that the abolishment efforts are "dead" for the current year and might not

ever be successful because of the Department's complexity and the difficulty of figuring out what to do with the disparate parts. "I'm not sure you'll ever be able to dismantle DOE," he notes, "it's that much of a disaster in terms of how you would do it." Coming up with a plan, he concludes, is like "straightening out spaghetti."

October 1995

In their first semiannual report, the external members of the Laboratory Operations Board note that "very substantial and pervasive changes" with the "potential to substantially improve R&D productivity, enhance mission focus, and eliminate onerous administrative burdens" are currently underway at DOE and the labs.

October 1995

Secretary O'Leary announces that DOE will pursue a "dual track" approach to establishing a new tritium production capability. The Department will undertake a multi-year, \$350 million feasibility study of the accelerator concept that will involve building and testing a lower energy prototype at Los Alamos. If the decision is made to proceed further, the full-scale accelerator, which would be 1 to 1.5 kilometers long and cost more than \$2 billion, will be built at Savannah River. At the same time, DOE will study, on a parallel track, the feasibility of producing tritium in a leased or purchased commercial reactor. The Department estimates that the actual costs for purchasing and converting a commercial reactor will be in the range of \$1 to \$2 billion.

November 9, 1995

The *Wall Street Journal* reveals that a media analysis company, Carma International, has been hired by DOE to evaluate press coverage of the Department. These evaluations include ratings of the relative friendliness to the Department of reporters and sources. In the flap that follows, White House Chief of Staff Leon Panetta criticizes DOE for having the evaluations done and refuses to rule out Secretary O'Leary's resignation. O'Leary, describing herself as "chagrined and embarrassed," agrees that it is not acceptable to rate news reporters and takes "full responsibility" for letting the contract even as she notes that it had been arranged by her former director of public affairs and, had she known about the ratings, she "would have canceled the contract myself."

November 13, 1995

President Clinton signs the FY 1996 Energy and Water Development Appropriations bill. Most of DOE is funded through this bill, and at \$15.4 billion is slightly more than \$1 billion short of the amount requested by the administration. This nonetheless compares favorably with the initial House mark of \$14.7 billion.

Some of DOE's programs, such as energy resources, take significant hits. Solar and renewables are set at \$273 million, down from the FY 1995 appropriation of \$418 million and much less than the administration's request of \$452 million. Also down are appropriations for environmental management programs, at slightly less than \$6 billion. Funding for Civilian Radioactive Waste Management is only \$400 million, half of what had been requested, and with \$85 million of the appropriation held in "congressional reserve" unavailable for Yucca Mountain activities.

Basic science is more successful at escaping cuts. This is consistent with the overall research and development approach favored by congressional Republicans. As House Science Committee Chairman Robert Walker (R-Pennsylvania) observes, basic research, and not industrial research and development, "is the mission of government when we talk about science." Magnetic fusion is the exception. Funding for the program is only \$244 million, which represents a thirty-three percent reduction from the previous year's appropriation.

November 14-19, 1995 Inability of Congress and the administration to agree on FY 1996 spending bills results in the first of two partial shutdowns of the federal government. Because most of DOE is funded through the Energy and Water Development Appropriation bill, which has been passed and signed, the Department remains open.

November 29, 1995 The United Nations-sponsored Intergovernmental Panel on Climate Change (IPCC), representing a "consensus view" of the international scientific community, reports that although many uncertainties need to be resolved the "balance of evidence" suggests that there is "a discernible human influence on global climate." Observed global warming is "unlikely to be caused by natural variability," notes one author of the IPCC report, and "there's a 90 to 95% chance that we're not being fooled."

Summing up the "consensus view," Daniel L. Albritton, director of the National Oceanic and Atmospheric Administration's Aeronomy Lab in Boulder, Colorado, and an adviser to the U.S. delegation in Berlin, states that "mainline scientists" generally agree "that if the greenhouse gases continue to increase in the atmosphere, then there very likely will be a surface warming in the range of 1.5 degrees to 4.5 degrees centigrade by the end of the next century." Albritton adds that "what should be done about that--where it should be mitigated or tolerated--is a political decision, not a scientific one."

December 1995 The Department, with magnetic fusion appropriations slashed and the Princeton TPX scrapped, asks its Fusion Energy Advisory Committee to help design a plan acceptable to Congress that will redirect the program from a concerted attempt to develop fusion technology to a modest research effort. The advisory committee appoints a review team, headed by Michael Knotek of the Battelle Pacific Northwest Laboratory.

December 10, 1995 The *Los Angeles Times* publishes a lengthy expose on Secretary O'Leary's foreign travels that details the use of a chartered "luxury" MGM Grand jet occasionally used by the pop-singer Madonna. The *Times* revelations produce a wave of follow-up stories in newspapers across the country and intensified criticism of the Secretary. At least a dozen newspapers and more than seventy House Republicans, including Speaker Gingrich, call for her resignation.

O'Leary fights back. She attributes the latest controversy sparked by the *Times* article to "sensationalism in journalism" and suggests that stories of lavish overseas travel are overblown and fail to consider the benefits of the trips to the U.S. taxpayer. O'Leary also asks DOE's Inspector General to conduct an "independent determination of the facts" regarding the trade missions.

December 16, 1995-
January 6, 1996 The federal government is partially shut down for a second time because funding bills have not been passed and signed. The Department again remains open.

December 18, 1995 President Clinton vetoes the FY 1996 Interior Appropriations bill. Less than ten percent of DOE, including fossil energy research, energy conservation, and the Strategic Petroleum Reserve is funded through this bill. Interior and five other appropriations bills remain unfinished when Congress begins its second session in January 1996.

January 1996 The magnetic fusion review team headed by Michael Knotek finishes its work in six weeks so that its recommendations will be available to the Department prior to the submission of the FY 1997 budget. Assuming a budget of \$250 million, the team recommends that DOE shut down the Princeton TFTR, with the resultant savings being used to maintain U.S. participation in ITER at current levels, and increase spending on plasma science and tokamak alternatives.

Continued participation in ITER provokes the most debate. Knotek insists that maintaining ITER at the expense of the domestic program is a necessary move. "If we decouple from ITER, it's an irreversible act," he warns. "We would be adrift." Critics on the fusion committee, however, contend that shutting down the Princeton facility to preserve a U.S. role in ITER, which would not be completed for well over a decade, is a dangerous gamble. The fusion committee nonetheless accepts the recommendations, by a vote of 13 to 2, and Office of Energy Research Director Krebs embraces the plan as "something that can be supported and defended."

February 6, 1996 The Department releases a report on U.S. plutonium production as part of DOE's Openness Initiative.

February 28, 1996 Secretary O'Leary releases two draft PEISs:

The Stockpile Stewardship and Management Programmatic Environmental Impact Statement serves as the "blueprint for a nuclear weapons complex of the future." Under the preferred option, the complex will be one-fifth of its size at the height of the Cold War. Up to 3600 jobs will be eliminated and budgets will drop by a third by 2005. The four industrial plants within the complex at Kansas City, Pantex, Savannah River, and Oak Ridge will be downsized. All three weapons laboratories, including Livermore, will see modest growth in their defense sectors. Los Alamos, in addition, will inherit from Rocky Flats responsibility for manufacturing the plutonium "pits" or fission triggers.

The Storage and Disposition of Weapons-Usable Fissile Materials Programmatic Environmental Impact Statement analyzes long-term storage options and technologies to dispose of surplus weapons-usable plutonium so that it cannot be reused in nuclear weapons. Without specifying preferred alternatives, the draft PEIS identifies three long-term storage alternatives for plutonium and highly enriched uranium: 1) upgrade at multiple sites, 2) consolidation of plutonium at a single site, 3) and co-location of plutonium and highly enriched uranium. The six candidate storage sites are Hanford, Idaho, Nevada, Oak Ridge, Pantex, and Savannah River.

March 4, 1996 Secretary O'Leary signs DOE's fiscal year 1996 Performance Agreement with the President.

March 7, 1996 Office of Energy Research Director Krebs unveils the revamped magnetic fusion program at a subcommittee hearing of the House Science Committee. "Action by this Congress in 1995," she tells the subcommittee, "gave the program and this administration, an unambiguous message--there will be dramatically fewer dollars for the foreseeable future, and the long-term focus of the program must change to research instead of technology demonstration." Krebs states that the TFTR will be shut down, by 1998 at the latest, and that no new construction projects are planned, although there will be room for "a limited number of innovative small experiments funded within an essentially flat budget." She observes that the U.S. will remain an active participant in the design phase of ITER but concedes that it could not afford to be a full participant in construction of the facility. Reiterating the program's redirection from applied to basic research, she says that DOE's Fusion Energy office will be renamed the Office of Fusion Energy Sciences.

March 19, 1996 Secretary O'Leary unveils a \$16.3 billion FY 1997 budget that "invests taxpayer dollars for maximum returns." The 1997 request is \$1 million less than the FY 1996 appropriation. Spending for national security activities is slated to go up again, from \$4,861 million to \$5,194. Energy resources, minus a proposed rescission of \$500 million of previously appropriated funding for the Clean Coal program, is also up \$212 million from the previous year. Solar and renewables are up from \$288 million to \$363 million. Energy conservation is up from \$539 million to \$715 million. Fusion is up from \$227 million to \$256 million.

April 18, 1996 Secretary O'Leary marks the official construction startup of an interim storage facility at Hanford for tons of decaying spent fuel in aging basins near the Columbia River.

April 18, 1996 The Department reports that gasoline prices will fall after soaring during the spring.

April 26, 1996 Almost seven months after the start of the fiscal year, President Clinton signs an Omnibus FY 1996 Appropriations bill that encompasses Interior and four other bills. Funding for DOE's energy conservation programs is set at \$539 million, down from the FY 1995 appropriation of \$771 million and significantly less than the administration's request of \$891 million.

The Department's overall budget for FY 1996 comes in at \$16.3 billion, some \$1.5 billion less than requested.

May 1, 1996

Secretary O'Leary formally dedicates the Advanced Photon Source (APS) at DOE's Argonne National Laboratory. The APS will produce x-rays in a huge doughnut-shaped machine, large enough to encircle Chicago's Wrigley Field. Discoveries made at the APS are expected to enhance the quality of everyday life and to benefit the nation's economic and technological future. Advances are expected in biotechnology, polymer and advanced materials, medical diagnostics, digital imaging techniques, semiconductor materials, and micro-electronic circuits.

The Department has invested \$812 million in the APS, including construction, commissioning, and operating costs. In addition, universities, industry, and other federal agencies have contributed \$160 million, and the state of Illinois provided \$19 million for construction of a user residence facility at the site. The five-year construction project was completed on budget and ahead of schedule.

May 10, 1996

Alvin Alm, who is appointed Assistant Secretary for Environmental Management when Grumbly moves up to become Under Secretary, launches an ambitious effort to radically shorten the time frame for cleanup and thereby reduce total costs. Alm states that his primary goals are to "reduce most of the risks and most of the mortgages over a ten-year period." By mortgages, he means those costs associated with surveillance and maintenance of facilities and sites necessary to keep them safe prior to actual cleanup or decontamination. Alm contends that unless the "large costs that are being devoted to sustaining the current system" are reduced, Congress will balk at paying the bill and the program will be "in jeopardy."

Alm asks field office managers to develop a list of cleanup projects that will "substantially complete" cleanup within the next ten years. He also requests a list of projects that might be candidates for privatization, which involves private companies building waste treatment facilities in exchange for guaranteed fixed-price payments from DOE for units of waste treated. Privatization would shift risk to the private sector and hold the potential to reduce budget outlays in the near term. A departmental assessment indicates that projects that could be privatized over the next five years have an estimated value of roughly \$50 billion.

Alm's intent is to coalesce the field input into a so-called ten-year plan that could be sent to Congress in January 1997 as part of the FY 1998 budget request.

- May 17, 1996 The Savannah River Site's Defense Waste Processing Facility--the nation's first high-level radioactive waste processing plant--moves its first radioactive waste canister to interim storage. Over the next 25 years, the facility will immobilize the radioactive elements contained in 34 million gallons of high-level liquid radioactive waste now stored at Savannah River. This waste is the byproduct of four decades of production and processing of nuclear materials for national defense, space exploration, and research programs. "Truly, in the world of environmental management, today is a landmark event," notes Under Secretary Grumbly. "We have demonstrated that we know how to make this thing work. That is an incredibly important statement."
- May 24, 1996 Secretary O'Leary dedicates the Continuous Electron Beam Accelerator Facility--renamed the Thomas Jefferson National Accelerator Facility--at Newport News, Virginia. The state-of-the-art scientific user facility for nuclear and particle physics research, was completed on time, within budget, and meeting all technical specifications.
- June 1996 In a preliminary report on possible improprieties in Secretary O'Leary's foreign trade missions, DOE's Inspector General finds numerous examples of carelessness in handling the trips that result in overcharges of thousands of dollars to the government. The Inspector General does not, however, find any willful violation of the law. Likewise, the GAO investigators fail to find evidence of personal wrongdoing by O'Leary but are highly critical of DOE's travel procedures.
- June 1996 The Office of Civilian Radioactive Waste Management, as a result of budget cuts, issues a revised Program Plan for Yucca Mountain. The revised plan preserves the continuity of the core scientific work at Yucca Mountain but terminates most waste acceptance activities, multi-purpose canister development, and generic transportation work. In addition, the plan stretches out the decision-making process. Characterization work will focus on "open technical issues" so that an informed "viability assessment"--a somewhat less rigorous and involved substitute for the site suitability evaluation originally planned--can be made by 1998. If the site is deemed viable, DOE will make a recommendation to the president in 2001 and submit the license application in 2002.
- July 5, 1996 The first canister of vitrified high-level waste is processed at the West Valley Demonstration Project in New York. Startup of the

plant is the culmination of 14 years of design, construction, and testing by the Department and the New York State Energy Research and Development Authority. More than 600,000 gallons of liquid radioactive waste--a byproduct of commercial nuclear fuel reprocessing--will be vitrified over the next two-and-one-half years into stable, durable glass stored in 300 stainless-steel canisters.

The West Valley plant is the nation's second high-level nuclear waste vitrification plant, after the recent opening of the Defense Waste Processing Facility at Savannah River Site. "We think the combination of the two facilities puts the U.S. into the forefront of technology in this area, and it marks the beginning of the end of the high-level waste problem in the United States," observes Under Secretary Grumbly.

August 6, 1996

Secretary O'Leary announces the award of two performance-based contracts worth a total of \$11 billion. The Fluor Daniel Hanford team wins the Project Hanford Management Contract in Richland, Washington, valued at \$4.88 billion over five years. Westinghouse Electric Corporation is awarded the five-year, \$6 billion Savannah River Integrated Team Management Contract in Aiken, South Carolina. Both contracts ensure that contractors will be paid a fee only if they achieve specific, defined results, such as cleaning up a contaminated site by a specific date. "Before contract reform," the Secretary notes, "DOE paid for simply showing up. Not anymore. If the contractors don't deliver on their commitments, we don't deliver on their fee."

September 10, 1996

Following negotiations within the Geneva Conference on Disarmament's Ad Hoc Committee on a Nuclear Test Ban that produce a draft treaty but "no consensus" on its adoption, the United Nations General Assembly votes to adopt the treaty and open it for signature. Two weeks later, President Clinton becomes the first world leader to sign the treaty. Article IX of the treaty allows a signatory to withdraw from the treaty if "extraordinary events . . . jeopardized its supreme interests" by giving six months notice.

September 30, 1996

President Clinton signs the FY 1997 Interior and Energy and Water Development Appropriations bills. At \$16.5 billion, the funding level for DOE is up slightly from both FY 1996 funding and the administration's FY 1997 request. The mix, however, is not necessarily to the administration's liking. Congress puts more than \$250 million into national security programs than the administration requested and fails to rescind previously

appropriated funding for the Clean Coal program. Funding for energy conservation is \$569 million versus the administration's request of \$715 million. Solar and renewables are pegged at \$269 million, which is less than the FY 1996 appropriation of \$273 million and the administration's FY 1997 request of \$369 million.

- October 14, 1996 Department laboratories, for the second year in a row, win 32 of the R&D 100 Awards for the top technological achievements of the year. The awards are presented annually by *Research & Development Magazine* to recognize the year's most outstanding technological developments with commercial potential. The winners are selected from thousands of national and international entries by an independent panel of experts and by the editors.
- October 29, 1996 The Department submits its WIPP Compliance Certification Application to the EPA in accordance with the process and schedule established by the *WIPP Land Withdrawal Act of 1992*. The application consists of 21 volumes containing 20,000 pages that provide extensive analysis demonstrating that WIPP complies with federal disposal standards for transuranic waste. A month earlier in the *Fiscal Year 1997 Defense Authorization Bill*, Congress sets a one-year deadline for EPA to review the application and states that disposal of waste at WIPP should commence no later than November 30, 1997. Permits from the New Mexico Environment Department for disposal of hazardous chemical wastes mixed with some of the transuranic wastes have yet to be obtained, and litigation by the state is ongoing.
- November 5, 1996 William Clinton reelected president. Republicans retain Congressional majorities.
- November 13, 1996 Hazel O'Leary announces her resignation as Secretary of Energy effective January 20, 1997.
- November 18, 1996 Assistant Secretary for Environmental Management Alm announces that the ten-year plan to clean up the nuclear weapons complex will not be finalized until September 1997, nine months later than anticipated. The initial draft of the plan indicates that implementation over the next ten years could save more than one-third, or \$85 billion, from the total costs estimated by the BEMR. The plan, however, has encountered serious objections. In the past, Environmental Management has taken responsibility for departmental facilities when they were no longer needed, but the ten-year plan assumes that these facilities will now remain the responsibility of the program offices

that own them. The Offices of Defense Programs and Energy Research object that they lack the resources to pay for the maintenance and disposal of these old plants. At the same time, Alm acknowledges that the ten-year plan will have to be modified if Environmental Management is required to continue accepting the surplus facilities. In addition, in late October, DOE's Environmental Management Advisory Board warns that Alm's schedule to complete the plan by January does not allow regulators and other interested parties sufficient time to evaluate the proposal.

December 9, 1996 Secretary O'Leary announces a dual-track strategy to "irreversibly dispose" of DOE's surplus plutonium and eventually reduce from seven to three the number of sites where nuclear weapons materials are stored. Over a two-year period, according to the strategy, DOE will study both immobilizing plutonium in glass or ceramic forms and burning plutonium as mixed-oxide fuel in existing reactors. The Department could decide to use either or both of these approaches. Pantex and Los Alamos would store strategic reserve plutonium indefinitely, and the Oak Ridge Y-12 plant would store reserve highly enriched uranium. Hanford, Idaho, and Savannah River would store surplus plutonium until its disposition. Plutonium at Rocky Flats would be transferred to Pantex and Savannah River.

December 19, 1996 Secretary O'Leary signs Record of Decision for stockpile stewardship, finalizing plans for a smaller, more efficient weapons complex.

December 19, 1996 President Clinton announces his intention to nominate outgoing Transportation Secretary Federico Peña to succeed Hazel O'Leary as Secretary of Energy. At Transportation, Peña, according to his official resume, helped launch the administration's drive to "revitalize the U.S. airline industry" and played a critical role in securing funding for mass transit projects, including high-speed rail. Peña served as mayor of Denver from 1983 to 1993. Prior to that he was a member of the Colorado legislature and worked as a civil rights lawyer.

Critics of the appointment cite Peña's lack of an energy background, but supporters point to his progressive stance on renewable energy and alternative fuels issues during his tenure as mayor and suggest that he has some knowledge of cleanup issues because he dealt with efforts to clean up the Army's Rocky Mountain Arsenal outside Denver.

Peña's nomination, also, is initially clouded by widespread speculation that Clinton has picked him mainly to preserve the Cabinet's ethnic diversity. Clinton had been leaning toward Elizabeth Moler, chairman of the Federal Energy Regulatory Commission, for Energy secretary, and Peña had planned to leave the government. But with Housing and Urban Development Secretary Henry G. Cisneros retiring, Peña's departure would have left the Cabinet with no Hispanic members.

- December 20, 1996 Secretary O'Leary announces the Clinton Administration's decision concerning external regulation of nuclear safety at DOE. Under the option chosen, the Nuclear Regulatory Commission (NRC) would become the regulator of the Department's nuclear facilities over a ten-year period. At the same time, regulation by the Defense Nuclear Facilities Safety Board would be phased out. Within the first five years of the transition, all Nuclear Energy and Energy Research facilities will be transferred to external regulation by the NRC or by the states. All Environmental Management nuclear facilities will be regulated by the NRC before the end of ten years. Defense Programs facilities would change to regulation by the NRC at the end of ten years.
- January 14, 1997 Secretary O'Leary signs Record of Decision on the storage and disposition of weapons-usable fissile materials.
- January 17, 1997 In a memo to its employees, the Brookhaven National Laboratory indicates that elevated levels of tritium have been detected in groundwater around the lab's High Flux Beam Reactor. Found in two monitoring wells, the tritium measures two-and-a-half times the New York State and EPA drinking-water standard of 20,000 picocuries per liter. Lab officials state that drinking water supplies in the area are not threatened.
- January 17 - February 2, 1997 Bonneville Power Administration (BPA) line crews restore power after two vital electric lines go out in the midst of midwinter ice and snowstorms that hit Puget Sound. Ice severely damages 20 transmission towers and BPA crews, braving the elements, work day and night to restore service.
- January 20, 1997 Secretary O'Leary's resignation effective. Deputy Secretary Charles Curtis becomes Acting Secretary of Energy.
- January 30, 1997 Forty-six states and thirty-three electric utilities file suit to force the Department of Energy to begin taking control of their high-level nuclear waste. The utilities also request that the federal court permit them to suspend payments into the Nuclear Waste

Fund. Over \$11 billion has already been paid into the fund, with DOE spending close to \$5 billion on the program.

January 30, 1997

Secretary-designate Peña appears at a confirmation hearing before the Senate Energy and Natural Resources Committee. Peña largely reiterates the administration's standing energy policies as carried out by retiring Secretary O'Leary. He lists four key priorities for the Department: 1) enhancing energy security and developing clean energy, 2) ensuring a safe and reliable nuclear weapons stockpile and reducing the global nuclear danger, 3) cleaning up former nuclear weapons sites and finding a more effective and timely path forward for disposing of nuclear waste, and 4) leveraging science and technology to advance fundamental knowledge and the nation's economic competitiveness with a stronger partnership with the private sector. Peña tells the committee that he believes DOE is enormously important and should remain a cabinet-level department to support these critical missions.

Criticism at the hearing is aimed not so much at Peña as at DOE. Peña encounters little personal opposition. His abilities were proven, committee members say, during his service as Transportation secretary. "We can accept that you are not an energy expert," Chairman Murkowski tells Peña. "What we won't accept is a department that believes that if it ignores these problems, they will go away."

The problem Murkowski has primarily in mind is the disposal of civilian high-level nuclear waste. The previous fall, a bill to open temporary waste storage at Yucca Mountain passes the Senate by a vote of 63 to 37 but fails because of a veto threat by President Clinton. Murkowski is offering nearly identical legislation in the current session but the veto threat still looms. At Peña's confirmation hearing, Murkowski and Senators Rod Grams (R-Minnesota) and Larry E. Craig (R-Idaho) chastise the administration for its opposition to building a temporary storage site. "This administration struts around the country saying they're the No. 1 environmental administration ever," Craig says. "Yet they have flatly stuck their heads in the sand" on nuclear waste, which Craig declares the most critical environmental issue facing the nation.

Peña's nomination becomes enmeshed in the dispute over the interim storage bill. Murkowski and several other Republican committee members attempt to use Peña's confirmation to pressure the White house to drop a veto threat against the waste

bill. Murkowski twice in February cancels committee action on the Peña nomination. The Democrats complain. "It's patently unfair to hold a perfectly good man hostage to a particular issue," says Dale Bumpers of Arkansas, ranking Democrat on the Energy Committee. Murkowski concedes that he sees no reason Peña would not be confirmed. "I've been accused of holding Secretary Peña hostage. That isn't the issue. The issue here is the administration holding this nuclear waste issue hostage."

February 6, 1997

Acting Secretary Curtis unveils DOE's FY 1998 request for \$19.2 billion in budget authority. Although this is up significantly from the FY 1997 appropriation of \$16.5 billion, the "core budget" request is up only slightly at \$16.6 billion. The major components of the core budget are energy resources at \$1.9 billion, national security at \$5.6 billion, environmental quality at \$6.3 billion, and science and technology at \$2.5 billion. In addition, DOE is requesting \$1.6 billion for future construction activities and \$1 billion for privatization of environmental cleanup. Virtually none of these funds will be expended in FY 1998.

In the past, departmental construction projects often began with a small request that does not reflect the government's future financial obligation. The \$1.6 billion is for "up-front funding" of future, multi-year construction activities. The Department hopes that this approach will help avoid costly deferrals, restarts, and project cancellations. Just over \$1 billion of the \$1.6 billion is for the "defense asset acquisition" fund, of which \$876 million is devoted to the Livermore lab's National Ignition Facility, which is scheduled for completion in 2002. Most of the rest of the \$1.6 billion, consisting of \$477 million, is committed to future construction in the environmental quality area.

The privatization request of \$1 billion expands on an environmental management initiative started in FY 1997. The fund demonstrates DOE's intention to purchase waste products and services from private sector companies for delivery at a later date. This approach enables private companies to assume the responsibility to develop, finance, and construct facilities and provide products and services. The Department will pay for the product or service only if and when agreed-upon specifications are met. The Department hopes that by placing more risk and responsibility on the private sector, projects should be completed sooner and at lower cost to the taxpayer than under traditional contracting methods.

February 20, 1997 The Fermi National Accelerator Laboratory makes accelerator history as the Fermilab team sends protons down a beamline consisting of technology never before used—permanent magnets. The operators know they are successful when the beam hits the “flag,” a piece of fluorescent material that lights up when struck by protons. When fully operational, the beamline, known as the 8 GeV (pronounced “jev”) line, will transfer protons at the energy level of eight billion electron volts from the booster, the third link in Fermilab’s accelerator chain, to the main injector. The main injector will replace the main ring in 1999 as the fourth link to the Tevatron, the world’s most powerful particle accelerator.

March 6, 1997 The Senate Energy and Natural Resources Committee votes 19 to 0 to send Peña’s nomination as secretary to the Senate floor. Senator Grams votes present to protest the White House’s nuclear waste policies and then blocks the full Senate from moving quickly under unanimous consent rules to approve Peña.

March 12, 1997 The Senate votes 99 to 1 to confirm Peña as secretary. Eager to clear away unfinished business, Senate Majority Leader Trent Lott (R-Mississippi) has agreed to allow Senator Grams to voice his opposition on the waste bill from the Senate floor. Grams is then the only senator to vote against Peña.

Peña is sworn in as the eighth Secretary of Energy.

March 12, 1997 The Waste Receiving and Processing Facility (WRAP) at Hanford begins initial operations as the first in the DOE complex built to handle transuranic wastes. The \$89.1 million facility has been under construction since 1994. Both the Hanford Tri-Party Agreement and management contract milestones required that the facility begin operations before March 31, 1997. WRAP’s initial operation inspects and processes between five and 15 barrels of radioactive low-level, transuranic or mixed waste each shift. During these operations, the waste containers are staged, inspected internally by x-ray, and, if necessary, the contents are assayed to determine the quantity of radioactive materials present. Once the examination has been completed, the barrels are sent to low-level waste disposal on-site or returned to the Central Waste Complex for pending treatment or shipment in the future to the Waste Isolation Pilot Plant repository in New Mexico.

March 13, 1997 Secretary Peña shares his “priorities, philosophy, and expectations” in a special message to employees throughout DOE. Noting that the Department is vital to the President’s priorities, Peña lists, as he did before the Senate Energy and

Natural Resources Committee on January 30, the top four priorities for DOE and comments on each one:

1) Developing a realistic strategy for strengthening the nation's energy security: "Recent history has demonstrated," Peña notes, "how vulnerable we are to a disruption in the flow of imported oil or volatility in its price. Our current use of energy is not environmentally sustainable. This is unacceptable." Peña states that one of DOE's key missions is the development of new technologies enabling use of cleaner and more efficient energy sources. "We need concrete strategies," he contends, "that address both energy production and consumption."

2) Maintaining the capacity and resources to assure the safety and reliability of the nation's nuclear deterrent: Noting that President Clinton in his State of the Union address declared that "today our children can rest easy knowing that no nuclear missiles are pointed at the United States," Peña states that "our challenge and responsibility is to maintain and enhance that security through passage of the Comprehensive Test Ban Treaty, and working closely with governments in Eastern Europe and Asia."

3) Aggressively continuing cleanup of the environmental legacy of the Cold War and finding lasting ways to dispose of nuclear waste: "I am committed," Peña says, "to having the department complete remedial action at as many sites as possible during my term as secretary."

4) Maintaining our country's leadership in science and technology: "Science and technology is at the center of all that we do," Peña declares. "The President challenged us to develop a next generation of computers, and we at DOE will deliver."

Peña also informs DOE's employees that he values their "ideas, creativity and initiative" and invites them to be "bold in their work." "Observers in the science and energy community often speak of DOE's world-class technical and scientific capabilities as a national treasure," he tells employees. "I would modify that characterization: *you* are that expertise; *you* are that national treasure which serves the vital role of protecting and securing the interests of our country."

March 28, 1997

The White House releases *Building Public Trust: Actions to Respond to the Report of the Advisory Committee on Human Radiation Experiments* outlining the administration's actions to,

as Secretary Peña puts it, "right the wrongs of past governmental, secretive radiation experiments on unknowing citizens." Among actions that have been taken, President Clinton has signed a directive to strengthen the rights and protection of people who might in the future participate in secret, government-supported research. The administration also has settled compensation claims for all of the known individuals for whom the Advisory Committee recommended compensation. Finally, the administration proposes legislation that will compensate hundreds of miners who suffered lung cancer from working in uranium mines who would not otherwise be compensated under current law. "Our greatness is measured not only in how we do right," the President says, "but also in how we act when we know we've done the wrong thing; how we confront our mistakes, make our apologies and taken action."

March 31, 1997

At a White House ceremony, Vice President Gore awards the first Partnership for a New Generation of Vehicles (PNGV) award to a team of scientists and engineers from five departmental laboratories and from Chrysler, Ford, and General Motors. PNGV was established as a 50/50 cost-shared program, with an annual federal investment of \$300 million being matched by the U.S. automakers. PNGV's mission is to produce a new generation of vehicles that will deliver triple the fuel efficiency--up to 80 miles per gallon--of today's cars and meet Clean Air Act standards without sacrificing affordability, performance or safety. The first award recognizes significant scientific progress toward the development and eventual commercialization of technologies for advanced catalytic-converter systems.

"We are putting the 'pedal to the metal' on the creation of technologies for new vehicles that will reduce air pollution, increase fuel efficiency and decrease American reliance on imported oil," Vice President Gore says. "The Partnership for a New Generation of Vehicles will produce new cars for a new century. This collaboration is a shining example of the public good that comes from cooperative ventures among industry, government and communities. It provides even more evidence that what is good for the environment is also good for the economy."

April 1997

The National Energy Research Scientific Computing Center at Lawrence Berkeley National Laboratory signs an agreement with Cray Research to create the nation's most powerful computing center in an open, unclassified research facility.

April 2, 1997 A U.S. Air Force A-10 aircraft crashes near Vail, Colorado, 800 miles off course. Secretary Peña flies DOE state-of-the-art imaging technology over the crash site to pinpoint the location of the debris in the snowy, mountainous terrain.

April 9, 1997 Following the resignation of Deputy Secretary Curtis, President Clinton announces the nomination of Elizabeth Moler to fill the position. Chair of the Federal Energy Regulatory Commission since February 1993 and a commissioner since 1988, Moler was formerly a senior counsel to the Senate Energy and Natural Resources Committee. Secretary Peña notes that she will serve as chief operating officer.

April 15, 1997 After several days of debate, the Senate passes a bill requiring construction of an interim nuclear waste storage site at Yucca Mountain. The vote of 65 to 34 is two shy of the margin needed to override President Clinton's threatened veto.

April 25, 1997 Workers complete drilling the five-mile long, horseshoe-shaped exploratory tunnel through Yucca Mountain. Completion of the 25-foot-diameter tunnel is a major project milestone. "This is tangible, significant progress toward determining the site suitability for solving an important element of the nation's nuclear waste problem," says Secretary Peña. "It demonstrates our continuing commitment to a nuclear waste program based on sound science. Our job isn't over. Now, we shift our focus and resources to the scientific investigation that will address remaining technical questions about the Yucca Mountain site."

Besides five miles of main tunnel, there are seven scientific alcoves, which serve as underground laboratories. The alcoves give scientists direct access to observing and testing Yucca Mountain's geologic features, and instruments placed in these alcoves collect scientific data.

May 1, 1997 Secretary Peña terminates the management contract with Associated Universities at Brookhaven National Laboratory. He makes the decision after reviewing the findings of a lab safety review conducted by the independent oversight arm of the Office of Environment, Safety and Health. The review found that environment, safety, and health programs require improvement and significant management attention. Specifically, the assessment found an imbalance between environment, health, and safety and science missions, resulting in the perception that funding improvements in worker safety and environmental protection are "trade offs" for dollars that could be spent on

research. The oversight team found that there were few tools to assure accountability for performance and the lab did not pursue solutions for identified environment, safety, and health problems.

Public trust in the community around the lab had steadily declined since January when tritium contamination was found in groundwater monitoring wells.

The Department has never before unilaterally terminated a contract under such circumstances. "I'm sending a message to Long Island--and to our facilities nationwide--that I will take appropriate action to rebuild trust and to make environment, safety and health a priority," Peña declares. "There need not--and will not--be a trade-off between award-winning scientific research and environment, safety and health. Change will not happen overnight, but today's actions begin our work to rebuild confidence and trust, retain 3,000-plus jobs and ensure that Brookhaven's scientific accomplishment continues for years to come."

May 20, 1997

EPA Administrator Carol Browner notifies Secretary Peña that DOE's Compliance Certification Application for the Waste Isolation Pilot Plant is complete. The notification that the by-now 84,000-page application is complete triggers the EPA's one-year evaluation period required by Congress.

May 29, 1997

Secretary Peña participates in the groundbreaking ceremony for the National Ignition Facility, a centerpiece of the stockpile stewardship program, at the Lawrence Livermore National Laboratory. The modular design of NIF is expected to allow for initial experiments in the year 2001. Project completion is now scheduled for 2003. Laser power will be ramped up over three years starting in 2001. Total projected costs are \$1.2 billion.

The ceremony is marked by the unusual presence of "invited" protesters from environmental and disarmament groups who have made the NIF, which will be used primarily for nuclear weapons-related experiments, a focus of protest against DOE's science-based program for maintaining the weapons stockpile. Ten representatives of the protest groups are allowed inside the gates to attend the ground breaking, after which they met with Peña. Some 140 protesters turn out for the event, and 34 are arrested after attempting to block an entry gate of the lab.

June 2, 1997

In the massive five-volume *Final Waste Management Programmatic Environmental Impact Statement*, in preparation since 1990, DOE identifies its preferred strategies for treatment,

storage, and disposal of five types of radioactive and hazardous wastes totaling some two million cubic meters. For low-level waste, DOE favors decentralized treatment at sites where it is generated and stored. Low-level mixed waste, containing chemical hazards, would be treated according to site treatment plans and consent order which have been negotiated with host states under the Federal Facility Compliance Act. The Department prefers to dispose of these wastes at two or three regional sites to be selected from among six sites: Idaho, Los Alamos, Nevada Test Site, Savannah River, Oak Ridge, and Hanford. All of these sites are currently conducting disposal operations for mixed or low-level waste.

For transuranic waste, DOE also prefers decentralized treatment and storage. Storage of treated high-level waste would occur at the four sites where it was generated. The Department prefers to continue to treat its non-wastewater hazardous waste at commercial facilities.

June 3, 1997

The Department solicits bids from commercial nuclear reactor owners and operators to participate in the Commercial Light Water Reactor Project to assure an adequate supply of tritium to meet U.S. national security requirements. The request for proposal calls for proposals reflecting one or both of two approaches: either DOE would acquire irradiation services for tritium production from the proposer's commercial light-water reactor facility, or DOE would purchase an operating commercial light-water reactor for production of tritium.

As part of the dual-track strategy announced in December 1995, both accelerator and commercial light-water reactor production of tritium are being developed. The decision designating the primary tritium production technology and the backup source is scheduled for 1998.

June 12, 1997

Assistant Secretary for Environmental Management Alm releases for public comment a discussion draft of *Accelerating Cleanup: Focus on 2006*, a report proposing strategies for implementing his ten-year plan to clean up as many contaminated DOE sites as possible by the 2006. The process is designed to accelerate cleanup, reduce overall costs, and maintain DOE's commitment to meet federal and state regulations and compliance agreements.

The plan contains two funding scenarios. The first assumes an annual funding level of \$6 billion. This would enable DOE to

complete work at all sites but Hanford, Savannah River, Idaho, and Oak Ridge by 2006. The second assumes a funding level of \$5.5 billion. Under this scenario, the number of sites where cleanup would continue beyond 2006 would include Rocky Flats, Fernald, and the Nevada Test Site. With both assumptions, DOE plans to achieve its goal largely by increasing the efficiency and productivity of its cleanup work. Assuming performance goals are met, the report estimates total life-cycle costs at from \$110 to \$117 billion. This is half the mid-range estimates in the 1995 *Baseline Environmental Management Report*.

June 20, 1997

A site-wide safety stand down is put in effect at Brookhaven National Laboratory following the death of a construction worker. During the stand down, construction and facility operations stop, and each lab department reviews safety procedures with employees and implements additional safety measures.

June 20, 1997

In a ceremony at Hanford, the Plutonium Uranium Extraction Facility (PUREX), the largest of the Nation's Cold War plutonium processing plants, is officially deactivated. Planned in 1993 to be a five-year, \$222.5 million effort, the deactivation is completed \$78 million under budget and more than a year ahead of schedule. The annual "mortgage" cost for safely monitoring and maintaining the facility has been cut from \$33 million to about \$1 million a year.

From 1956 to 1989, PUREX produced two-thirds of the U.S. plutonium inventory.

June 26, 1997

President Clinton announces the "Million Solar Roofs Initiative" in a speech to the United Nations Special Session on Environment and Development. The goal of the initiative is to put solar technology on one million rooftops by 2010.

July 2, 1997

The first "subcritical" physics experiment at the Nevada Test Site provides scientific data on the behavior of plutonium that will be used to support efforts to maintain the safety and reliability of the nation's nuclear-weapons stockpile without underground nuclear-weapons testing, in keeping with the Comprehensive Test Ban Treaty. Code-named "Rebound," the experiment uses chemical high explosives to generate high pressures that are applied to nuclear weapon materials. Analysis of data from high-speed monitoring instruments confirms that the experiment remains subcritical, i.e., no nuclear chain reaction occurs. Rebound nonetheless provides information on the response of plutonium

to shock-wave compression under different high-pressure conditions, several million times atmospheric pressure.

July 5, 1997

The West Valley Demonstration Project marks its first anniversary of vitrifying canisters of highly radioactive waste glass. A few weeks earlier, on May 28, the project hits another milestone when it fills its 100th canister. "The potential for liquid high-level radioactive waste to leak into the environment is a threat that has faced our nation for decades," says Tom Rowland, DOE project director. "At West Valley, we are eliminating that threat for western New Yorkers and opening new doors for using glass-making technology in managing hazardous materials."

July 1997

Sandia National Laboratories' Z accelerator, the most powerful generator of x-rays in the world, achieves a temperature of 1.5 million degrees, bringing it within range of the two or three million degrees required for sustainable nuclear fusion. In the past 10 months, the Z machine's output has more than quintupled, going from 40 to 210 trillion watts, 60 times the world's usage of electricity at any given moment. Sandia's inertial confinement approach uses massive bursts of electricity to superheat a miniature oven, called a hohlraum, that is about the size of a sugar cube. The test results advance basic scientific research and provide data to help test the nation's nuclear defenses without exploding nuclear weapons.

September 12, 1997

The Department transfers the Pinellas Plant in Largo, Florida, back to local government control. This is the first major defense facility cleaned up and transferred back to the community as part of DOE's effort to clean up the legacy of the Cold War.

September 18, 1997

A second "subcritical" experiment at the Nevada Test Site is successfully completed.

September 24, 1997

House and Senate conferees on the FY 1998 Energy and Water Development Appropriations bill transfer DOE's Formerly Utilized Sites Remedial Action Program (FUSRAP) to the Army Corps of Engineers. FUSRAP is designed to clean up privately owned facilities that became contaminated performing government-sponsored nuclear weapons production activities during the 1940s and 1950s.

Although Senate conferees initially reject the proposed transfer, with Senator Harry Reid (D-Nevada) describing the transfer as "bad government" and simply "an attempt to teach DOE a

lesson," the House position prevails. House Energy and Water Subcommittee Chairman Joseph McDade (R-Pennsylvania) states that the House decided the transfer was necessary because FUSRAP has been slow to clean up sites and contracts have not historically been bid competitively.

The Department issues a statement, saying "This action comes as a surprise to the department. Many of the members who have FUSRAP sites in their states had written to the conferees opposing this change. We are very proud of the accelerated cleanup of the FUSRAP sites. We have been making measurable progress, and we have much more experience in cleaning up radioactive waste than any other organization. It is unfortunate that such a drastic change has been made without a thorough examination of the track record of the program."

September 25, 1997 Department of Energy laboratories win 36 of the R&D 100 Awards for the top technological achievements of the year. The awards are presented annually by *Research & Development Magazine* to recognize the year's most outstanding technological developments with commercial potential. This year's awards brings DOE's cumulative total to 453, the most, by far, of any single organization and twice as many as all other government agencies combined.

October 1, 1997 The Department celebrates its twentieth anniversary.

October 14, 1997 President Clinton signs the FY 1998 Energy and Water Development Appropriations bill, which provides over 90 percent of DOE's funding. At \$15.9 billion, funding for DOE is nearly \$200 million more than FY 1997 levels but 14 percent less than the administration's \$18.4 billion request. The gap between request and appropriation is deceptive, however, as most of it is attributable to congressional rejection of "up-front funding" for future multi-year construction projects, most of which are defense related, and minimal funding for environmental management privatization efforts.

On multi-year construction, Congress includes funding only for activities planned for FY 1998. House Subcommittee Chairman McDade states that he does not want to give the administration a blank check on nuclear weapons policy.

On environmental management privatization, Congress provides only \$200 million of the more that \$1 billion requested by the administration. Lawmakers cite recent problems with the

privatization program, most notably the troubled efforts to clean up the Pit 9 radioactive waste burial area at the Idaho National Engineering and Environmental Laboratory, as causing doubts as to whether DOE can properly oversee such work. The House, in its version of the spending bill, states that the failure to obtain the full request is due to "sloppy work done in developing project proposals, inadequate and inconsistent answers to questions and skepticism that the department is capable of managing technically complex, fixed price contracts." Of the \$200 million appropriated, \$157 million is earmarked for the proposed multi-billion-dollar Tank Waste Remediation project at Hanford. Under the project, private companies will drain and put in stable forms high-level radioactive liquid waste stored in 177 underground tanks.

October 15, 1997

The Cassini spacecraft blasts off on an 11-year mission to explore the planet Saturn and its moon, Titan. The sophisticated robotic spacecraft is equipped with 12 scientific experiments. Supplying heat and electricity to the spacecraft's equipment are three radioisotope thermoelectric generators (RTGs) and 117 radioisotope heater units supplied by DOE's Office of Nuclear Energy, Science and Technology. Department supplied generators and heaters have provided power for U.S. spacecraft since 1961. The generators are light, compact, extremely reliable, and contain no moving parts. They provide power through the radioactive decay of plutonium-238, a non-weapons grade isotope. As radioactive isotopes decay, they give off heat that can be converted into electricity.

October 22, 1997

President Clinton unveils the administration's proposal for an international agreement to be negotiated at the next major climate change conference to be held in Kyoto, Japan, in early December. The proposal calls for industrial nations to return greenhouse gases to 1990 levels by some point between 2008 and 2012. To help reach these levels, the administration proposes an international pollution-trading system that will allow countries that cannot meet emission limits to buy pollution credits from countries below the caps. The administration also wants developing countries to agree to participate in future reductions before the U.S. will adopt binding obligations.

Secretary Peña states that implementation of the administration's proposal will depend on DOE for expertise in energy-efficiency and renewable-energy technologies. Peña adds that the Department is "a strong supporter" of the pollution-trading idea.

October 30, 1997 The House passes a bill requiring construction of an interim nuclear waste storage site at Yucca Mountain by a vote of 307 to 120. The bill is not identical with the Senate bill that passed in April, and with a presidential veto looming conference action is postponed indefinitely.

November 14, 1997 In the suit brought by the states and electric utilities to force DOE to begin accepting high-level nuclear waste by January 31, 1998, as required by the *Nuclear Waste Act of 1987*, the U.S. Court of Appeals for the District of Columbia rules that DOE has "an unconditional obligation . . . to begin disposal of the spent nuclear fuel" by the deadline. The court turns aside DOE's argument that the government is unavoidably delayed from taking the waste--and is thus exempt from legal damages--because it has not finished building a permanent repository at Yucca Mountain. This opens up the opportunity for compensation to the utilities.

At the same time, the court refuses to issue a "writ of mandamus," as requested by the utilities, that would force the Department to begin taking waste. The court rules that the utilities must follow the procedures outlined in the so-called "delays clause" of the contract if DOE is unable to meet its obligations.

Subsequently, the Department offers to reimburse utilities for storing the waste at their plants, planning to cover the storage costs with funds drawn from the Nuclear Waste Fund. The utilities and concerned states reject the offer.

November 25, 1997 The Department announces that Brookhaven Science Associates, led by the Research Foundation of the State University of New York on behalf of SUNY-Stony Brook and Battelle Memorial Research Institute of Columbus, Ohio, will be the new contractor to manage and operate Brookhaven National Laboratory. The non-profit organization will manage and operate the laboratory for a five-year term at an estimated cost of \$2 billion. The selection process was carried out in record time and was the fastest competition DOE has ever held for a management and operating contract.

December 1-11, 1997 The international gathering of some 160 countries meeting on climate change in Kyoto, Japan, concludes a treaty under which the U.S. would have to reduce emissions of six greenhouse gases to seven percent below 1990 levels by the year 2012. The European Union would reduce emissions eight percent, and

Japan would cut six percent. Developing nations, however, would not be required to adhere to any firm limits. Congressional reaction is cool. "The Kyoto deal is dead on arrival," declares Senate Energy and Natural Resources Committee Chairman Murkowski. In the months prior to the conference, Congress has made clear that participation of India, China, and other developing nations is essential. On July 25, the Senate voted 95 to 0 in favor of a non-binding resolution stating that the U.S. should sign a climate treaty only if it included commitments from the developing countries. Senators on both sides of the aisle worry that a double standard could put U.S. businesses at a competitive disadvantage, raising the price of energy at home and causing jobs to move overseas where costs are lower.

The administration, which along with some moderate Senate Republicans and many Democrats hail the treaty as a significant step forward, thinks the problems with the treaty can be resolved. Vice President Gore states that the treaty will not be submitted for ratification until after the administration has negotiated additional agreements with developing nations on reducing emissions. "Let's be clear," he says, "We will not submit this agreement for ratification until key developing nations participate."

December 4, 1997

Secretary Peña signs an agreement that will lead to U.S. participation in the Large Hadron Collider, a particle accelerator under construction at the European Laboratory for Particle Physics, known as CERN, near Geneva, Switzerland. This marks the first agreement between CERN and the U.S. government, as well as the first time that the U.S. will contribute significantly to the construction of an accelerator outside the U.S. About 25 percent of the nation's experimental high energy physics community is expected to do research at the Large Hadron Collider scheduled for completion in 2005 at a total cost of \$6.5 billion.

The Department will provide components and materials valued at \$200 million for use in the accelerator. Three of DOE's national laboratories--Brookhaven, Lawrence Berkeley, and Fermi--will use \$110 million to design and produce advanced systems for the accelerator's interaction regions where the detectors are located. The remaining \$90 million will be used for procurements from U.S. industrial firms. The U.S. will also provide an in-kind contribution of components valued at \$331 million, with \$250

million coming from DOE and \$81 million from the National Science Foundation.

December 22, 1997 Secretary Peña announces further actions to ensure the DOE openness initiative becomes business-as-usual. These include the issuance of a "Nuclear Classification and Declassification Program" regulation that will, for the first time, formally regulate how DOE and the federal government conduct classification and declassification of nuclear information. The rule prohibits, for example, classifying information solely related to health, safety, and environmental impact. Actions to ensure openness also include expanded protections for those who report official misconduct and the release of "unprecedented volumes" of declassified information.

February 2, 1998 Secretary Peña releases DOE's proposed budget of \$18 billion for FY 1999. This is nearly a 9 percent increase from the FY 1998 appropriation of \$16.6 billion. The major budget components are: energy resources, \$2.3 billion; national security, \$6.1 billion; environmental quality, \$6.7 billion; and science and technology, \$2.7 billion. Remaining activities, such as departmental administration, total \$232 million or less than 1.3 percent of the total budget.

As in previous years, the administration asks for significant increases in energy research and development appropriations. The request for energy efficiency and renewables is \$1,146 million, up nearly 33 percent from the FY 1998 funding level of \$863 million. Also up over 20 percent is the request for non-defense nuclear energy at \$326 million. This includes \$24 million for a new initiative, the Nuclear Energy Research Initiative (NERI), to emphasize collaborative research with academia and industry in areas relevant to nuclear energy. In its budget document, DOE states that the "continued, safe and economic operation of the nation's nuclear power plants is essential in meeting the President's goals set forth in the Administration's Climate Change Initiative to reduce greenhouse gas emissions."

The administration also requests funding of \$517 million, up from the FY 1998 appropriation of \$200 million, for the environmental management privatization initiative. The Tank Waste Remediation project at Hanford, with \$330 million requested for the year, would remain DOE's leading privatization project.

Science and technology is up \$246 million. Of this amount, \$157 million is projected for beginning construction at Oak Ridge of the proposed Spallation Neutron Source, a \$1.3 billion accelerator-

based, next-generation neutron source facility that will be used to explore the molecular composition of materials and is scheduled for completion in 2005. The request also includes \$65 million to support U.S. participation in the construction of the Large Hadron Collider.

The funding request to support stockpile stewardship is up \$421 million.

February 2, 1998

Following DOE's failure to meet the January 31 deadline for beginning to accept high-level nuclear waste from utilities, a coalition of states files a new lawsuit with the D.C. Court of Appeals to order the Department to begin removing waste from reactor sites as soon as possible. They also ask the court to consider appointing a "special master" to ensure that DOE complies with the court's orders, and they want the court to bar the Department from using the Nuclear Waste Fund to pay for temporary storage at the power plants. Finally, they want all future payments to the fund placed in an escrow account.

In a separate action, 41 utilities petition the court to order DOE to begin accepting waste because seeking remedy through the "delays clause" of the contract has not proved successful. The utilities argue that the Department has taken the "unconscionable position that it intends to use utilities' own money . . . to pay the utilities' damages for DOE's breach of that obligation." This position, note the utilities, "demonstrates that the 'potentially adequate remedy' identified by the Court will be no remedy at all."

February 3, 1998

President Clinton visits Los Alamos National Laboratory to speak about the importance of the Department's stockpile stewardship program to ratification of the Comprehensive Test Ban Treaty. A major focus of the two-hour presidential visit is the Accelerated Strategic Computing Initiative.

February 4, 1998

The Clinton administration announces the Advanced Vehicle Partnership, to be led by the Departments of Energy and Transportation. The \$40 million public/private partnership will transfer important technology research from the Department of Defense to private companies and demonstrate, by 2004, that commercially viable buses, delivery trucks, municipal fleets, and other medium size vehicles can achieve at least a 50 percent improvement in fuel efficiency and a reduction of emissions to at least 30 percent below current standards. "This new partnership will help commercialize more efficient vehicle systems that

reduce pollution," notes Secretary Peña. "American consumers and businesses can look forward to a cleaner environment because of the transfer of these energy efficient military technologies."

February 5, 1998

The Department of Energy and Occidental Petroleum Corporation sign final papers for the sale of the United States interest in the Elk Hills Naval Petroleum Reserve, near Bakersfield, California. Occidental executes a wire transfer of \$3.65 billion to the U.S. Treasury, and, in return, the U.S. government, records a deed, transferring to Occidental title to the property that had been in government hands since President Taft created the reserve in 1912. The transfer concludes the largest divestiture of federal property, in monetary terms, in the history of the U.S. government and gets the federal government out of the business of producing oil and gas at Elk Hills.

The signing completes a privatization process begun in 1995 when the administration proposed selling Elk Hills. Congress gave authority to proceed in the 1996 National Defense Authorization Act, which set into motion a two-year timetable for selling the field.

Elk Hills is one of the nation's 11 largest oil and gas fields, encompassing 47,000 acres with more than 900 producing wells. It currently produces approximately 55,000 barrels of oil and almost 400 million cubic feet of natural gas per day. For much of the century, the field served as a contingency source of fuel for the Navy's oil-burning ships. With refined petroleum products and nuclear energy now meeting the military's fuel needs, the Elk Hills Reserve no longer serves a strategic purpose.

February 12, 1998

Secretary Peña urges the U.S. Senate to ratify the Comprehensive Test Ban Treaty. The Secretary cites three reasons he considers the most important: 1) The treaty "effectively 'puts the brakes' on the arms race. Because it prohibits all nuclear explosions, it constrains the development of more advanced types of nuclear weapons by the declared nuclear powers." 2) The treaty will constrain other countries from developing nuclear weapons. "Even if these nations were to assemble sufficient nuclear material to produce a simple fission weapon, without nuclear testing [they] would be forced to place confidence in an untested design." In addition, under the treaty "we will deploy a broad network of more than 300 sensors, blanketing the globe that can detect a nuclear explosion and help us identify nations that have acquired nuclear capabilities." 3)

The treaty will hold other nations to the same standard the U.S. already observes. "The best way to ensure that other countries do not test is for us to lead by example. And there is little doubt that ratification of the Test Ban Treaty by the United States will encourage other countries to follow our lead."

March 25, 1998

Secretary Peña announces the administration's Comprehensive Electricity Competition Proposal designed to bring competition and consumer choice to the electricity industry. The proposal, which will be submitted to Congress as proposed legislation, will provide for customer choice by 2003 but allow states to opt out of competition if they believe that their consumers would be better off under the status quo. The Secretary notes that replacing a regulated monopoly system with competition will also encourage efficiency, bring new products and services, strengthen reliability of service, and protect consumers. "We will bring America's electric industry into the modern era and save consumers money," Peña says. "A family of four will save \$232 a year-- about two weeks of groceries. For the average family, this is the equivalent of getting a 5 percent income tax cut. Competitive forces will also create a more efficient, leaner and cleaner industry. And the environment will benefit as reduced emissions accompany this increased efficiency."

April 6, 1998

Federico Peña announces his resignation as Secretary of Energy effective June 30, 1998.

April 8, 1998

Secretary Peña announces the Comprehensive National Energy Strategy, a blueprint to transform, through a variety of initiatives, the way energy is produced and used in the United States. The strategy relies as much as possible on free markets and competition.

Five "common sense goals" are set forth for national energy policy: 1) reducing energy use by widely deploying more efficient technologies; 2) ensuring against energy disruptions by increasing production of domestic resources; 3) promoting energy production in ways that protect health and the environment; 4) expanding future energy choices through research and development of new technologies; and 5) cooperating internationally on global energy and economic issues.

The Secretary cites four reasons for a comprehensive strategy. First, energy plays a vital role in the economy. The nation's annual energy bill comes to about \$500 billion per year, or

almost \$2,000 for every man, woman, and child. Second, the national security depends on affordable and abundant supplies of energy. Third, the impacts on the environment from production and use of energy are now more pronounced than ever before. Fourth, the U.S. economy has ample opportunity to become more energy efficient.

The product of year-long deliberations among the Department, other federal agencies, and the public, the comprehensive strategy is the eighth issued since DOE was established as a cabinet agency in 1977. The strategy, according to Peña, builds on earlier versions but is different because it has milestones that the public can track and measure to ensure that progress is being made to achieve goals.

April 22, 1998

On Earth Day, DOE releases a report by the directors of 11 of DOE's laboratories entitled, *Technology Opportunities to Reduce U.S. Greenhouse Gas Emissions*. The report outlines 47 "technology pathways" that could eliminate the emissions of hundreds of millions of tons of carbon per year and cover almost all sectors of the economy, including buildings, industry, transportation, and agriculture. The options listed include near-term "practical technologies" such as electric hybrid vehicles, high-efficiency lighting, and super-insulating windows. They also include mid-term to longer term technologies that need further development, such as fuel cells for transportation, microturbines, and hydrogen-fueled energy systems.

According to the study, technologies to reduce greenhouse gas emissions will become available at different times over the next 30 years. In the first decade, significant advances in energy efficiency technologies--such as appliances, heating and cooling systems, and transportation--would produce the greatest reductions in emissions. During the following 10 years, research-based advances in clean energy technologies such as natural gas systems, renewable energy, and fuel cells could provide valuable results. By 2030, research in carbon sequestration could be the key to dramatic reductions in emissions.

May 5, 1998

The D.C. Court of Appeals refuses to force the Department to remove the nuclear waste from 70 commercial nuclear power plant sites. The court also denies requests by the utilities and the states that it prohibit DOE from using fees paid into the Nuclear Waste Fund to compensate utilities. In addition, the court declines to permit utilities to withhold future payments into the fund.

In response to the court edict, Secretary Peña calls a surprise meeting with a "representative group" of utility company executives. He tells them that utilities can retain a portion of the fees they pay into the Nuclear Waste Fund if they are willing to keep for the time being the radioactive waste at their power plant sites and if they drop their legal battle against the federal government. Once DOE begins accepting waste, the utilities would have to pay back the deferred fees, but only with interest at the Treasury rate. Industry officials reject the offer. "You couldn't print most of our initial reactions" to Peña's proposal, says Minnesota Public Service commissioner Kris Sanda.

May 11-13, 1998

India explodes several nuclear devices.

May 28-30, 1998

Pakistan explodes several nuclear devices.

June 2, 1998

A procedural move is used to force Senate action on the House bill passed in October 1997 requiring construction of an interim nuclear waste storage site at Yucca Mountain, thereby exposing it to a filibuster. In an attempt to invoke cloture, the Senate by a vote of 56 to 39 comes up four votes short of the 60 needed to shut off debate and move to a vote. This action follows a statement from House Speaker New Gingrich (R-Georgia) that he does not expect to bring the bill before the House.

June 18, 1998

President Clinton names United Nations Ambassador Bill Richardson Secretary of Energy designate. Prior to his 1997-98 tenure at the U.N., Richardson (D-New Mexico) served seven terms in the House from 1983-97.

June 26, 1998

Outgoing Secretary Peña, reviewing his 15-month tenure, states that the "biggest challenge" facing his successor will be environmental cleanup. "That continues to be the department's most complicated and difficult challenge," the Secretary notes. "I think the long-term solution to resolving the cleanup is for all the governors from the states affected to reach an agreement with DOE about how we're going to integrate the cleanup activities around the country. There is a lot of integration among the [DOE] sites. That agreement also should involve Congress and should address the level of funding we'll have for the next 10 to 15 years. Until that agreement is reached, I think this cleanup program will suffer over the next several years, because there's not an agreed-upon national strategy on it."

Among the accomplishments of his tenure, Peña cites the completion of a national energy strategy to reduce U.S. dependence on foreign oil, advances in fuel cell technology, the launch of the Million Solar Roofs program, the continuation of the Partnership for a New Generation of Vehicles program, the negotiation of energy efficiency standards that will lead to the production of refrigerators 30 percent more efficient than existing ones, the sale of the Elk Hills Naval Petroleum Reserve, and the development of the plan--formerly the 10-year plan, then the 2000 plan, and now Accelerating Cleanup: Paths to Closure--to finish cleaning up of most former nuclear weapons sites by 2006.

July 1, 1998

Deputy Secretary Elizabeth Moler becomes Acting Secretary of Energy.

July 30, 1998

Responding to criticism of the administration's unwillingness to build a temporary storage site for high-level nuclear waste from U.S. nuclear power plants and to give the Secretary of Energy more authority to negotiate with Congress on nuclear waste issues, President Clinton assures the Senate Energy and Natural Resources Committee that Richardson has "full authority" to deal with nuclear waste issues and promises that the administration is "committed to resolving the nuclear waste storage issue." Clinton states that he has "personal confidence in Ambassador Richardson's ability to deal with this complex matter in a competent, straight-forward professional manner." Senator Larry Craig (R-Idaho) responds that he is "pleased that my friend Bill Richardson will be empowered to solve the nuclear waste problem unlike this administration's previous secretaries." Senator Ron Grams (R-Minnesota) accedes to Richardson's nomination, though he is unconvinced that Clinton is sincere and charges that the administration "has made this [nuclear waste issue] a political issue at the expense of the electricity needs of this country." The committee votes 18-0 to approve Richardson's nomination.

July 31, 1998 The Senate unanimously confirms the nomination of Bill Richardson as Secretary of Energy.

August 15, 1998

The Department completes the sale of the Alaska Power Administration (APA) with the transfer of the Snettisham hydroelectric project to the Alaska Industrial Development and Export Authority. In 1995, Congress authorized DOE to transfer APA's Snettisham and Eklutna hydroelectric plants to local control. The Eklutna project was sold to three local utility users of the facility in 1997. The Snettisham project will continue to be

operated by Alaska Electric Light and Power Company under contract to the state.

August 18, 1998

Bill Richardson is sworn in as the ninth Secretary of Energy.

August 24, 1998

Secretary Richardson speaks to DOE employees on his first day in office and tells them he wants to make DOE the "best department in the Cabinet" and that "there is nothing wrong with the Department of Energy that cannot be cured by what is right with the Department of Energy," and that what is right with the Department is "you, the DOE team." Richardson promises to be open and accessible and to make sure the public recognizes that the Department is their servant and is working for them. Richardson announces that he intends to organize an office of consumer affairs to give the public better access to information about energy efficiency and energy-efficient products and services, and he points out that the Department plays an important role in national policies important to the Clinton administration like global climate change, the Comprehensive Test Ban Treaty, hemispheric cooperation with Mexico and Latin America, Caspian oil development, and nuclear nonproliferation, among others. The new secretary observes that "There have been instances in the past that have caused the Department to lose the faith of the public, to incur the criticism of Congress, and to merit the disappointment of our contractors and stakeholders. I want to earn the trust of the public in our communities. I want to merit the praise of Congress. And I want to ensure that our relationships with our contractors and our stakeholders are good ones."

August 26, 1998

The Department's Uranium Mill Tailings Remedial Action (UMTRA) Project comes to a successful end with the remediation of the 22nd and final site at Maybell, Colorado. Under the Uranium Mill Tailings Radiation Control Act of 1978, the Department was charged with the remediation of 24 abandoned uranium mill processing sites in 10 states. The number was reduced to 22 with the removal of two North Dakota sites. Tailings are sand-like materials that remain after uranium is extracted from ore. They contain small concentrations of naturally occurring material that decays to radium and produces radon, a radioactive gas. UMTRA Project accomplishments include the stabilization of more than 39 million cubic yards of tailings; cleanup of more than 5,000 vicinity properties; 22 million truck miles driven without a job-related fatality; and cost reductions/avoidances of \$75

million. The project was administered within the Department's Albuquerque Operations Office.

- September 21, 1998 Secretary Richardson addresses the 42nd session of the General Conference of the International Atomic Energy Agency. The Secretary lists six legacies from the first half century of the nuclear age and the steps the U.S. is taking to resolve them: reducing large nuclear arsenals, controlling and disposing of fissile materials from nuclear weapons reductions, redirecting nuclear weapons complexes to peaceful uses, preventing further nuclear proliferation, managing the back end of the fuel cycle (spent fuel, radioactive waste) and assuring the safe use of nuclear power, and expanding nuclear technical cooperation and peaceful uses of the atom.
- September 22, 1998 Secretary Richardson and Russian Minister of Atomic Energy Yevgeny Adamov sign two agreements during the International Atomic Energy Agency meeting in Vienna. One agreement is designed to facilitate the development of commercial enterprises for Russia's 10 nuclear cities (among the most secret places in the former Soviet Union) as part of DOE's Nuclear Cities Initiative, which began in 1998 and is designed to help Russia's 10 formerly "closed" cities provide jobs for unemployed nuclear weapons scientists to prevent them from working for other nations with nuclear capabilities, particularly nations like Iraq and North Korea. The second is a "framework" to aid in resolving problems arising from an agreement wherein Russia converts highly-enriched uranium from nuclear weapons into low-enriched uranium for use as fuel in commercial reactors in the U.S.
- September 22, 1998 Secretary Richardson in Vienna signs an agreement with Russia, the European Union, and Japan that will end U.S. participation in the International Thermonuclear Experimental Reactor (ITER) project by July 1999. The other three partners signed an agreement in early August to extend the engineering and design phase of ITER, which will cost an estimated \$11 billion to build, for three years. Congress, however, has been skeptical of both the scientific merits and the large costs of the project. In the FY 1999 spending bills, after it became clear ITER would not be built in the U.S., Senate appropriators provided \$12 million for the project and House appropriators zero funded ITER. Congress provided \$50 million for the project in FY 1998. Over the next year, the Department hopes to convince its international partners to develop a new version of the facility that would have capital costs of \$5.5 billion.

October 7, 1998

President Clinton signs the FY 1999 Energy and Water Development Appropriations bill, which provides over 90 percent of DOE's funding. At \$16.4 billion, funding for the Department is over \$500 million more than FY 1998 levels but considerably less than the administration's \$18 billion request.

Energy research and development funding is up slightly from FY 1998 levels. Solar and renewables come in at \$365 million versus \$346 million in FY 1998. Nuclear energy is \$284 million, up from the previous year's \$251 million but less than the \$325 million requested. Congress appropriates \$19 million of the requested \$24 million for the new Nuclear Energy Research Initiative (NERI). Conferees settle on \$19 million after the Senate provided full funding but the House only \$5 million.

Environmental management funding is \$5.8 billion, the same as in FY 1998. The administration had requested \$6.1 billion. "Such a relatively stable level of funding is critical for us to plan and execute our mission in EM," notes James Owendoff, acting assistant secretary for environmental management. Funding for environmental management's privatization initiative at \$228 million is up from \$200 million in FY 1998 but significantly below the administration's request of \$517 million.

National security funding is \$6.0 billion, up from \$5.7 billion in FY 1998. The administration had requested \$6.1 billion.

Science and technology funding is up significantly. The Department's newly renamed Office of Science receives a 16 percent increase over the previous year. Science programs are funded at \$2.6 billion, compared to the administration's request of nearly \$2.5 billion. Funding for the Spallation Neutron Source (SNS), to be built at Oak Ridge, is \$130 million. Although the administration had requested \$157 million, Martha Krebs, director of the Office of Science, is pleased. Lawmakers' willingness, she notes, to approve funding for the SNS, the Department's single biggest non-defense project for the foreseeable future, indicates Congress understands the value of large-scale research. "We're back in the business of building big facilities," Krebs states. "I believe it shows that Congress is committed to building the project." Funding for fusion is \$233 million, up \$4 million from the previous year. Of this amount, \$12 million is for ITER closeout and new fusion-related research initiatives.

- October 19, 1998 The Department announces the award of a contract that will result in the world's first high temperature superconductor (HTS) power cable to deliver electricity in a utility network. The project involves retrofitting existing underground electricity cables owned by Detroit Edison with superconducting cables, reducing transmission losses by 7 percent. While Detroit Edison's current network has nine cables with 18,000 pounds of copper wire, the three HTS cables will weigh only 200 pounds. The Department has been performing HTS-related research since 1987.
- October 21, 1998 President Clinton signs the FY 1999 omnibus appropriations bill that includes Interior and related agencies appropriations. These account for less than 10 percent of DOE's overall budget and include funding for fossil energy and energy efficiency. Fossil energy funding is \$384 million, a \$22 million increase above FY 1998 levels and slightly more than the administration's FY 1999 request of \$383 million. Energy efficiency funding is \$692 million, up from the \$612 million appropriated in FY 1998. House and Senate conferees had agreed on \$642 million for the program, but, as the November elections approached, the White House successfully convinced Congress, eager to return home to campaign, to add \$50 million in funding. In the omnibus bill, \$60 million is also added to the solar and renewable energy account.
- October 28, 1998 Vice President Gore and Secretary Richardson unveil IBM's Pacific Blue computer at Lawrence Livermore National Laboratory. Pacific Blue can perform as many calculations in a second as a person with a hand calculator can in 63,000 years. Pacific Blue is a key component of the Department's Accelerated Strategic Computing Initiative, which simulates nuclear weapons behavior without testing. The computer can also be used for climate modeling studies.
- November 20, 1998 As part of the Atmospheric Radiation Measurement (ARM) program, DOE opens a long-term climate research station on Nauru in the central Pacific on the eastern edge of the ocean's "warm pool," an area that consistently produces the warmest sea surface temperatures in the world. The Nauru station is the second of three planned ARM sites, the first having been established on Manus Island in Papua, New Guinea in October 1996. The ARM research program is DOE's largest contribution to the U.S. Global Change Research Program.
- November 20, 1998 Secretary Richardson announces the Department's Workforce for the 21st Century Initiative (Workforce 21) designed to recruit

technical and management staff with skills to match changing mission requirements.

- December 18, 1998 The Department submits the viability assessment of the Yucca Mountain site to President Clinton and Congress. The Department reports that 15 years of research reveals no "show stoppers" to disqualify the site but notes that certain critical issues should continue to be studied until 2001, at which time DOE will be prepared to make a final decision regarding the site's suitability. Among these issues are the key natural processes at Yucca Mountain, such as water movement, and the long-term performance of the repository and waste package designs. The assessment encourages Senator Energy Committee Chairman Frank Murkowski (R-Alaska) to once again make an effort to convince the administration to build an interim storage facility since no waste will be arriving at Yucca Mountain for some years. Nevada's nuclear waste project office criticizes the assessment as "a political document . . . to make Congress more comfortable in supporting interim storage."
- December 22, 1998 The Department certifies to the President that the nation's nuclear stockpile is safe, secure, and reliable.
- December 22, 1998 The Secretary selects the Tennessee Valley Authority Watts Bar and Sequoyah reactors as the preferred facilities for producing a future supply of tritium for nuclear weapons (the U.S. has not produced tritium since 1988, and the isotope's half-life of 12 years requires periodic replenishment). The choice is made primarily for economic reasons and comes despite intense lobbying by South Carolina representatives to have a tritium facility built at Savannah River.
- December 22, 1998 The Department announces that Savannah River will be the site of a plant that will disassemble pits from nuclear weapons and convert the recovered metal to an oxide, beginning a process of destroying rather than creating weapons-grade plutonium. The disassembly facility consolidates plutonium disposition activities at Savannah River, with the site having already been designated the preferred location for a plant to fabricate plutonium into mixed oxide fuel (MOX) to be burned in existing domestic nuclear reactors and a plant to immobilize plutonium in ceramic surrounded by vitrified high-level waste.
- February 1, 1999 Secretary Richardson releases DOE's proposed budget of \$17.8 billion for FY 2000. On paper the FY 2000 budget request is slightly less--by about \$14 million--than the funding level for FY

1999, even though the projected operating budget is \$717 million higher in FY 2000 than in FY 1999. This is because of one-time adjustments to the FY 2000 budget that include emergency funding provisions for Russian highly enriched uranium purchases, plutonium disposition projects in Russia, and an increased deferral of clean coal technology projects. The major budget components, or "business lines," are: energy resources, \$2.1 billion; national security, \$6.2 billion; environmental quality, \$6.5 billion; and science and technology, \$2.8 billion. Remaining activities, such as departmental administration, total \$223 million or less than 1.3 percent of the total budget. "This is my first full budget request," the Secretary states, "and it plainly reflects the priorities I have set for the Department." The theme of the budget is, "Science, Security and Energy: Powering the 21st Century."

The funding request for energy resources, at \$2.1 billion, is essentially static. This includes, however, a \$206 million deferral of Clean Coal Technology funds. Without the deferral, energy resources funding is up \$213 million over the FY 1999 operating budget. The administration again asks for significant increases in energy efficiency and renewables funding, which, at \$1,236 million, is up over 28 percent from the FY 1999 funding level of \$964 million. The request for solar and renewables is \$446 million, in comparison with \$384 appropriated in FY 1999.

At \$6.2 billion, the national security budget request is an increase of \$244 million over FY 1999. Funding of \$248 million is included for construction of the National Ignition Facility at the Livermore lab, \$170 million for the Tennessee Valley Authority's commercial light water selection as the preferred alternative for tritium production; \$60 million for the Nuclear Cities Initiative with Russia and the Initiatives for Proliferation Prevention programs, and \$28.8 million for design of the Pit Disassembly and Conversion Facility at the Savannah River Site.

Environmental quality, at \$6.5 billion, is up \$114 million from FY 1999 funding levels. Environmental management, which makes up the majority of the environmental quality budget, is essentially level at \$5.9 million, with the administration requesting \$228 million for the privatization initiative, the same amount Congress appropriated for the initiative in FY 1999. Requested funding for the disposal of civilian high-level nuclear waste is \$409 million, up over 14 percent from \$358 million. Most of this amount goes to continuing characterization of the Yucca Mountain site, with an anticipated decision on the viability of the site in 2001.

Science and technology, at \$2.8 billion, is up \$138 million over FY 1999. The request includes \$70 million for the new Scientific Simulation Initiative to develop and deploy faster supercomputers and advanced simulation technologies. It also includes \$214 million for the Spallation Neutron Source at Oak Ridge and first-time operation of several DOE research facilities, including the Fermi Main Injector at Fermilab and the B-Factor at the Stanford Linear Accelerator Center.

- February 18, 1999 Secretary Richardson commits to a revision of DOE's 1992 American Indian policy, which was the first between DOE and the tribes. The new approach is aimed at improving communications, improving Native American quality of life, and strengthening tribal governments. The Secretary also announces that DOE will solicit proposals to develop the use of renewable energy systems on Native American-owned lands. Because many Native Americans live in remote, renewable resource rich areas, renewables are often the most cost-effective and environmentally beneficial electricity option.
- February 26, 1999 Experimental operations begin on the National Spherical Torus Experiment (NSTX) at DOE's Princeton Plasma Physics Laboratory (PPPL). Designed and constructed by PPPL, Oak Ridge National Laboratory, Columbia University, and the University of Washington at Seattle, the NSTX will have the ability to confine a higher plasma pressure for a given magnetic field, potentially leading to a less expensive path to fusion energy as a long-term energy source.
- March 3, 1999 Secretary Richardson directs DOE's laboratories to pool their expertise in nuclear-related design, production, and technology in a joint effort to develop new tools and methods in the study of nuclear proliferation, including biological and chemical threats.
- March 3, 1999 The Department reaches an agreement with Ministry of Atomic Energy Minister Yevgeny Adamov and activates a contract between MinAtom and a consortium of private companies to advance the HEU Purchase Agreement. This nonproliferation initiative is directed to achieving a long-term solution for handling the natural uranium component of deactivated nuclear weapons.
- March 8, 1999 Los Alamos National Laboratory scientist Wen Ho Lee is fired amidst allegations that he passed critical missile warhead technology information to China, a story first reported in the *Wall Street Journal* on January 7, 1999.

March 17, 1999 The Department receives recommendations of the Chiles Commission report dealing with retaining and attracting talent to maintain the nuclear weapons stockpile. The Chiles report warns that there soon will be a shortage of qualified people with technical expertise at the weapons laboratories unless the Department renews its emphasis on nuclear weapons research and prepares a long-range plan on the stockpile to determine future staffing needs.

March 18, 1999 President Clinton requests the President's Foreign Intelligence Advisory Board to investigate and issue a report on the security threat at the Department of Energy's nuclear weapons laboratories. Clinton asks the board to assess the current national security threat at DOE's weapons labs, to determine how the situation developed, and to provide advice on initiatives that should be undertaken to address the situation.

President Eisenhower created the advisory board in 1956 to provide nonpartisan advice on U.S. foreign intelligence programs.

March 18, 1999 Secretary Richardson opens the Consumer Information Office, designed to improve the delivery of DOE products and services to a wider audience and to include consumer viewpoints in DOE policy decisions. Home Energy Saver is introduced, an internet program developed by Lawrence Livermore National Laboratory as part of the Energy Star Program, a joint effort of DOE and the EPA. Energy Star links consumers to sites on the world wide web that provide information on energy-efficiency and energy-efficient products.

March 18, 1999 Secretary Richardson swears in T.J. Glauthier as Deputy Secretary of Energy following his confirmation by the Senate. "As the Department's Chief Operating Officer," the Secretary notes, "I will rely on T.J.'s knowledge and experience to power this department into a new century." Glauthier's responsibilities include overall administrative management of the Department. He will directly oversee the environmental quality and energy resources business lines, which include environmental management, environment, safety and health, civilian radioactive waste management, energy efficiency and renewable energy, fossil and nuclear energy programs, and the Energy Information Administration. He also will be responsible for DOE's Y2K compliance efforts, oil and gas strategy, the electricity restructuring initiative, and environmental cleanup initiatives. In

addition, he will provide support for the new counterintelligence steps at the Department.

Deputy Secretary Glauthier comes to the Department after serving since 1993 as the Associate Director for Natural Resources, Energy and Science at the Office of Management and Budget.

March 26, 1999

After more than two decades of political, legal, and bureaucratic delays, the first truckload of radioactive waste from Los Alamos National Laboratory arrives at the DOE Waste Isolation Pilot Plant (WIPP) in southeastern New Mexico, 26 miles east of Carlsbad. Built at a cost of \$1.8 billion, WIPP is the world's first underground repository (mined salt caverns 2,150 feet below the desert) to permanently dispose of defense-generated transuranic (TRU) waste, waste that is low in radioactivity but high in plutonium. Barrels of TRU waste contain protective clothing, tools, glassware, equipment, soils, and sludge contaminated during nuclear weapons operations. Richardson refers to WIPP opening during his tenure as "like Nixon going to China" in light of his opposition to WIPP while in Congress.

April 1, 1999

Secretary Richardson announces DOE's Africa Initiative, designed to promote African economic development and private investment in Africa's energy sector. The primary goal of the initiative is to facilitate economic growth by fostering trade and investment and encouraging regional market development. The initiative also will promote the use of clean energy technologies that can reduce greenhouse gas emissions.

April 2, 1999

Due to concerns over "tax security," Secretary Richardson orders a stand down of most classified computers at Lawrence Livermore, Los Alamos, and Sandia National Laboratories for security upgrades and worker training. Each lab is required to prepare a computer security plan and have it approved by Richardson before resuming classified operations.

April 15, 1999

Secretary Richardson releases the Clinton administration's Comprehensive Electricity Competition Plan. "This legislation, which is being sent to Congress today," the Secretary notes, "will fundamentally change how we purchase electricity and how producers provide it. It signals a new era of consumer choice. The Clinton Administration's electricity restructuring bill is good for consumers, good for the economy, and good for the environment."

The proposed legislation strengthens the proposal released on March 25, 1998. Under the plan, all consumers would be able to choose their electricity supplier by January 1, 2003. States and unregulated utilities could opt out if they find that consumers would be better served by an alternative policy.

The plan also would establish a \$3 billion Public Benefits Fund to support continued funding for low-income energy assistance, energy conservation, consumer education programs, and programs to promote research and development of clean and efficient technologies. The Federal Energy Regulatory Commission (FERC) would be granted additional authority to ensure that utility activities are consistent with the development of competitive wholesale and retail electricity markets. An Electric Reliability Organization would establish and enforce mandatory reliability standards subject to FERC oversight. In addition, FERC could establish independent regional system operators to create a more efficient and competitive transmission system. The plan would amend the Federal Power Act to clarify the authorities of the states and the federal government in a restructured environment.

April 21, 1999

Secretary Richardson approves recommendations for DOE organization and management changes aimed at eliminating multiple reporting channels and improving accountability. Recommendations include adoption of a Lead Program Secretarial Officer concept, with field offices reporting to one of three headquarters program offices (Office of Science, Defense Programs, and Environmental Management). Headquarters program offices will be responsible for site integration and operations, while field managers will continue to be responsible for day-to-day site program execution, operations, and contract management. A Field Management Council, chaired by the Deputy Secretary, will assure consistent implementation of departmental policy in environment, safety, health, security, and business management and ensure that field and operational concerns are adequately addressed at headquarters. (The changes do not affect field offices and activities that report to the Offices of Fossil Energy, Nuclear Energy, Energy Efficiency and Renewable Energy, and Civilian Radioactive Waste Management.)

April 27, 1999

The Department of Energy and the Department of Interior launch the Green Energy Parks Program, designed to increase the use of sustainable energy technology in the nation's parks. The Department commits funds for technical assistance and project

implementation, extending DOE's work with the National Park Service in incorporating energy efficient technologies in park design at locations such as the Presidio and others parks in California.

May 11, 1999 Secretary Richardson announces a zero tolerance security policy and establishes the Office of Security and Emergency Operations, which will consolidate all safeguards and security policy, computer protection, and emergency operations throughout DOE. The new office will have a budget of \$800 million.

May 30, 1999 Deputy Secretary Glauthier leads an official delegation to the Ukraine. The trip includes a dedication and demonstration of the Pioneer robot designed to collect data inside Chernobyl Unit 4 in areas too contaminated for safe human access.

May 1999 As a result of growing concern over security at DOE's national laboratories, particularly regarding alleged Chinese espionage at Los Alamos National Laboratory dating to the 1970s, proposals to reorganize DOE emerge in both the House and the Senate. Congressional critics do not think DOE's recent organizational changes go far enough to solve the problem. Secretary Richardson responds that DOE is successfully addressing the security issue and opposes having the assistant secretary for defense programs as head of a Nuclear Security Administration with direct authority over the nuclear weapons program as proposed by some in Congress. The debate intensifies with the May 28 release of the Cox (Christopher Cox, R-California) report, a report of a bipartisan House select committee studying security at DOE labs that concludes that DOE's counterintelligence effort is inadequate and argues that Congress should consider removing the nuclear weapons program from DOE. Though complimenting the Cox report for pointing out the need to improve DOE security, Richardson calls removal of the weapons program "a bad idea" and argues instead that establishment of the Office of Security and Emergency Operations with a "security czar" reporting directly to him will sufficiently address the problem. Richardson contends that many of the Cox report's criticisms are outdated in light of recent security improvements.

June 3, 1999 President Clinton issues Executive Order 13123 setting new goals for federal energy management, with DOE's Federal Energy Management Program designated as the federal government's program coordinator. The order establishes goals for reducing energy use and greenhouse gas emissions and

encourages federal agencies to use life-cycle cost analysis when purchasing equipment, designing new buildings, and planning energy and water efficiency projects. The order also supports the Million Solar Roofs Initiative by providing funding for 26 projects utilizing renewable energy systems at federal facilities.

June 11, 1999

Secretary Richardson dedicates the National Ignition Facility target chamber at DOE's Lawrence Livermore National Laboratory. The NIF is a key component of the Department's Stockpile Stewardship Program and is scheduled to begin operations in 2003.

June 16, 1999

Retired Air Force General Eugene E. Habiger, previously head of the Strategic Air Command, is named Director of the Office of Security and Emergency Operations. Secretary Richardson designates him DOE's "security czar." With the support of the Secretary, Habiger promises that "I am going to take steps to blow up the fiefdoms."

Reception to Habiger's appointment is mixed. While some including Senator Jeff Bingaman (D-New Mexico) praise Habiger as "an excellent choice," others believe that it will take more to solve the Department's security problems than appointment of a security czar. Representative William "Mac" Thornberry (R-Texas), for example, lauds Habiger's credentials but argues that "Not even a four-star general can save a sinking ship." Richardson, Thornberry suggests, has "picked a good man, but he's pushing an inadequate solution."

June 21, 1999

The Department announces the Wind Powering America initiative, designed to significantly increase the use of wind power in the United States over the next ten years.

June 21-22, 1999

The Department conducts two-day security immersion programs at Lawrence Livermore, Los Alamos, and Sandia National Laboratories.

June 30, 1999

Save America's Treasures, a national public-private effort between the White House Millennium Council and the National Trust for Historic Preservation, awards DOE \$1.02 million to help preserve historically significant structures at Los Alamos National Laboratory and the Idaho National Engineering and Environmental Laboratory. The Los Alamos grant is to preserve V-site, a cluster of wooden buildings where the Trinity device was assembled prior to being exploded at Alamogordo, beginning the nuclear age. The Idaho grant is to preserve

Experimental Breeder Reactor I, the first reactor to produce electricity.

June 1999

The President's Foreign Intelligence Advisory Board issues its report (Rudman report) on June 15. *Science at Its Best, Security at Its Worst* concludes that DOE is a "Big, Byzantine, and Bewildering Bureaucracy" with a history of "aborted reforms" stemming from institutional "intransigence" and an "ability to fend off systemic change." The report characterizes DOE as a "large organization saturated with cynicism, an arrogant disregard for authority, and a staggering pattern of denial" and argues that "organizational disarray, managerial neglect and a culture of arrogance" justify departmental restructuring.

The predominant "cavalier" attitude toward security and counterintelligence in DOE, the Rudman report contends, ranges from "half-hearted grudging accommodation to smug disregard." "Foreign agents could probably not shoot their way past the concertina wires and bolted doors to seize secrets from U.S. weapons laboratories," the report concludes, "but they would not need to do so. They could probably apply for an access pass, walk in the front door and strike up a conversation."

The Rudman report credits Secretary Richardson with making progress in dealing with security issues but believes that "the Department of Energy is incapable of reforming itself . . . even under an activist Secretary." The report concludes that "when Secretary Richardson vacates his office his successor is not likely to have a comparable appreciation of the gravity of the Department's past problems, nor a comparable interest in resolving them. The next Secretary of Energy will not have spent months at the tip of the sword created by the recent public outcry over DOE mismanagement of national secrets. Indeed, the core of the Department's bureaucracy is quite capable of undoing Secretary Richardson's reforms, and may well be inclined to do so if given the opportunity."

The Rudman report concludes that DOE is a "dysfunctional" bureaucracy that has failed and that the solution is to create a semi-autonomous security agency within the Department or a separate NASA-like agency to manage the nuclear weapons program. The report specifically rejects the idea that DOE's weapons laboratories be transferred to the Department of Defense.

Citing the Rudman report's findings, Senators Domenici, Kyl, and Murkowski intensify pressure on DOE to accept significant reorganization along the lines of an amendment they have sponsored that provides for an under secretary and three deputies appointed by the President and confirmed by the Senate to run the Department's national security programs. Representative Thornberry, whose district includes DOE's Pantex Plant near Amarillo, Texas, is the major sponsor of similar legislation in the House. Domenici argues that the Rudman report's findings eliminate the necessity of further hearings on DOE's security situation. "We have undoubtedly destroyed a major forest with all the paper documenting DOE mismanagement in just the past 15 years. We have done studies; we have held hearings." "We need a fundamental re-emphasis on the nuclear weapons work at DOE," Domenici states, "recognizing that the rules and regimes that govern the rest of the DOE complex cannot be entirely used in the nuclear weapons complex."

Secretary Richardson continues to argue that "My alternative is much better," referring to the establishment of the Office of Security and Emergency Operations headed by Habiger. Richardson indicates a willingness to have the person managing national security programs at the Department appointed at the under secretary level but opposes having the person be independent of the rest of the Department, arguing that it undermines his authority as secretary. "In the department of fiefdoms, another fiefdom is not what I need," Richardson holds. "To say I'm troubled is putting it mildly," he comments. "Not only is it wrong," Richardson maintains, "but it may be unconstitutional," a position the Department puts forth in detail at the end of June.

July 14, 1999

Secretary Richardson issues revised procedures for unclassified visits and assignments by foreign nationals to the Department of Energy's national laboratories and other facilities. The new requirements implement recommendations in Presidential Decision Directive 61 and the Department's Counterintelligence Implementation Plan. The procedures are designed to continue the free flow of information between scientists without compromising U.S. foreign, nonproliferation, international energy, and national security policies and agreements.

July 15, 1999

Secretary Richardson announces an administration proposal to help current and former DOE contract workers who developed medical problems resulting from exposure to beryllium while

working at DOE nuclear facilities. The Department apologizes to contractor workers and proposes to provide those who contracted chronic beryllium disease with health benefits previously available only to federal employees through the Federal Employees Compensation Act.

Chronic beryllium disease is a debilitating lung disease caused by exposure to beryllium, a metal used in the production of nuclear weapons. Inhaling beryllium dust or particles can cause beryllium sensitization, where the immune system becomes allergic to the presence of beryllium in the body, and chronic beryllium disease, an irreversible, often disabling, and sometimes fatal lung condition. While symptoms can be arrested with treatment, there is no cure. The Department estimates that approximately 20,000 workers may have been exposed to beryllium while working at DOE sites, primarily at Rocky Flats and Oak Ridge, with lesser numbers at Hanford, Los Alamos, and Argonne National Laboratory.

July 1999

Secretary Richardson expresses support for a Senate proposal to establish a semiautonomous nuclear weapons and security organization within DOE along the lines advocated by the Rudman report after receiving assurances that his authority over the weapons complex will not be reduced. DOE and Senate staff enter into negotiations on draft legislation.

Negotiations prove difficult, particularly over how much authority to give the director of the proposed new organization consistent with providing clear lines of authority but without undermining the Secretary's position as agency head. The Secretary wants the director to implement but not set policy. A House appropriations subcommittee withholds \$1 billion from DOE's nuclear weapons program pending DOE and Congressional agreement on management reforms. Senator Domenici threatens to support a free-standing nuclear weapons agency unless negotiations move more quickly.

On July 21, the Senate votes 96-1 to approve an amendment to the FY 2000 Intelligence authorization bill to create an Agency for Nuclear Stewardship responsible for all nuclear weapons activities in DOE. Representative Thornberry's somewhat broader version is included in the House FY-2000 Defense authorization bill. Richardson regards the Senate proposal as a "good start," particularly as it includes some changes inserted by Senator Bingaman he favors, though he expresses his desire to see additional changes before fully supporting the bill. Senator

Murkowski says the vote is a big step forward, stating that "After 20 years worth of studies that pointed out a dysfunctional department, we are finally going to move to fix the problem." Thornberry predicts final adoption of a bill in the House-Senate conference on the defense authorization act acceptable to "the people who are interested in seeing reform at DOE." Thornberry credits Richardson for compromising with Congress on measures for fixing the security problems at DOE.

As House-Senate conferees try to work out details of an amendment to establish a National Nuclear Security Administration, the White House expresses concerns similar to those of Secretary Richardson regarding the authority to be given the director and threatens to veto the defense authorization bill.

- August 3, 1999 At Secretary Richardson's direction, acting on the advice of General Habiger, all DOE facilities participate in a compulsory security stand down to convene a day-long program of security training and education focusing on counterintelligence, security, and cyber-security measures.
- August 8, 1999 The *Washington Post* reports that workers at DOE's Paducah, Kentucky, gaseous diffusion plant were unknowingly exposed to plutonium that was contained in uranium sent from Hanford and Savannah River for recycling between 1952 and 1976. Secretary Richardson dispatches an investigation team composed of DOE health physicists, industrial hygienists, and specialists in occupational medicine and environmental exposure to Paducah. The DOE team is joined by Kentucky officials, the Environmental Protection Agency, and the Nuclear Regulatory Commission.
- September 3, 1999 Secretary Richardson reports that the National Ignition Facility is over budget and behind schedule and announces project management changes. Richardson expresses "grave disappointment" with the situation and responds with a plan including reducing the University of California's performance fee for managing Lawrence Livermore National Laboratory, initiating an independent review of NIF, reducing lab responsibilities for building NIF, and other administrative changes.
- September 10, 1999 Secretary Richardson signs agreements with Governors Don Sundquist of Tennessee, Bill Owens of Colorado, James Hodges of South Carolina, and Gary Locke of Washington, to improve intergovernmental cooperation and to recommit DOE to seeking

“predictable and adequate” funding to meet its cleanup responsibilities.

- September 16, 1999 Secretary Richardson proposes legislation to compensate current and former contract employees at uranium enrichment facilities for cancers resulting from exposure to radioactive contaminants. Sites included are Paducah, Kentucky; Oak Ridge, Tennessee; and the Portsmouth plant in Piketon, Ohio. He also requests supplemental funds of \$21.8 million in FY 2000 to pay for medical monitoring of workers, radiation exposure assessments, and accelerated cleanup at the sites. And, in response to preliminary findings of a DOE safety team investigating Paducah plant operations following reports that workers were exposed to plutonium without their knowledge, he orders measures to address environmental, safety, and health issues at the Paducah plant.
- September 18, 1999 The world’s largest wind power facility, utilizing turbines developed and tested jointly by DOE and Enron Wind Corporation, is dedicated in Storm Lake, Iowa, as part of the Department’s Wind Powering America Initiative. Annual output at Storm Lake is projected to equal the electricity created from burning 1.3 million barrels of oil. The facility has 257 wind turbines, each capable of generating up to 750 kilowatts, and will generate enough electricity to supply 71,000 homes. The Department is currently working with Enron to develop a 1,000 kilowatt wind turbine, which will increase wind energy’s competitiveness in Midwestern markets.
- September 23, 1999 Department of Energy-funded researchers win 43 of the R&D 100 Awards for the top technological achievements of the year. The awards are presented annually by *R&D Magazine* to recognize the year’s most outstanding technological developments with commercial potential. This year’s awards brings DOE’s cumulative total to 529, the most, by far, of any single organization and twice as many as all other government agencies combined. Congratulating the researchers, Secretary Richardson says, “These awards are both a tribute to the impressive creativity of the scientists and engineers at our national laboratories that made these technologies possible and recognition of the practical contributions that the Department of Energy research makes to the country.”
- September 29, 1999 President Clinton, despite reservations by Secretary Richardson, signs the FY 2000 Energy and Water Development Appropriations bill, which provides over 90 percent of DOE’s

funding. At \$16.7 billion, funding for the Department is \$390 million below FY 1999 levels and less than the administration's \$17.1 billion request. The Secretary declares that the measure "barely meets the country's national security needs and undercuts our international leadership in science," but he stops short of recommending a veto.

Secretary Richardson complains that Congress "withheld important tools needed to implement security reform" throughout the Department. "By denying \$35 million in funds for cyber-security upgrades," he says, "it will be impossible to provide real-time cyber intrusion detection and protection for all 70 DOE sites." The Department had submitted a request late in the appropriations process for an additional \$50 million in FY 2000 funding to improve computer security. Conferees approved \$18 million.

The Secretary also expresses concern about cuts made in the request for the Spallation Neutron Source (SNS) and the Scientific Simulation Initiative. "Without this funding," Richardson notes, "SNS will most certainly fail to meet its current implementation schedule, delaying the availability of this important research facility to American universities and industries while increasing its final costs." Congress funds only \$118 million of the administration's \$214 million FY 2000 request for the Spallation Neutron Source. The Scientific Simulation Initiative, for which the administration requested \$70 million to advance work in supercomputing, is zero funded for FY 2000.

The Secretary, in addition, is "dismayed" by reductions in funding for worker health and safety at DOE's uranium enrichment plants. The Department had sought \$21.8 million for worker medical assessments and accelerated cleanups at the Paducah, Oak Ridge, and Portsmouth facilities. The final bill includes \$16 million for these activities.

In the energy account, nuclear energy, at \$288 million, comes in at \$5 million more than FY 1999 funding and \$19 million more than the administration's request, and solar and renewables, at \$362 million, is \$3 million less than in FY 1999 and considerably below the administration request of \$446 million. Science programs, despite the reductions for the Spallation Neutron Source and the Science Simulation Initiative, at \$2.8 billion is up \$117 million from FY 1999. High energy physics receives a \$11 million increase above the administration's request "to allow optimal utilization of existing scientific facilities." Fusion energy

comes in at \$250 million, \$27 million more than both the FY 1999 funding level and the FY 2000 administration request.

The conference report also contains a number of administrative directives for the Department, including limiting contractor travel expenses to \$150 million, requiring a reduction in the number of DOE's management and operating contractors assigned to the Washington, D.C., metropolitan area, and calling for a reduction in DOE's field office staffing by five percent from FY 1999 levels.

September 1999

The House votes 375-45 to approve the conference report creating the National Nuclear Security Administration. Richardson remains opposed due to concern that the reorganization will reduce his authority over DOE's weapons programs. "The House had good intentions," Richardson states, "but the reorganization proposal wrongly endangers the health, safety and environment oversight and would jeopardize the counterintelligence and security reforms that have already been accomplished." House Armed Services Committee Chairman Floyd Spence (R-South Carolina) calls Richardson's threat of a presidential veto "a complete embarrassment," particularly since the bill contains a politically popular 18-year high military pay raise. The Senate votes 96-3 to approve the conference report. Richardson issues a similar statement following the Senate vote.

October 1, 1999

The Open Computing Center in Sarov (formerly Arzamas-16, birthplace of the Soviet atomic bomb) opens as a Nuclear Cities Initiative, capable initially of employing approximately 100 former weapons specialists.

October 5, 1999

President Clinton signs the FY-2000 defense bill, though he states that he is troubled that the House-Senate conference "altered the final product" regarding the National Nuclear Security Administration and made national security provisions weaker and threatened environment, safety, and health compliance by isolating the NNSA from outside influence and the Secretary's authority. Clinton instructs Richardson to serve as the NNSA under secretary until Congress passes legislation to address the administration's concerns, legislation with language similar to the FY-2000 intelligence reauthorization bill supported by Clinton and Richardson. Clinton also directs Richardson to use his authority "to assign any departmental officer or employee to a concurrent office" in the NNSA.

Senator John Warner (R-Virginia), Chairman of the Armed Services Committee, says he is "stunned" by Clinton's actions,

while Senator Domenici charges that the administration does not intend to obey the law. "I'm hearing your pious words," about enforcing the law, Domenici remarks to Richardson at a hearing, but "I don't want any comments from you. I'm telling you, we've been at it too long, and I'm fed up." House Armed Services Committee Chairman Spence warns that Congress will take the nuclear weapons program away from DOE and place it in an entirely independent agency if the administration continues to fight implementation of the NNSA along lines laid out in the defense bill.

Richardson responds that a satisfactory compromise is possible that will retain his authority over the weapons complex while implementing the NNSA according to Congressional intent. The Secretary defends the legality of Clinton's directive that he serve as the under secretary and use his personnel authority to fill NNSA management positions with DOE officials, despite charges from Senator Murkowski and others that the president's instructions violate the intent of the laws and are unconstitutional.

The Congressional Research Service calls dual-hatting a violation of the statute and the president's appointment of Richardson as acting under secretary constitutionally questionable. Senator Fred Thompson (R-Tennessee), Chairman of the Governmental Affairs Committee, argues that "It is as if the president has exercised the line-item veto, signing the overall bill, but denying effect to certain provisions. This approach is unconstitutional." Richardson disagrees, pointing out that the Office of Management and Budget, the Justice Department, and White House lawyers have all agreed that the president's appointment of him is legal.

October 13, 1999 The Senate votes 48-51 to reject the Comprehensive Test Ban Treaty.

October 20, 1999 The Department issues a report of findings from the phase one investigation of environment, safety, and health practices at the Paducah Gaseous Diffusion Plant in western Kentucky covering activities at the plant since 1990. While the report concludes that current operations do not present an immediate risk to workers or the public, it documents weaknesses in oversight that perpetuate risky and hazardous operations that need to be addressed. The investigation team notes progress in characterizing sources of groundwater contamination, but it finds limited progress in remediating sources of offsite contamination and reports a lack of discipline, formality, and rigor in worker

protection and safety and a lack of resolution in resolving criticality safety hazards in material storage areas.

- November 16, 1999 Secretary Richardson announces that the High Flux Beam Reactor at the Brookhaven National Laboratory will be closed permanently. The 60-megawatt research reactor began operation in 1965 but had been closed since December 1996 when restart following normal refueling was delayed after radioactive tritium was discovered in an aquifer beneath the reactor. Standby status costs of nearly \$23 million per year and projections that it would take until 2002 to finish an environmental review, restart the reactor, and make it operational for research again convinced DOE to cease operations.
- November 30, 1999 President Clinton signs the FY 2000 omnibus appropriations bill that includes Interior and related agencies appropriations. These account for less than 10 percent of DOE's overall budget and include funding for fossil energy and energy efficiency. Fossil energy funding is \$404 million, a \$20 million increase above FY 1999 levels and \$40 million more than the administration requested. Energy efficiency funding is \$745 million, up nearly eight percent from the \$692 million appropriated in FY 1999 but less than the \$838 million request by the administration. House and Senate conferees had agreed on \$689 million for the program, but pressure from the White House, which threatened to veto the bill because of its "anti-environmental riders," successfully raises the final amount appropriated. Last minute negotiations also secured \$9 million more for the fossil energy program, with \$5 million of that going toward technologies that gasify liquid wastes in the pulp and paper industry. The wastes, known as "black liquor," are currently burned, but the industry maintains that the wastes could be disposed of more safely and even profitably if they were gasified.
- December 10, 1999 The Department designates the Federal Energy Technology Center as DOE's newest national laboratory, to be known as the National Energy Technology Laboratory (NETL). Located 65 miles apart but commonly managed in Morgantown, West Virginia, and Pittsburgh, Pennsylvania, the laboratory is the nation's largest fossil energy research organization. The NETL will also manage the Center for Advanced Natural Gas Studies to coordinate development of new technologies to improve the discovery and production of natural gas as well as new ways to make the future use of natural gas cleaner and more efficient.

December 15, 1999 Vice President Gore, Secretary Richardson, Tennessee Governor Don Sundquist, Senator Bill Frist (R-Tennessee), and other dignitaries attend the ground breaking ceremony at Oak Ridge National Laboratory for the \$1.36 billion Spallation Neutron Source (SNS) project for neutron scattering and related research in the physical, chemical, materials, biological, and medical sciences. The SNS is a partnership of five DOE laboratories-- Oak Ridge, Argonne, Brookhaven, Lawrence Berkeley, and Los Alamos, each of which is building a component of the project.

December 31, 1999 Department of Energy staff and U.S. industry experts work around the clock during the transition to the year 2000 monitoring the U.S. electrical, oil, and gas industries. The transition is largely uneventful, leading Secretary Richardson to claim "partial victory" on January 2, 2000, and to conclude that the \$5 billion the utility industry invested and the \$8 billion invested by the federal government in Y2K preparations "paid off." The Department's Y2K investment is \$325 million, including staffing the Emergency Operations Center at headquarters and other sites with 2,000 employees and participation in monitoring the "rollover" in Russia and the Ukraine and at the International Energy Agency in Paris.

January 14, 2000 Calling it a "big boost for tribal sovereignty," Secretary Richardson announces the return of 90,000 acres of oil-rich lands to the Northern Ute Tribe, one of the largest voluntary returns of Indian lands ever. The agreement also covers cleanup and removal of 10.5 million tons of radioactive uranium mill tailings.

February 7, 2000 Secretary Richardson releases DOE's proposed budget of \$18.9 billion for FY 2001. The request is \$1.6 billion over the FY 2000 appropriated level--a nine percent increase. This is one of the highest percentage increases given to any federal agency by the administration. The government-wide budget increase for FY 2001 is 3.9 percent. "We are among the most successful" agencies, the Secretary maintains at the budget briefing.

The theme of the budget is "Strength Through Science." Richardson notes that the Department is "at its heart a science agency." Forty percent, or \$7.6 billion, of DOE's budget supports research and development, which he calls the "underpinning of all of DOE's missions." This figure is up nearly eight percent from FY 2000.

Energy resources, at \$2.2 billion, is up \$175 million, or eight percent, over FY 2000. The energy efficiency request for FY 2001 is \$850 million, up from \$759 million appropriated in FY 2000. The request for the Bioenergy/Bioproducts Initiative, which seeks to help make biomass a viable competitor as an energy source, is \$174 million, up \$49 million, or nearly 40 percent, from the previous year. The initiative supports President Clinton's August 1999 Executive Order 13134 and Memorandum on Promoting Biobased Products and Bioenergy aimed at tripling the use of biobased products and bioenergy by 2010.

National security, at \$6.6 billion, is up \$502 million, or eight percent over FY 2000. Of this amount, \$6.2 billion is requested for DOE programs that will be consolidated into the new National Nuclear Security Administration.

Environmental quality, at \$6.8 billion, is up \$511 million, or eight percent, over FY 2000. The FY 2001 funding request for environmental management's privatization initiative is \$515 million, an increase of \$327 million over the FY 2000 appropriation. Of the total privatization request, \$450 million is dedicated to the Hanford's Tank Waste Remediation System that will vitrify high-level waste into a form suitable for permanent disposal off-site.

Science and technology, at \$3.2 billion, is up \$337 million, or 12 percent, over FY 2000. The FY 2001 request includes \$182 million for the Advanced Scientific Computing Research program to increase computer modeling and simulation research and development and \$281 million for the Spallation Neutron Source at Oak Ridge. The request for nanotechnology and nanoscience-research and development into extreme miniaturized technologies--is up \$36 million to \$91 million. The Department is one of six federal agencies contributing to the National Nanotechnology and Nanoscience Initiative budgeted at nearly \$500 million.

February 10, 2000

The Department releases the final report of its investigation of past environment, safety, and health practices at the Paducah Gaseous Diffusion Plant. The report discusses the plant's operations from 1952 to 1990 and concludes that safety and health procedures were consistent with requirements at the time though many of the procedures and controls would not meet today's more stringent standards. The procedures, however, were not followed on a regular basis, some management decisions caused higher than necessary radiation exposures,

some workers were exposed to hazards not adequately monitored or understood, and workers did not receive sufficient information about the types of radiation and chemical hazards found in their working environment. The report provides background information supporting the administration's worker compensation proposals that will also be used in ongoing assessments of worker exposures to specific chemical and radioactive materials and the health effects of those exposures.

February 11, 2000

Co-chairs of the House oversight panel on DOE's NNSA reorganization plan Mac Thornberry and Ellen Tauscher (D-California, whose district includes Lawrence Livermore and part of Sandia Laboratory) criticize DOE's implementation plan for lacking detail and for allowing dual-hatting of senior DOE officials. They also express concern that "senior DOE leadership remains opposed to the provisions of NNSA and lacks a strong commitment to full compliance with the law." Representative John Spratt (D-South Carolina) disagrees and points out that a separate stovepipe within DOE creates "redundancy" that might do DOE more harm than good in the long run.

February 28, 2000

The Department of Energy and the American Institute of Architects announce a national design competition for the largest solar energy system on a U.S. federal government building and one of the largest such systems in the world. The "Sun Wall" at the Department's Forrestal building spans nearly two-thirds of an acre and is currently blank.

March 1, 2000

The Department activates the National Nuclear Security Administration, meeting the statutory deadline established by the FY 2000 defense authorization act.

NNSA's mission is to carry out the national security responsibilities of the Department of Energy, including maintenance of a safe, secure, and reliable stockpile of nuclear weapons and associated materials, capabilities, and technologies; promotion of international nuclear safety and nonproliferation; and administration and management of the naval nuclear propulsion program. The agency includes the former Offices of Defense Programs, Nonproliferation and National Security, and Naval Reactors. NNSA has 2,000 employees: Office of Defense Programs, Fissile Materials Disposition, and Nonproliferation and National Security, and Nevada and Albuquerque Operations Offices; most employees of the Office of Naval Reactors, the Pittsburgh Naval Reactors Office (including the Idaho Branch Office) and the Schenectady Naval Reactors Office (including the West Mifflin Field Office);

and some other employees, mainly at the Oakland, Oak Ridge, and Savannah River Operations Offices.

March 2, 2000 President Clinton nominates General John A. Gordon to serve as the Department's Under Secretary for Nuclear Security and Director of the National Nuclear Security Administration.

March 2000 House and Senate hearings indicate continuing Congressional concern with NNSA implementation. During a House hearing, Representative Thornberry argues that, despite Richardson's claims to the contrary, dual-hatting violates the law, an opinion first stated by the Congressional Research Service and supported by the General Accounting Office. DOE Deputy General Counsel Eric Fygi disagrees, citing a 1964 statute giving federal agencies such authority. Thornberry continues to urge cooperation between Congress and DOE.

Aside from the legality of dual-hatting, some question DOE's intent in appointing officials to serve concurrently in DOE and the semi-autonomous NNSA. Representative Duncan Hunter (R-California) states that "Nobody . . . ever dreamed that it would be implemented as a dual-hatted operation." Representative John Spratt (D-South Carolina), however, observes that if Richardson really wanted to subvert Congressional intent, he would dual-hat far more positions.

At a Senate Armed Services Committee hearing, Chairman Warner criticizes Richardson for assigning so many senior DOE officials to concurrent positions at the NNSA. "It seems to me," he remarks, "that this flies in the face of the language of the law." Senator Carl Levin (D-Michigan) defends Richardson's use of dual-hatting and urges patience with NNSA implementation.

April 10, 2000 The Department holds a diversity stand down to emphasize the importance of racial sensitivity and diversity in the workforce. The stand down results from a recommendation by the task force on racial profiling, established as a result of the controversy surrounding the treatment of Wen Ho Lee, the Taiwanese-American Los Alamos scientist fired in March 1999.

April 12, 2000 Secretary Richardson announces an expanded administration proposal to compensate more than 3,000 current and former workers with a broad range of work-related illnesses throughout the DOE nuclear weapons complex. The legislation proposes to give lump sum financial benefits or a package of benefits, to include lost wages, medical expenses, and job retraining, to

workers with illnesses caused from breathing particles of beryllium, workers with cancers caused by workplace radiation exposure, and specific groups of workers at the Department's Paducah, Portsmouth, and Oak Ridge sites. The proposal extends the July 1999 beryllium exposure program following the results of an interagency review led by the National Economic Council that concluded that the proposal be expanded to include other illnesses.

April 22, 2000

The Department participates in Earth Day 2000, the 30th anniversary of Earth Day. The global theme is Clean Energy Now. Power for the event, which draws 300,000 to the mall, is provided entirely by renewable energy sources.

The Department issues a statement in conjunction with Earth Day reporting that energy use in federal buildings has decreased 20% since 1985, beating by one year the target set by the 1992 Energy Policy Act. Savings result primarily from use of energy-saving equipment and maintenance and operations improvements.

April 2000

Following an admission in February that the Clinton administration had been "caught napping" and had gotten "complacent" about oil prices, Secretary Richardson holds meetings in numerous oil-producing countries trying to convince them to increase production and calm the market. Following an OPEC decision to increase production, the Energy Information Administration projects lower gasoline prices for summer.

May 4, 2000

A prescribed burn to clear brush at Bandelier National Monument in New Mexico quickly burns out of control and becomes the largest-ever fire in the state. The fire enters Los Alamos Canyon on May 10, leading to evacuations and the closing of Los Alamos National Laboratory. Air monitoring by LANL indicates no releases of radiation as the fire sweeps through 9,000 acres of LANL property. The Cerro Grande Prescribed Fire ultimately burns over 47,000 acres, destroys about 260 homes in Los Alamos, causes approximately \$1 billion in damages, and displaces thousands of families in the area. With the wet season approaching, concern turns to preventing flooding resulting from absence of tree cover and heat-baked earth.

May 19, 2000

Secretary Richardson announces a new contract reform initiative intended to hold contractors as well as DOE managers who supervise contractors more accountable. The initiative includes provisions to strengthen the Department's ability to sanction poor

contractor performance and reward outstanding performance. It also gives the Secretary the authority to direct the removal of a senior contract manager for poor performance. Major provisions include conducting annual performance reviews of key contractor organizations, linking performance bonuses for contractor managers to performance objectives, holding senior DOE managers accountable for contractor management in their own performance plans, briefing the Secretary annually on major projects to review performance and award fees, and expanding the Chief Operating Officer "watch list" to include contractors performing at the marginal or poor level.

The reforms extend efforts from the early 1990s moving the Department away from "cost plus" contracts to performance based contracts. The Department's 30 major contracts are valued at \$50 billion over ten years.

June 26, 2000

President Clinton and British Prime Minister Tony Blair announce that the International Human Genome Project and Celera Genomics Corporation have completed a working draft of 95% of the human genetic structure. DOE scientists began the Human Genome Project in 1986 to explore newly developing DNA analytical technologies. The National Institutes of Health joined the project in 1988, and a joint effort was formally announced in 1990. In addition to DOE and NIH, the international project includes scientists at 16 institutions in France, Germany, Japan, China, Great Britain, and the United States.

June 27, 2000

A traffic accident near the west gate of the Hanford Site produces a fire that burns 192,000 acres of desert vegetation, destroys homes and other buildings in Benton City and West Richland, and comes within a half-mile of high-level radioactive waste buried at the site.

June 28, 2000

Following his June 14 confirmation, General John A. Gordon is sworn in as the department's first Under Secretary for Nuclear Security and Administrator of the National Nuclear Security Administration. Prior to joining DOE, Gordon served as Deputy Director of Central Intelligence at the CIA from 1997-2000. His lengthy service in the national security field includes experience as a physicist and research associate at Sandia National Laboratory.

June 2000

Congressional scrutiny of DOE security intensifies when computer disk drives containing classified information disappear at Los Alamos National Laboratory. Though discovered missing

from a secure vault by Nuclear Emergency Search Team members on May 7, the loss is not reported to lab management until May 31 and to DOE the following day. The missing drives are found behind a copier machine on June 16.

The Los Alamos incident prompts a joint hearing of the Senate Intelligence and Energy Committees and a House Armed Services Committee hearing on June 14. Senate Intelligence Committee Chairman Richard Shelby (R-Alabama) charges that the episode reveals the insufficiency of the Department's security initiatives and, along with other senators, criticizes Richardson for not appearing at the hearing. Senator Domenici contends that having Edward Curran and General Habiger oversee counterintelligence and security in both DOE and the NNSA cannot work. "It doesn't matter how great you are, general, or you Mr. Ed Curran, you can't do the job," Domenici argues. Senator Kyl chides Richardson for having told American's that "our nation's nuclear secrets are safe and secure." The House hearing covers much the same ground, with considerable attention paid to vault security and personnel access procedures.

At a June 21 joint hearing of the Senate Armed Services and Intelligence Committees, Secretary Richardson informs members that he will implement the NNSA as Congress directs, though this statement does not prevent several senators from calling for Richardson's resignation and Senator Robert Byrd (D-West Virginia) from charging Richardson with contempt for not appearing at the June 14 hearing, a charge Richardson vigorously rebuts. Richardson reports that a grand jury is looking into the disappearance and discovery of the computer disk drives at Los Alamos and that an FBI investigation has found no evidence of espionage. Richardson also reports that he has told NNSA administrator General Gordon that he [Richardson] will "support him on whatever he wants to do on the double-hatting issue." Domenici welcomes Richardson's decision to work with Gordon, stating that "I hope we will leave here bound together, Republicans and Democrats, saying it is too important to argue over the early ideas of this secretary with reference to the autonomy of this agency."

June-July 2000

The Energy Information Administration revises estimates of oil and other energy prices upward following a short-lived downturn resulting from increased OPEC production in April. Gasoline prices, particularly in the Midwest, become a political issue for the first time in years and enter the partisan debate coinciding with the heating up of the presidential election campaign. In

response to Vice President Gore's charge that U.S. oil companies are gouging American consumers, House Majority Leader Richard Armey (R-Texas) responds that "We're not being gouged, we're being 'Gored'" due to the failed Clinton-Gore energy policies. House Speaker J. Dennis Hastert (R-Illinois) attacks Secretary Richardson, who is regarded as a potential Gore running mate. Noting that President Clinton has expressed full confidence in Richardson, Hastert states "I'm afraid I don't share the president's confidence." "The secretary has two very important responsibilities," Hastert argues, "to monitor our nation's petroleum costs and to protect its secrets. Yet our petroleum costs are spiraling out of control and our nuclear secrets go missing for months at a time before turning up behind copiers." Criticism comes from Democrats as well, particularly those in the northeast and midwest, some of whom argue that the Department should draw down the Strategic Petroleum Reserve to dampen consumer prices.

July 20, 2000

The Department and PECO Energy Company sign an agreement to address DOE's delay in accepting spent fuel from utilities. While this first-of-a-kind agreement applies only to PECO's Peach Bottom Plant in Pennsylvania, it is intended to provide a framework for agreements with other nuclear power plants and utility companies and serve as a remedy for the delay other than litigation. The agreement allows PECO to reduce the projected charges paid into the Nuclear Waste Fund by up to \$80 million over ten years to reflect costs reasonably incurred by PECO due to the Department's delay in moving spent nuclear fuel from the reactor.

July 21, 2000

The Direct Observation of the Nu Tau (DONUT) experiment, a collaboration of 54 physicists from the U.S., Japan, Korea, and Greece, announces that Fermilab's Tevatron accelerator has produced the first direct evidence of the subatomic particle called the tau neutrino, the third neutrino of the Standard Model of elementary particles, a theoretical description of the building blocks of nature that groups all particles into three generations. The first-generation electron neutrino was discovered in 1956 at Savannah River, while the second-generation neutrino was found in 1962 at Brookhaven National Laboratory.

August 31, 2000

A federal appeals court rules that nuclear utilities can bring damage suits against DOE in federal claims court for the Department's delay in accepting waste rather than seeking redress administratively at DOE under the "delays clause" of the contract as PECO did when it signed the July 20, 2000,

agreement with the Department. The ruling allows utilities to bring breach of contract suits against DOE potentially establishing liability and leading to the award of damages from the federal government's "judgment fund" rather than the Nuclear Waste Fund. The Department estimates that the ruling will have little impact on the amount of damages awarded to utilities, though the Nuclear Energy Institute estimates DOE's liability could be as high as \$50 billion, not the \$2-3 billion cited by the Department. General Counsel Mary Ann Sullivan states that the Department prefers to enter into more agreements with utilities like the one with PECO rather than litigate and says DOE will consult with the Justice Department on a possible appeal. Senator Murkowski points out that damages awarded from the "judgment fund" place the burden directly on taxpayers and again urges the Senate to override the president's veto of his bill to reform DOE's nuclear waste program and provide an interim storage facility, thus allowing DOE to remove the waste from nuclear plants prior to the opening of Yucca Mountain.

August 28, 2000

The Department announces that Compaq Computer will build the world's fastest supercomputer at Los Alamos National Laboratory by 2002. The computer, ASCI Q (Accelerated Strategic Computing Initiative) will be part of the Department's Stockpile Stewardship Program and will be used to help verify that warheads in the stockpile are reliable without physical testing. The \$200 million computer will operate faster than the combined speeds of the next 21 fastest machines currently in operation and process as much information daily as 20,000 personal computers.

September 1, 2000

After two years of negotiations, Vice President Gore and Russian Prime Minister Mikhail Kasyanov sign an agreement to dispose of 68 metric tons (34 metric tons for each country) of weapons grade plutonium. Under the agreement, the surplus plutonium will be irradiated in nuclear reactors or by immobilizing it with high-level radioactive waste. The agreement includes arranging international financing for Russia to develop and implement disposition technologies.

September 6, 2000

Secretary Richardson extends workplace diversity efforts by announcing initiatives aimed at increasing recruitment and retention of women, who currently make up 15 percent of DOE's federal workforce. Richardson emphasizes initiatives to provide women interested in science and engineering careers with hands-on scientific work at DOE's national laboratories and to identify opportunities for women to hold managerial and technical

positions in the Department. The Secretary points out that between them Assistant Secretary for Environmental Management Carolyn Huntoon, Science Director Mildred Dresselhaus, and Deputy Administrator for Defense Programs in the National Nuclear Security Administration Madelyn Creedon manage programs accounting for 80 percent of the Department's \$18 billion budget but argues that more needs to be done to eliminate barriers to women and minorities interested in management positions.

September 14, 2000 Fired Los Alamos National Laboratory physicist Wen Ho Lee is released from jail after pleading guilty to one of 59 counts against him and agreeing to tell the FBI all he knows about the materials he downloaded to an unauthorized personal computer. U.S. District Judge James Parker criticizes federal officials for embarrassing the nation and apologizes to Lee on behalf of the U.S. court system "for the unfair way you were held in custody by the Executive Branch," which included solitary confinement. "What I believe remains unanswered," Parker notes, "is the question: What was the government's motive in insisting on your being jailed pretrial under extraordinarily onerous conditions of confinement until today, when the Executive Branch agrees that you may be set free essentially unrestricted?" The Department responds that "Dr. Lee pleaded guilty to a felony, admitting he had mishandled sensitive classified information. That speaks for itself." The following day, President Clinton expresses concern with the case. "The whole thing was quite troubling to me," he tells reporters, "and I think it's difficult to reconcile the two positions: that one day [Lee is] a terrible risk to the national security, and the next day they're making a plea agreement for an offense far more modest than what was alleged." Clinton hints at an investigation.

September 22, 2000 Citing low inventories resulting from the high price of crude oil, President Clinton directs the Department of Energy to exchange 30 million barrels of crude oil from the Strategic Petroleum Reserve to bolster supplies of home heating oil, particularly on the East Coast and in New England. This is the first large-scale use of the SPR to avoid a possible supply shortage since President Bush mobilized the SPR during Operation Desert Storm in 1991. Unlike the Desert Storm drawdown, DOE is directed to "swap" rather than sell crude oil. Companies are required to return oil to the SPR in fall 2001, when oil prices are expected to be lower. Companies will return the amount they obtain plus additional quantities as a bonus percentage.

September 30, 2000 The Department releases its Strategic Plan, "Strength Through Science, Powering the 21st Century." The Plan defines the missions, objectives, and long-term performance goals of the agency and outlines how the Department will increase productivity and accountability. One key component is to increase public confidence in the Department's programs by improving the quality, timeliness, and content of communications concerning the Department's functions and activities. The Plan is organized along DOE's four programmatic business lines:

Energy Resources promoting the development and deployment of systems and practices that provide energy that is clean, efficient, reasonably priced, and reliable

National Nuclear Security enhancing national security through military application of nuclear technology and by reducing global danger from the potential spread of weapons of mass destruction

Environmental Quality cleaning up the legacy of nuclear weapons and nuclear research activities, safely managing nuclear materials, and disposing of radioactive wastes

Science advancing science and scientific tools to provide the foundation for DOE's applied missions and to provide remarkable insights into our physical and biological world

The Government Performance Results Act of 1993 requires the Department to submit a Strategic Plan to Congress every three years.

October 7, 2000 President Clinton vetoes the FY 2000 Energy and Water Development Appropriations bill, which provides over 90 percent of DOE's funding. The President's primary objection is to an Army Corps of Engineers management provision for the Missouri River, but he also wants more funding for DOE's solar and renewable energy programs. The bill, Clinton complains in his veto message to Congress, "does not fully support efforts to

research and develop nonpolluting, domestic sources of energy through solar and renewable technologies that are vital to America's energy security." Secretary Richardson later adds that "one of our objectives is to get more renewable energy money into the new energy and water bill that will be opened up."

The President also complains that the bill includes "nearly 80 unrequested projects totaling more than \$330 million" for the Department. A House Appropriations spokesperson defends the projects that lawmakers added to the bill, noting that "members of Congress have every right to have input into the funding process. Just because an Office of Management and Budget number cruncher doesn't approve it doesn't mean it's not a good project."

October 9, 2000

The Energy Information Administration estimates that Americans will pay 12 percent to 50 percent more for home heating oil this winter than a year ago, with customers relying on the predominant fuel--natural gas--paying the most. The higher prices will result from an anticipated 10 percent increase in demand if weather is normal and higher feedstock costs. The EIA projects no fuel shortages, though "consumers might not like the price they have to pay."

October 11, 2000

President Clinton signs the FY 2001 Interior Appropriations bill, which accounts for less than 10 percent of DOE's overall budget and includes funding for fossil energy and energy efficiency. At \$1.5 billion, funding for the Department is \$230 million more than in FY 2000. Funding for fossil energy increases from \$393 million in FY 2000 to \$434 million in FY 2001. This amount is \$49 million more than the administration requested. The bill includes \$8 million for maintenance of a home heating oil reserve in the Northeast, which the Department has established to address potential supply problems. Funding for energy efficiency, at \$817 million, is up from the \$745 million appropriated in FY 2000 but less than the \$848 million requested by the administration. The measure includes \$145 million for the government/industry Partnership for a New Generation of Vehicles initiative, which seeks to develop a mid-size car with a fuel efficiency of 80 miles per gallon by 2004. The House, in its version of the spending bill, had proposed cuts for the program of \$126 million, but conferees restored funding to the level requested by the administration.

October 27, 2000

President Clinton signs the FY 2001 Veterans Affairs-Housing and Urban Development Appropriations bill into which the Energy and Water Development Appropriations bill has been

folded. The Missouri River provision has been stripped from the bill, but no changes have been made to DOE's funding levels. At \$18.3 billion, funding for the Department is \$277 million more than the administration requested and \$1.7 billion above the FY 2000 funding level.

Solar and renewables, at \$422 million, are up \$60 million over FY 2000 funding but less than the \$456 million the administration requested. Nuclear energy, at \$260 million, is down \$29 million from FY 2000. Most of the decrease, however, reflects the transfer of uranium programs to another account. The Nuclear Energy Research Initiative (NERI) is funded at the budget request of \$35 million.

Environmental cleanup funding is up. Defense environmental management activities are funded at \$6.12 billion, an increase of \$406 million over FY 2000. The measure includes \$377 million for Hanford's Tank Waste Remediation System. Funding for the disposal of high-level nuclear waste, at \$398 million, is up from the FY 2000 appropriation of \$351 million but \$39.5 million less than requested by the administration. An additional \$10 million may be provided if the Secretary of Energy certifies that it cannot be determined whether Yucca Mountain is suitable as a permanent nuclear waste repository without the extra money.

National security funding is also up. The appropriation for the newly established National Nuclear Security Administration (NNSA) is \$6.6 billion, an increase of \$756 million over FY 2000 and \$412 million more than the administration's budget request. Funding for the National Ignition Facility (NIF) is \$199 million. This is \$10 million less than DOE's recently updated budget request but \$125 million more than DOE's original request of \$74 million in February. The Department sought the additional money in order to pay for cost overruns at the facility. The Department now estimates that NIF will cost \$3.5 billion to design and build and expects to begin operating the facility by 2008. Under the bill, \$69 million of the funding is unavailable until the NNSA certifies that the project has met a series of performance measures. Chairman of the Senate Appropriations Subcommittee on Energy and Water Development Domenici supports the increase for NIF but issues a strong warning to the Livermore lab and the Department. "Quite frankly," Domenici notes, "NIF is mired in problems. We must hold DOE, the lab and the contractors accountable for exorbitant cost overruns and other problems."

Science funding, at \$3.2 billion, is \$361 million more than the FY 2000 appropriation and \$24 million more than the administration's request. Funding for the Spallation Neutron Source is \$279 million, essentially the level the administration requested. Fusion energy funding is \$255 million, \$7.7 million above DOE's request.

November 7, 2000 The presidential election between Vice President Al Gore and Governor George W. Bush of Texas is one of the closest in American history. Neither candidate is able to win the 270 electoral votes required for victory as the exceedingly close popular vote in Florida temporarily prevents the state's electoral votes from being awarded.

November 15, 2000 The Justice Department files a petition for rehearing of the August 31 federal circuit court ruling that utilities can bring damage suits for DOE's delay in accepting nuclear waste rather than seek administrative remedies from DOE. The federal government continues to argue that the delay clause in DOE's contract with the utilities applies to any delays, including those preceding acceptance of nuclear waste, not only to delays following the government's acceptance of nuclear waste.

November 22, 2000 As part of the broader effort to improve emergency preparedness at DOE nuclear weapons sites, Secretary Richardson announces the establishment of a fire advisory commission under the Federal Advisory Committee Act. A DOE team will provide the commission with information regarding the current state of emergency preparedness at the sites, which the commission will use to evaluate potential improvements. The Department will also formalize an agreement with the Departments of Agriculture and Interior to prepare fire prevention and emergency response measures.

Fire struck four DOE sites in 2000, with Los Alamos suffering the most serious damage. A wildfire at Hanford burned over 190,000 acres, while smaller fires occurred at the Idaho National Environmental and Engineering Laboratory and the Rocky Flats Environmental Technology Site.

November 28, 2000 The Department decides to close the Fast Flux Test Facility at Hanford permanently. The decision is the preferred alternative identified in the Nuclear Infrastructure Programmatic Environmental Impact Statement ordered by Secretary Richardson in 1998. While the Department anticipates a growing need for medical and industrial isotopes, plutonium-238 to

support NASA space missions, and civilian nuclear research and development activities, the Department plans to meet these primarily by using non-DOE facilities.

The FFTF, a 400-megawatt thermal nuclear test reactor cooled by liquid sodium, was constructed in the late-1970s and brought on line in 1980. The reactor was shut down in April 1992 for a refueling outage and again in December 1993, when the Landis review concluded that, while the FFTF was "the world's foremost test reactor," projected revenues could not cover operating expenses. The FFTF was placed on standby in November 1995. In 1996 Secretary O'Leary considered using the reactor to produce tritium. Richardson subsequently decided against producing tritium at the FFTF in December 1998 and ordered the PEIS.

- December 12, 2000 The U.S. Supreme Court rules 5-4 in favor of Governor Bush.
- December 13, 2000 Vice President Gore concedes the election to Governor Bush, clearing the way for Bush to become the 43rd president of the United States.

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