

For Markey, belated vindication

Seven years ago, congressman fought to disclose radiation testing on humans

By Michael Rezendes
GLOBE STAFF

Edward Markey has every right to say, "I told you so."

Seven years ago - before the recent disclosures that Americans were exposed to radiation during scientific research after World War II - the Democratic Congressman from Malden accused the US government of using disadvantaged citizens in tests of radioactive materials.

In a 1986 report entitled "American Nuclear Guinea Pigs: Three Decades of Radioactive Experiments on US Citizens," Markey said officials had conducted "repugnant" and "bizarre" experiments on terminally ill patients, prison inmates, and hundreds of other Americans who "might not have retained their full faculties for informed consent."

But the report and its recommendations - noted on the inside pages of major newspapers - fell from view.

In an interview yesterday, Markey said the tepid reaction was due to support for President Reagan's nuclear arms build-up, and public relations operatives in nuclear industries and the administration who sought to undermine his credibility.

"There was a massive public relations partnership that existed between the administration, the defense contractors and experimenters in America that worked very effectively throughout the 1980s," he said.

"I'd say something and I'd get attacked and it would be a one-day story."

Markey, a leader of the nuclear freeze movement of the early 1980s and a critic of the Reagan administration's nuclear power policies, said that his battles as chairman of the Energy and Commerce subcommittee on energy and power were often

lonely, and that he was not surprised when his report generated so little interest. "It was an era that sanctified the nuclear arms race," he recalled. "Except for my subcommittee, there wasn't much going on in officialdom that could echo the criticism I was making."

Throughout the committee's two-year effort to produce the report, Markey said, Reagan administration officials repeatedly attempted to block access to essential records.

By contrast, he added, the events unfolding around renewed reports that citizens were exposed to radiation during research - particularly the call from Energy Secretary Hazel O'Leary to provide compensation for victims - show that the subcommittee's work was not in vain.

"I feel that my efforts in 1986 have now been vindicated by the response of Secretary O'Leary and the public," Markey said.

Larry Sidman, an attorney who served as chief counsel and staff director for the subcommittee, said the government's response is overdue.

"I feel saddened that it's taken seven years to get the kind of reaction and, hopefully, follow-up that victims and their families are entitled to," Sidman said.

In its report, the subcommittee documented 31 separate experiments involving nearly 700 citizens in hospitals, prisons, and military installations at locations spanning the country.

Authors of the report were careful to note that in some instances - when cancer patients were subjected to high levels of radiation, for instance - the experiments were beneficial to those subjected to government research.

But in other cases, the report says, the experimenters intended to "cause damage."

And in cases where valuable information may have been gleaned about the human body's response to radiation, the report says that "the experiments were nonetheless repugnant because human subjects were essentially used as guinea pigs and calibration devices."

The subcommittee's report was not only prescient in its findings that citizens had been wrongly exposed to radiation, but also in its recommendations that victims be tracked down and compensated.

Specifically, the report notes that the Department of Defense for many years has attempted to track people in the armed services who were exposed to radioactivity during nuclear weapons testing and to provide them with long term medical care.

"If this effort can be carried out for military personnel acting in the line of duty, surely a similar effort should be possible for the far smaller number of peaceful atomic soldiers used as human subjects in radiation experiments," the reports said.



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EDWARD J. MARKEY
Democrat of Malden

A shameful legacy of the Cold War

*"Man's inhumanity to man.
Makes countless thousands mourn!"*

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—Robert Burns

In the early years of the Cold War and the nuclear era, the federal government sponsored experiments on hundreds of people to determine exactly how exposure to plutonium—a highly radioactive element used in nuclear bombs—would affect them.

The tests have been public knowledge since 1986, but it's only recently that their disturbing, shameful details have been disclosed. Many of the experiments, it turns out, were conducted on unsuspecting or misinformed victims; some were performed on the young and the disabled, who probably were incapable of giving their consent even if they had been asked.

The sad facts are coming to light because of investigative work by newspapers like the Albuquerque Tribune and the Boston Globe, and because Energy Secretary Hazel O'Leary has vowed to release information about the government's nuclear weapons program kept secret for 50 years.

O'Leary deserves high praise for her pledge. But the exercise already has delivered a painful reminder of how easy it can be for governments to trample over individual human rights and lives in the interests of ideology or national security.

Man's history is filled with dark lapses of the most fundamental morality—instances where basic respect for human life and dignity is sacrificed for some per-

verse reason. In detailing the plutonium experiments, which she calls "worthy of Nazi Germany," O'Leary lays open a dark page of America's Cold War history.

In the mid-1940s, for example, 18 patients, including three with cancer at the University of Chicago, were given large injections of plutonium, apparently without their consent. In another test, a group of mentally retarded teenagers in Massachusetts were fed radioactive milk and meals laced with radioactive iron from 1946 to 1956. Scientists said the tests were designed to study the digestive system, but they didn't tell parents about the radiation exposure.

In the 1940s and 1950s, many scientists didn't fully understand the dangers of radiation. Furthermore, many believed nuclear war was imminent and they were in a race with the Soviet Union for scientific advances. There was no consensus about the need for informed consent as there is today. Ultimately, some of the scientific work helped advance nuclear medicine and other beneficial breakthroughs, but some achieved little and may have hurt many.

The Cold War setting helps explain what happened, but it doesn't excuse it. Even some scientists at the time worried that their work had "a Buchenwald touch," referring to the concentration camp where Nazis did human experiments that killed hundreds.

O'Leary believes those who suffered due to the experiments should be compensated. We agree, but that's the easy part of the lesson. The difficult part is facing up to the moral implications of this episode of "man's inhumanity to man."

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BOSTON GLOBE DEC 30 1993

Kennedy plans hearings on radiation tests

By Kevin Galvin
STATS NEWS SERVICE

WASHINGTON - Sen. Edward M. Kennedy plans to hold congressional hearings in January to investigate government-sponsored radiation tests conducted on humans after World War II, an aide said yesterday. The hearings may be held in Massachusetts.

Members of the state's congressional delegation called the experiments "outrageous" and agreed with Energy Secretary Hazel O'Leary, who said victims deserved financial compensation. One lawmaker predicted that the experiments would prove to be "the scandal of 1994."

The announcement from Kennedy's office was the first official word that Congress would enter the furor, which erupted after O'Leary disclosed that the federal government conducted various tests in the 1940s and 1950s exposing humans to radiation. On Sunday, The Boston Globe reported on tests conducted on retarded boys at the Fernald State School in Waltham between 1946 and 1956.

"The radiation experiments by the Atomic Energy Commission should not have been conducted on unknowing individuals and are

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obviously reason for grave concern," said Nick Littlefield, director of Kennedy's Labor and Human Resources Committee.

"The government should be held responsible for these experiments."

Littlefield said a hearing could be held before Congress resumes on Jan. 25, and that the panel may convene in Massachusetts. The inquiry would "investigate the adverse health effects on these individuals" subjected to radiation tests "to determine an appropriate course of action," he said.

Also yesterday, O'Leary agreed with the request of Rep. Edward J. Markey, Democrat of Malden, to assign Energy Department staff to investigate experiments conducted by Harvard University and Massachusetts Institute of Technology researchers at Fernald, according to a

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Markey aide, Dan Rabinovitz.

Markey, who pushed for an investigation into radiation experiments in 1986, and fellow Democratic Rep. Joseph P. Kennedy 2d of Boston, asked Veterans Affairs Secretary Jesse Brown to disclose information about any similar tests at VA facilities.

"These atrocities warrant a thorough investigation, including congressional oversight hearings," Rep. Kennedy said in a statement. "If investigations show that anyone suffered harm as a result of these experiments, then our government must be prepared to meet our obligation."

Every member of the delegation contacted yesterday agreed that Congress should investigate the issue. Rep. Martin Meehan, a freshman Democrat from Lowell, predicted that public outrage would continue to swell. "I think that as we go into 1994 and when hearings are conducted, this issue may dominate and it may become the scandal of 1994," Meehan said.

In the House, an inquiry into the issue would probably come before the House Judiciary Committee's panel on administrative law and governmental relations, of which Rep. Burney Frank of Newton was chairman until this year.

Under Frank, the subcommittee passed bills signed by President Reagan to compensate Navajo Indi-



SEN. EDWARD M. KENNEDY
May hold hearings in state

ans who became ill after working in or living near uranium mines and Japanese Americans who were held in internment camps by the US government during World War II.

"In those two cases, you had a reluctant administration which had to be forced into it," said Frank, who praised O'Leary for her handling of the issue.

Frank, who still sits on the committee, said that "it's important for a government to admit mistakes."

A senior Capitol Hill staff member, speaking on condition of anonymity, said several congressional committees would probably open in-

vestigations into the government's past radiation experiments.

Any tests involving soldiers would probably fall under the jurisdiction of committees handling veteran's affairs; those involving prison inmates, for example, would go to the Judiciary Committee.

Rep. Peter I. Blute, Republican from Shrewsbury, called for an investigation into the experiments "to avoid similar types of things in the future." In regard to compensation for victims, Blute said, Congress should "wait and get the full story before jumping to any conclusions."

Sen. John F. Kerry said that it was "outrageous and ironic that the US government, fresh from its honorable victory in the Second World War, would knowingly feed vulnerable mentally retarded teenagers oatmeal laced with radiation."

"It's unethical now, it was unethical then, and there's no excuse for it," Kerry said in a statement. "There should be congressional hearings into the matter. ... I believe the victims should be compensated. That's the least government can do."

Rep. Gerry Studds, Democrat of Cohasset, issued a statement saying "like decent people everywhere, I was shocked and outraged to learn of these experiments - particularly in the Fernald School in Waltham that used mentally retarded people virtually as human guinea pigs."

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U. of C. Hospital admits 3 were injected with plutonium in '45 test

By Ellen Warton
TRIBUNE STAFF WRITER

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Without their knowledge or consent, three patients said to be dying of cancer at the University of Chicago Hospital were injected in 1945 with radioactive plutonium as part of a nationwide federal government experiment, the hospital acknowledged Wednesday.

The Albuquerque Tribune first reported last month that the three patients were among 18 who were injected with dangerously high doses of the substance between 1945 and 1947. It was part of a government research project to determine how quickly the body rids itself of plutonium.

All of the patients purportedly were terminally ill. But a researcher in California discovered that four of the 18, none of them from Chicago, were still alive some 25 years after the plutonium injections. The Argonne National Laboratory near Lemont did follow-up studies in 1973 on three of the four, an Argonne spokesman said.

Argonne spokesman David Baurac said two of the three people studied by the lab, at the request of the Atomic Energy Commission, had never consented to the plutonium experiments. The

third, a railroad porter, had signed a consent form in the 1940s, Baurac said, but there was some question of how well-informed he was of the dangers involved.

In addition, Baurac said, scientists from Argonne exhumed the bodies of three or four more of the initial 18. Of the total of six or seven people Argonne studied, "There's no indication that any of the people died of anything involving the plutonium injections or [that] they suffered any physical effects that can be traced to the plutonium injections," Baurac said.

"The Atomic Energy Commission had instructed us that under no circumstances should we mention the word plutonium in connection with these studies outside our own offices," Baurac said.

But doctors for the three surviving patients who were studied were informed about the plutonium injections, Baurac said, and the physicians decided not to tell their patients about their dangerous exposure.

A year later, Baurac said, the commission changed its policy and determined the patients should be informed about the experiments. In 1974 Argonne and commission staff "saw to it that the patients were informed,"

Baurac said.

The names of five of the 18 patients, none of them from Chicago, were first revealed in the Albuquerque Tribune. The paper said the Chicago patients, who have not been publicly identified, were a 56-year-old woman with breast cancer, a 68-year-old man with chin cancer and an 18-year-old with Hodgkin's disease, a form of cancer.

University of Chicago Hospitals spokeswoman Susan Phillips said the two older patients died of their cancer within five months and that the teenager was "lost to follow-up" but is presumed dead.

Phillips emphasized that "research standards have changed drastically since 1945. Today no research can be performed on any patients without their full knowledge and informed, written consent," she said.

There have been sketchy accounts of the three decades of post-World War II government experiments where civilians were exposed to radiation far higher than what is now considered safe. But the issue has received new attention because of the Albuquerque newspaper reports and Energy Secretary Hazel O'Leary's commitment to tell the truth about the experiments.

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New York, NY

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Inquiry Into Radiation Tests Extends to Veterans

By MATTHEW L. WALD

The Energy Department is expanding its inquiry into improper use of human subjects in radiation experiments to determine whether patients in Veterans Administration hospitals were used, a department official said last night.

The number of veterans involved, the nature of the experiments and when they were conducted are not clear, the official said. But he said that between the veterans and other subjects now coming to light, it appeared that "at least 1,000" people had been exposed to radiation for purposes clearly unrelated to their health.

The department has acknowledged that it and its predecessor agency, the Atomic Energy Commission, sponsored experiments using a variety of subjects in a wide range of experiments in which the subjects were not properly informed about what was going to be done to them. Among the subjects were prisoners, retarded children and civilians who were believed to be terminally ill.

The department established a toll-free number this month seeking information about radiation experiments, and the department official, who spoke on condition of anonymity, said it soon

began receiving calls from men who reported that they had been exposed to radiation in veterans hospitals.

The use of veterans in the experiments was first reported last night on the CBS Evening News.

The experiments appear to have been performed under the auspices of the Atomic Energy Commission, acting as an agent for the Defense Department. For years the commission maintained a program under which it performed nuclear-related tasks at the behest of other Government agencies, most prominently the Pentagon, which wanted to know how much radiation soldiers could take before they became dysfunctional, and NASA, which wanted to know how radiation from the sun would affect astronauts.

Hundreds Affected

The official said the Energy Department was also uncovering evidence of radiation experiments sponsored by other Federal agencies without the Atomic Energy Commission's involvement. Some of these, he said, have been mentioned before in public but never fully explored. For example, he said, the Defense Atomic Support Agency, which is now known as the Defense Nuclear Agency, paid the University of Cincinnati about \$600,000 between 1960 and 1971 to irradiate 87 cancer patients.

"All but three of them were charity patients, with an average I.Q. of 86 and schooling of less than 10 years," the

official said. "We're talking about hundreds of rads, battlefield doses." In contrast, diagnostic x-rays are usually a small fraction of a rad, which is a unit of radiation dosage.

The Cincinnati experiment's purpose, he said, was to determine what level of exposure would cause a soldier to "not follow orders, be dysfunctional or throw up in his face mask in an airplane."

Of the 87 patients, the official said, 9 died within 20 days.

Army Test in Alaska

The department is also looking into an Army study in the 1950's in which radioactive iodine was given to Eskimos or Indians in Alaska and to G.I.'s stationed there, to study the function of the thyroid gland in cold weather. "When you're dealing with people who were maybe a decade or two out of the Stone Age, there is a very big question about what constituted 'informed consent,'" the official said.

The National Aeronautics and Space Administration signed a formal agreement in 1964 to have the Atomic Energy Commission perform radiation experiments on people, the official said, adding, "Sooner or later this will lead us to a lot of different doorsteps."

The Energy Department is still carrying out scores of radiation experiments for its own research and for other agencies, the official said. But, he added, these must all meet protocols established by the Food and Drug Administration or the National Institutes of Health and require informed consent.

SAN JOSE MERCURY NEWS DEC 30 1993

Let's make amends ⁶³

U.S. shouldn't fight claims from victims of experiments

COMMON decency says Hazel O'Leary is absolutely right. The government should compensate people who were injured by its experiments with radiation since 1940. And instead of defending claims in court indefinitely, it should take the initiative to make amends.

The energy secretary's position is practical, as well as decent. The government (ultimately meaning us, the taxpayers) is culpable, but not endlessly so. There are limits as to what can be made right with money, especially when some sufferers have been dead for decades. It makes sense for Congress to decide what compensation is appropriate.

It's not the first time Washington has faced damages for atomic and nuclear radiation. This country paid \$2 million to Japanese fishermen injured by a 1954 atomic bomb test; subsequent trust funds containing at least \$300 million were established to pay victims ranging from uranium miners to people

down wind from Nevada nuclear tests.

We hesitate to say that the government was even more at fault in the cases now at issue. Is it worse to experiment on hospital patients than to injure healthy residents of Nevada and the Marshall Islands with radioactive fallout? So far, no one has shown evil intent in either situation. And yet it's particularly atrocious to make guinea pigs of helpless adults and children ignorant of what is being done to them, or incapable of understanding it. Whatever the goal, that's wrong. Few actions of our government have been widely compared to Nazi atrocities. These experiments have been, although parallels are far from exact.

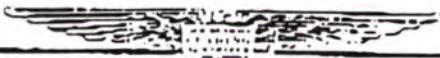
Hazel O'Leary was the appropriate official to speak out; her department has the records, and its predecessors sponsored the experiments. But even a gutsy cabinet officer cannot unilaterally make policy for the whole administration. That's the president's job, and the sooner he stands with O'Leary, the better.

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ALBUQUERQUE JOURNAL

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Tests Used Humans As Guinea Pigs

In the early days of the nuclear age, New Mexicans, primarily those working at Los Alamos National Laboratory, were intentionally exposed to radioactive materials on numerous occasions, according to government documents.

Among those experiments were:

■ In 1950, explosive tests being conducted at Los Alamos National Laboratory released radioactive elements into the atmosphere. The tests' primary purpose was to investigate the conventional explosives used to set off a nuclear blast. Because radioactive tracers were released in the blasts, the Air Force tagged along on at least three of the experiments to measure the spread of the fallout cloud. On one occasion, the radioactive fallout was measured as far away as Watrous, more than 70 miles east of Los Alamos. No information about radioactive exposures to the area population is currently available.

■ During the 1950s, at least 13 human subjects at Los Alamos National Laboratory were intentionally exposed to various forms of radioactive tritium — a form of hydrogen used in nuclear weapons — by breathing, drinking, or in one case dipping their arms into it in order to see how fast the tritium was absorbed and then excreted. The documents don't make it clear whether the subjects had given their consent.

■ In the 1950s, aircraft flew through mushroom clouds created by atomic tests in the South Pacific, collecting radioactive fallout and measuring radiation doses of air crew members. Following the flights, some of the aircraft were sent to Kirtland Air Force Base near Albuquerque to have the radioactive fallout washed off of them. No information is currently available about possible contamination at the site where the planes were cleaned.

■ In the early 1960s, 57 adults were fed microscopic spheres of radioactive uranium and manganese at Los Alamos National Laboratory in an experiment to see how fast the material would pass through their bodies. The experiment's purpose was to assess possible hazards if a nuclear rocket, then being designed at Los Alamos, burned up reentering the earth's atmosphere. All the subjects were Los Alamos employees, except one, who was the wife of the project's lead scientist.

Sources: House Committee on Energy and Commerce; U.S. General Accounting Office; Los Alamos National Laboratory; U.S. Department of Defense.

Las Vegas Review-Journal, 12/30/93 (8A)

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Some MIT radiation experiments at school continued into 1960s

Boston Globe

Officials at the Massachusetts Institute of Technology said Wednesday that radiation experiments on mentally retarded residents of the Fernald State School in Waltham continued into the 1960s, but the researchers adopted rules in the last years of the program that strictly limited exposure and required test subjects

to be adults.

Frank Masse, director of radiation protection at MIT, also confirmed a 1956 experiment in which children at the Fernald school were injected with minute amounts of radioactive calcium. At least 61 teen-age boys at the school ingested radiation in a series of tests to see how the body absorbs minerals.

But Masse blamed Fernald school officials for some consent forms sent home to parents or guardians of the children that made no mention of radioactivity. The consent forms were sent home by Fernald Superintendent Malcolm Farrell.

Masse said MIT officials in the 1940s and 1950s were very proud of their work with radioactive isotopes and would have had no reason to hide it. "This was a huge new tool. There was no fear. Today's fear of radiation was not present. You wouldn't think of buying a pair of shoes without X-raying your toes," said Masse.

The Massachusetts Department of Mental Retardation is investigating the radiation experiments that took place at the Fernald school and possibly other state institutions. Also Wednesday, U.S. Energy Secretary Hazel O'Leary agreed to send a staff member to help investigate the Fernald experiments.

Masse said MIT's use of Fernald residents for research continued years later than the 1956 date that has previously been reported. He said tests of Fernald residents' thyroid glands continued into the 1960s, requiring them to drink a solution that contained radioactive iodine. But, unlike the 1946-to-1956 experiments using radioactive iron and calcium, the thyroid tests were reviewed by an outside panel before the experiment began.

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Hospital patients got plutonium

CHICAGO — Doctors still do not know if high doses of radioactive plutonium given to three terminally ill cancer patients in 1945 hastened their deaths, a hospital spokeswoman said Wednesday.

All three patients at a University of Chicago hospital were given the plutonium without their knowledge, and all died within a year.

"No one can determine if the study hastened their deaths or their underlying cancer was the cause of death," University of Chicago Hospitals spokeswoman Susan Phillips said.

Phillips said hospitals no longer do research on patients without their consent.

In November, *The Albuquerque Tribune* reported in a copyright article that the patients did not consent to the procedures. The newspaper said they were among 18 subjects of a federal study that examined how the body excretes plutonium, the key ingredient of the atomic bomb.

The aim was to set safety standards and protect nuclear workers, the paper said.

New concern emerged recently after U.S. Energy Department officials said documents yet to be reviewed could provide new information on previously revealed studies in which hundreds of human patients were exposed to plutonium.

In the 1970s, a follow-up study was done at Argonne National Laboratory involving three survivors among the 18 subjects, the *Chicago Sun-Times* reported Wednesday.

Monitor

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Lab conducted human radiation experiments

In the 1950s and 1960s, Los Alamos National Laboratory scientists conducted experiments in which lab employees and people ingested radioactive uranium, manganese, and tritium.

The information appears in a report, titled "American Nuclear Guinea Pigs: Three Decades of Radiation Experiments on U.S. Citizens," and originally was released in November 1986 by Rep. Edward Markey, D-Mass., chairman of the House Committee on Energy and Commerce's Subcommittee on Energy Conservation and Power.

The report was re-released this week because of heightened interest in Department of Energy radiation experiments involving humans, a news release from Markey said.

Markey's staff provided the Monitor with copies of relevant portions of the report today.

The report details two sets of experiments, one with tritium in several forms from 1950 to 1952, and one in the 1960s with microscopic pellets of radioactive uranium and manganese. No specific doses or amounts are reported in the report except in the case of a man who drank 3 millicuries of tritium.

Because LANL is closed until Jan. 3, official comment wasn't available.

The Monitor, however, contacted Dr. George Voelz, now retired, who worked for years on epidemiological studies at LANL. He emphasized that all of the recent stories constitute revisiting of material released years ago. "They were involved in doing exactly what Hazel O'Leary is doing now," researching old records, he said. "We

(LANL) participated in searching through documents," and sent them on, but never received a copy of the Markey report, he added.

"I was not here or involved with any of these experiments that went on," he said, "but the story is not new to me."

The Monitor also called Don Petersen, who confirmed that he helped research the files in the 1980s. Petersen said, "I was called by Markey's people." He said he checked at the Health Research Laboratory, but found that many documents had been thrown away during a personnel changeover. "We (once) had huge file cabinets with every paper ever published," he said, but now they are gone.

Petersen said, "None of us who contributed to these reports ever got to see them."

He added that it's important, as people read the news today, that these events

occurred during war and the Cold War. People today don't realize, he said, "just how mad we were at the Japanese" during World War II, or just how worried the United States was later about the Soviet Union.

"They just did what they had to do," he said, and didn't even think about how people would evaluate it in the 1990s.

All the work described in the Markey report was funded by the Atomic Energy Commission, the predecessor to the Department of Energy.

The DOE has established a toll-free hotline for people concerned about the releases. The hotline, 1-800-493-2998, has received more than 10,000 calls since it was installed Thursday. DOE spokeswoman Amy Moran said today, but the hotline currently has technical problems.

The experiment with radioactive mangan-

ese and uranium was conducted entirely by 56 laboratory employees and "one individual who was the wife of the principal investigator," the Markey report says.

In the experiments, "subjects were given gelatine capsule containing uranium-235 or manganese-54, in spheres 100-200 microns in diameter," the report said. A micron is one-millionth of a meter.

The report doesn't say how much radioactive material was ingested or what dose subjects received.

The purpose of the experiment was to determine how long it would take the spheres to pass through the gastrointestinal tract," the report said. "One subject repeated ingestion of the sample 10 different times provide an estimate of the variation with

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the individual," the report said.

The experiment was designed to predict the effect on humans of the re-entry into the atmosphere of nuclear reactor-powered rockets or rockets with radioactive materials, the report said. During re-entry, the rockets could burn up, which "could produce particles small enough to be ingested or inhaled. In order to estimate internal radiation doses that humans might receive from such accidents, information was needed on the time that radioactive particles might remain in the body," the report said.

In 1950 and 1952, human subjects at LANL drank tritiated water and were exposed to tritium in air and water.

"The objective of the (1950) experiment was to obtain information on the human absorption and excretion of tritium, to aid in the setting of occupational exposure limits," the report said.

In one 1950 experiment, the one for which figures were provided, "a man drank tritium in 0.2 liters of water, and absorption into the blood stream was followed," the report said. The dose was up to 3 millicuries of tritium, the report said.

In another 1950 experiment, an uncertain number of subjects "were exposed to tritium in air for two hours, and the increase in tritium in body fluids was followed over time," the report said.

"In a second (1950) experiment, the arm of a man was immersed up to the elbow in water containing tritium, and the tritium in the body fluids was followed," the report said.

And during 1952, three subjects were exposed to tritiated water vapor. "Subjects breathed tritium-saturated oxygen for four to five minutes. The

tritium (that) remained in the body during the exposure was obtained by comparing the tritium inhaled with the tritium exhaled." Retention and excretion of the tritium also was monitored.

The report describes experiments from throughout the nation during which about 695 people were exposed to radiation.

- Twenty subjects at the Massachusetts Institute of Technology were fed or injected with radium or thorium during the period 1961 to 1965.

- Six subjects at the University of Rochester were injected with uranium salts during 1946 and 1947 to gauge injury to the kidneys.

- From 1963 to 1965, seven human subjects in Idaho drank milk from cows that had grazed on radioactive iodine-contaminated land.

- From 1961 to 1963, 102 human subjects at the University of Chicago and Argonne National Laboratory were fed real and simulated radioactive fallout particles containing strontium, cesium, and barium.

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'40s records show patients injected with strontium

Patients undergoing X-ray therapy in the 1940s were injected with strontium, declassified records show.

The Albuquerque Tribune reported in a copyright story Tuesday it found that seven cancer patients and another with a blood disease were injected at the University of California Hospital in San Francisco.

The newspaper said it found the patients' charts in the files of the late scientist Joseph Hamilton. The doctor responsible for the injections is not listed in medical records, the newspaper said.

In 1950, Hamilton urged the Atomic Energy Commission, a predecessor of the U.S. Department of Energy, to do studies to find out how much whole body radiation it took to incapacitate a person.

But he warned exposing humans to radioactive material would bring considerable criticism because they would "have a little of the Buchenwald touch," a reference to a concentration camp where Nazis did human experiments.

The newspaper said a 13-year-old boy suffering from bone cancer was injected with almost twice the amount of radioactive strontium that Hamilton said a few years later could kill a person.

The teen-ager, identified in a medical chart as Wallace Reid, was among eight patients described as having received radioactive strontium or non-radioactive strontium between 1941 and 1944. Some also received phosphorous-32.

Both phosphorous-32 and radioactive strontium were used in some medical treatments during the 1940s, according to news reports of the time. The Tribune said a "secret" classification on the medical charts of the

Phosphorous-32 is the radioactive isotope of phosphorous, a common element. Strontium-89 is a highly radioactive fission product found in atomic fallout. It behaves much like calcium, lodging in the bone marrow, liver and spleen.

The 13-year-old boy, who received 12 injections of radioactive strontium between 1941 and 1942, died three months after the final injection. The cause of death was exhaustion and intracranial pressure, according to a two-page chart that has "secret" stamped on it several times.

One of the boy's legs had been amputated above the knee before the injections began, and he was receiving X-ray therapy for cancer in his skull, according to the medical chart.

Berkeley scientist John Gofman, an expert in the effects of low-level radiation, said he couldn't see why strontium was administered to cancer patients. In high doses, the radioactive material could shorten a person's life span, he told The Tribune.

Hamilton injected numerous people with radioactive materials, declassified records show. He was a key architect of a 1945-47 experiment in which 18 people were injected with plutonium.

The Atomic Energy Commission's Charles Dunham sought more information on the eight patients in 1954.

In response, Hamilton said information on the patients was compiled from the University of California Hospital by staffers of fellow scientist Robert Stone.

The staffers "incidentally are quite unaware of the classified nature of this material to the best of my knowledge," the letter said.

Hamilton also wrote that three of the patients received substantial amounts of strontium-89 — probably higher than that charted.

"I estimate that these patients got from 20 to 50 percent more radiation than appear on the charts," he said.

Energy Secretary Hazel R. O'Leary said Tuesday she supports federal compensation for people exposed to radiation during government experiments in the 1940s and '50s.

O'Leary told CNN she believes the Clinton administration should tell all it learns about the experiments. "and let the Congress of the United States and the American public determine what would be appropriate compensation."

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DOE Sheds Light On N-Experiments

O'Leary Rides Wave Of Media Attention

By John Fleck

JOURNAL STAFF WRITER

Energy Secretary Hazel O'Leary, prodded by the news media, over the last three weeks has vaulted the issue of U.S. human radiation experiments into glaring public view.

Comparing Cold War experiments to the work of Nazi scientists, O'Leary has called for compensation for victims and promised full disclosure by her department.

Much of the recent revelations about human experiments are old news, having been declassified by

the government or uncovered by congressional investigators in the 1970s and '80s.

What is new, observers say, is O'Leary's bolt into the public consciousness — here on CNN, there in Newsweek, over there on the MacNeil/Lehrer NewsHour.

"She's a very visible person here," said Stan Norris, a nuclear expert with the Natural Resources Defense Council in Washington, D.C. "I think the ball is rolling."

"The single greatest reason for the new interest in this has been the Department of Energy's interest in it," said Steve Buttacavoli, an aide to Rep. Ed Markey, D-Mass.

Markey seven years ago led an investigation that produced a

MORE: See O'LEARY on PAGE A11

CONTINUED FROM PAGE A1

scathing report criticizing the experiments. At least two of those experiments were at Los Alamos National Laboratory, where scientists were grappling with questions about the safety of the radioactive substances they were using in the nuclear weapons they were designing.

Conducted from the 1940s to the 1970s, the experiments at Los Alamos and elsewhere were part of a broad effort to determine the effects of newly available radioactive substances, things like the plutonium used in the bomb that destroyed Nagasaki, on the human body.

While animals were frequently used, they were sometimes inadequate in determining effects on humans, leading to the human experiments, according to a formerly classified Los Alamos National Laboratory report.

After a flurry of publicity surrounding Markey's investigation, the issue died because O'Leary's predecessors at the Department of Energy stonewalled, Buttacavoli said.

Norris and others credit the Albuquerque Tribune for getting the ball rolling anew, with a series of articles in November on experiments in the 1940s in which supposedly terminally ill patients were injected with radioactive plutonium, apparently without their informed con-

sent.

The idea was to see how fast their bodies excreted the plutonium, and how the potentially dangerous substance lodged in the bones and liver.

While other news media had reported the plutonium injections before — most recently the Houston Chronicle, which did a story about them in September — the Tribune for the first time named names, identifying five of the 18 subjects injected and providing the first detailed accounts of their lives.

The Tribune's articles got the Energy Department's attention, spokeswoman Mary Freeman said.

At a Dec. 7 news conference, O'Leary promised a full investigation into the human experiments.

The news conference's primary purpose was to trumpet other departmental efforts to peel back some of the secrecy surrounding

nuclear operations.

O'Leary came armed with secrets to reveal — never-disclosed nuclear weapon test blasts, and formerly top-secret information about the U.S. inventory of plutonium.

But the subject quickly turned to the experiments, and O'Leary promised a full public accounting, offering a public "mea culpa" on behalf of her predecessors and promising a full investigation in consultation with independent experts.

"Things will be open from here forward," the DOE's Freeman said this week.

The tempo of revelation increased Dec. 15 when Sen. John Glenn, D-Ohio, released a report detailing early Cold War experiments at Los Alamos and elsewhere in which radioactive materials were intentionally released into the

(CONTINUED)



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Continued on

atmosphere, in part to see how easy it would be to detect them.

A flurry of new media-revealed horror stories followed, including:

- Retarded teen-agers fed radioactive cereal by researchers from Harvard and the Massachusetts Institute of Technology in the 1940s and '50s;

- Newborns in Tennessee fed radioactive iodide in 1953-'54 to test their thyroid function;

- Pregnant women in Tennessee given injections of radioactive iron to track iron in their bodies.

The spate of revelations was crowned with a Newsweek cover story last week on "America's Nuclear Secrets."

"I think a lot of things have come together at the same time," Freeman said.

And you should expect more to come out as the search broadens,

Norris said.

"There are a million of these things — experiments here, experiments there," he said.

Markey will call for hearings on the subject this spring, said Buttacavoli, capitalizing on the Energy Department's new profession of openness to push for follow-up medical studies and possible compensation for the experiments' subjects.

So far, however, that openness has been limited to O'Leary's public promises to get to the bottom of things.

She has set up an independent task force of ethicists and medical experts to look into the experiments, and she has called for an all-out effort to find and, if Congress appropriates the money, compensate the subjects.

But the department has thus far released no new information on the

experiments.

"I haven't seen much that's new in any of it," said Dan Hirsch, a California author, environmental activist and historian of the nuclear age.

"She took some old stories and recycled them and then distanced herself from the old events," he said, characterizing O'Leary's flurry of media appearances on the topic as "showmanship."

"I worry that it's cosmetic," he said.

Freeman insists the effort is real.

Records on the experiments are scattered at universities and laboratories around the country, she said, and a team of Energy Department workers has been dispatched to the National Archives to "through" records there.

"We're still doing a search," she said.



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Help urged for radiation test subjects

By Maria Puente
USA TODAY

A1

People who were unknowingly exposed to radiation in government experiments years ago should be compensated, Energy Secretary Hazel O'Leary said Tuesday.

"We must proceed with disclosing these facts and information regardless of... whether it opens the door for a lawsuit," she told CNN. "Those people who were wronged need to be compensated."

Her comments came amid reports that scientists were warned not to use humans in the experiments, many conducted in the 1940s and '50s.

O'Leary has said as many as 800 experiments were done involving up to 600 people.

Some are believed to have been within medical guidelines and with consent.

But others may have exposed people to potentially harmful amounts of radiation without their consent.

A hot line for survivors wanting to contact the Energy Department — 1-800-493-2998 — has been swamped.

The radiation experiments are coming to light as a result of O'Leary's order to the Energy Department to release secret research documents.

In a revelation this week, *The New York Times* reported that an official who directed some of the early tests was urged to use chimpanzees.

Joseph Hamilton, a radiation biologist who worked for the Atomic Energy Commission, warned a colleague in a 1950 memo that exposing humans to radiation "would have a little of the Buchenwald touch."

He was referring to the medical experiments carried out on prisoners at the Nazi concentration camp.

U.S. Should Pay Victims, O'Leary Says

800 Were Deliberately Exposed to Radiation, Energy Chief Reveals

By Gary Lee
Washington Post Staff Writer

A

Energy Secretary Hazel R. O'Leary yesterday acknowledged that federal researchers deliberately exposed up to 800 people to radiation in Cold War-era experiments and she recommended financial compensation for victims who suffered damage.

"For people who were wronged . . . it would seem that some compensation is appropriate," O'Leary told The Washington Post. "Let the Congress and the American people determine the level that would be appropriate."

O'Leary's comments come amid fresh reports that dozens of radiation tests were conducted on Americans, including one 10-year experiment in which more than 30 mentally retarded teenagers in Massachusetts were fed radiation-enriched cereal and other foods.

A series of articles published in the Albuquerque Tribune last month documented cases in which dozens of people, including prisoners, mental patients and pregnant women, were injected with radiation-rich plutonium in government-backed tests. The articles sparked renewed interest in the extent to which federal scientists used humans as guinea pigs, often without their knowledge.

The Atomic Energy Commission, a forerunner of the Energy Department, oversaw most of the experiments. O'Leary is leading the administration's probe of the reports.

O'Leary has appointed a nongovernment panel of ethics experts to determine what ethical violations were committed during the tests and a team of researchers to study classified documents to determine the extent of the experiments. The panel is expected to release its findings in six months.

While some of the tests resulted in strides in science, O'Leary said, the circumstances under which some of them took place were not acceptable. "I am appalled by what was done," she said. "Clearly standards were used that should never have been approved."

Preliminary estimates suggest that the number of radiation victims should not exceed 800, O'Leary said.

A hot line number for callers who believe they were victims of federal radiation experiments has drawn more than 800 calls in two days, a department official said. A third of the callers identified themselves as victims, the official said, while the others wanted to express their disapproval of the experiments. "People are outraged," the official said. "They should be outraged."

While the experiments were taking place, the federal researcher in charge of radiation experiments warned that conducting the tests could bring comparisons to Nazi experiments on concentration camp prisoners.

In a 1950 memo released by department officials and quoted Monday in the New York Times, Shields Warren, a senior Atomic Energy Commission official, said that the medical experiments might have "a little of the Buchenwald effect." Experiments conducted during World War II at the Buchenwald concentration camp in Germany, including the release of deadly bacteria, killed hundreds of prisoners.

Energy Department researchers fielding the calls will research all cases of those who identify themselves as victims, according to of-



"Let the Congress and the American people determine the level [of compensation] that would be appropriate."

—Energy Secretary
Hazel R. O'Leary

ficials. To handle the unexpected flood of responses, the department yesterday increased the number of operators handling calls. The number is 1-800-493-2998.

An accounting of the number of unwitting victims and the health effects they suffered must be conducted before an estimate can be made of how much damages the federal government might have to pay, O'Leary explained. The government already is making payments to the families of hundreds of people who developed cancer while living downwind of the Nevada nuclear test site during the 1940s and 1950s.

Under Energy Department direction, officials are declassifying 32 million pages of documents about the experiments.

According to a report in Sunday's Boston Globe, researchers fed dozens of retarded youths radioactive milk with their cereal at the Massachusetts-based Fernald School from 1946 to 1956. The youths also were given meals laced with radioactive iron. The tests, designed to explore the human digestive system, were funded by the Atomic Energy Commission and Quaker Oats Co., and conducted by scientists from Harvard University and the Massachusetts Institute of Technology.

Letters informing the parents of the experiments did not mention they would involve radiation exposure, the Globe said. In some cases, the youths were given the radiation equivalent of 50 chest X-rays, the newspaper added.

Massachusetts authorities are investigating the reports to determine whether the subjects suffered adverse health effects. Officials are trying to locate the victims, who would

be in their fifties and sixties, a spokesman for the Massachusetts Department of Mental Retardation said.

Other documented cases of radiation experiments were conducted on African Americans at Vanderbilt University in Tennessee and on prisoners in Oregon and Washington state.

In a dozen secret tests conducted in New Mexico, Tennessee and Utah from 1948 to 1952, radiation was deliberately injected into the atmosphere, according to a General Accounting Office report released two weeks ago. The tests were part of an attempt to determine how far and fast the released radioactive particles spread.

The Albuquerque newspaper articles identified five of 18 patients who were injected with plutonium to determine how quickly the body would dissolve the cancer-causing element. According to the newspaper, the injections, which took place from 1945 to 1947, involved doses of more than 0.3 microcurie, far above levels now considered safe. They were conducted in federal laboratories at different locations.

Federal researchers familiar with the radiation experiments pointed out in interviews yesterday that the Cold War included a race between the Soviet Union and the United States for scientific advances, particularly in the field of the effects of radiation on humans. "This is not meant to excuse what was done," said one scientist, who asked not to be identified. "But it may help explain the context in which it took place."

Congressional aides said that hearings on the radiation tests will be held soon after Congress reconvenes.

DEC 29 1993

Payments Urged for Radiation Test Victims

■ **Government:** Energy Secretary O'Leary's call is first indication that U.S. is willing to acknowledge liability.

By MELISSA HEALY
TIMES STAFF WRITER

A1

WASHINGTON—The U.S. government should compensate victims of radiation testing conducted as part of its Cold War nuclear program, Energy Secretary Hazel O'Leary said Tuesday as disclosures mounted about extensive experiments involving humans as often-unwitting subjects.

In an interview on Cable News Network, O'Leary said: "We ought to go forward and explain to the Congress what has happened and let the Congress of the United States and the American public determine what would be appropriate compensation."

O'Leary's comments marked the first time the federal government has indicated it is willing to acknowledge liability for possible harm done by hundreds of government-funded tests conducted from the late 1940s into the '70s. Government compensation for test victims across the country could total hundreds of millions of dollars, but could end costly lawsuits brought by several citizen groups.

O'Leary said that up to 800 people were subjected to the experiments and exposed to potentially harmful amounts of radiation, some apparently without their informed consent.

Under O'Leary, the department has vowed to "come clean" on the secrets of nuclear testing. Her department and an independent task force it has named are conducting investigations of dozens and possibly hundreds of government-sponsored experiments in which humans were subjected to radiation.

O'Leary's promise to unmask the experiments has set off a flurry of news reports detailing human experiments, although few names have emerged because many of the consent forms and logs of the experiments have been lost.

The Energy Department late last week established a toll-free phone line, (800) 493-2998, for individu-

als to call if they believe they have been subjects in a test involving radiation. Since Friday, the Department has received roughly 100 calls a day.

In recent months, reports on radiation testing have cited experiments that include conducting nuclear tests over populated areas and injecting patients, including newborn babies, with plutonium and radioactive iodine.

The Boston Globe has reported that in one experiment between 1946 and 1956, at least 49 mentally retarded teen-agers were fed radioactive food in a study of the human digestive process. The tests, funded partly by Quaker Oats Co. and the U.S. Atomic Energy Commission, used radioactive forms of iron and calcium to determine if a heavy diet of cereals slowed digestion of those minerals, the newspaper said. The experiments were conducted by researchers from Harvard University and the Massachusetts Institute of Technology.

Asked Tuesday if the various disclosures leave the government vulnerable to lawsuits, O'Leary said: "My view is that we must proceed with disclosing these facts and information regardless of the fact of whether it opens the door for a lawsuit against the government. Many have suggested, and I tend to agree personally, that those people who were wronged need to be compensated."

In the latest indication that scientists even at the dawn of the Atomic Age had reservations about the human experiments, a report Tuesday said that a top radiation biologist warned in 1950 that the research had "a little of the Buchenwald touch," a reference to a Nazi concentration camp where medical experiments were carried out on inmates.

Dr. Joseph Hamilton, who worked for the U.S. Atomic Energy Commission, made the analogy to Buchenwald in a memo outlining his concerns about experiments

designed to gauge levels of radiation that would injure soldiers.

According to the New York Times, which quoted from Hamilton's memo in its Tuesday editions, Hamilton warned that commission officials "would be subject to considerable criticism" for conducting experiments that exposed people to potentially harmful doses of radiation.

If Congress approves compensation for subjects of radiation experiments, the payments would probably ease the legal barriers for many who have sought reparations from the U.S. government. Courts have frequently turned away suits

in such cases, arguing that the government could not be sued for discretionary acts performed in good faith.

At the same time, however, a decision to compensate for radiation experiments could place strict limits on the amounts the victims could receive.

One expert suggested such a decision also could give momentum to hundreds of claims that have been filed by workers at U.S. nuclear production plants, many of whom allege they have been exposed to unsafe levels of radiation.

"If we're going to engage in a debate over what to do with [unwitting victims of] dangerous radiation, we should include in their numbers those who were exposed on the front lines of the Cold War—the nuclear production workers . . ." said Paul DeMarco, a Cincinnati attorney who has handled several class-action suits against the government on behalf of nuclear workers.

"These people have not received the compensation due," DeMarco said. "What is worse? Someone completely unaware that they're being subjected to radiation? Or someone who's brought into a nuclear facility, given a radiation badge, given regular urinalyses and led to feel safe when he's not?"

How fear spawned human radiation tests

UC doctors and others readied for nuclear cataclysm, wanted to be able to treat victims

By Keay Davidson
EXAMINER SCIENCE WRITER

P. A1

The project's aim was to protect the many by endangering the few.

But the full extent of America's radiation experiments on its own citizens is only now beginning to become clear, including its roots in the Manhattan Project — the World War II crash program to invent the atomic bomb — and in postwar dread of the health effects of a nuclear holocaust.

A half-century ago, amid spreading fears of atomic annihilation from the skies, doctors at UC-San Francisco and elsewhere secretly planned for apocalypse by injecting unwitting fellow citizens with radioactive substances.

The ghouliah-sounding details have been exposed by a flood of once-secret documents — some stored at UC-Berkeley's Bancroft Library — from World War II and the early days of the Cold War.

One of the apparent goals was to learn how to guard against radiation illness should the United States suffer an atomic attack. But the project's moral ambiguities —

particularly the failure to inform patients they were being injected with the substances — evidently troubled one of the experimenters himself, radiation biologist Dr. Joseph G. Hamilton.

He warned in a newly released 1950 memo that critics might say the project had "a little of the Buchenwald touch," an allusion to

[See RADIATION, A-12]

Nazi experiments on humans. From 1941 to 1944, Hamilton — now deceased — oversaw the patient injections at UCSF.

At least 600 people nationwide were exposed to potentially harmful amounts of radiation during the experiments, Secretary of Energy Hazel O'Leary has said. Tuesday, she urged Congress to compensate surviving victims.

"She's appalled," O'Leary spokeswoman Mary Freeman said Tuesday. "If anyone is going to participate in some sort of health experiment like this, they need to know exactly what they're getting into."

O'Leary gave scant details when she mentioned the radiation experiments during a Dec. 7 press conference. She promised that by next year she would release details on the experiments that, she said, "gave me an ache in my gut and my heart." But details have already begun to emerge, giving O'Leary's bare statistics a very human face:

► Eight to 11 UCSF patients

were unwittingly treated with radioactive strontium or plutonium.

Among them was an unidentified 4-year-old boy with bone cancer who was injected with plutonium that emitted 24 times as much radiation as the average person receives in a lifetime.

A 13-year-old boy with bone cancer, Wallace Reid, was injected with 18.9 millicuries of radioactive strontium on 12 occasions in 1941 and 1942. That's almost twice as much strontium as a UC-Berkeley scientist later estimated could kill a

person. He died three months after his final injection.

It's unclear whether the injections themselves harmed patients, some of whom lived for decades. For example, a 36-year-old railroad porter with bone cancer was injected with plutonium. Tissue samples from his leg, which had been amputated, were secretly analyzed to find how long plutonium lodged in the body. Despite the injection, he lived until 1991.

► Nineteen retarded boys were fed radioactive cereal in Massachusetts as late as 1956 without their parents' knowledge.

► Eleven patients at the University of Rochester's Strong Memorial Hospital were secretly injected with plutonium.

"The hospital was never consulted about it — (the doctors) just went and did it," said Strong spokesman Robert Loeb. "We're not defending this. We regret that it happened."

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What they don't know ...

Three decades later, two Rochester patients were told about the injections, but a physician declined to inform remaining survivors. Her reason: She believed that the injections hadn't hurt them, and that being informed would cause needless psychological stress.

The same experiments wouldn't happen today, thanks to elaborate requirements for patient consent, UC officials say.

"If what is said happened happened, it wouldn't happen today," said University of California President Jack Peltason, who stressed he had no firsthand knowledge of the experiments. "Today, there are very elaborate regulations that control how an individual can engage in research on human sub-

jects."

Loeb says the decision to conduct the experiments was made in the early 1940s by leaders of the Los Alamos, N.M.-based Manhattan Project to develop the atomic bomb.

Loeb traced the decision to bomb project leaders, including medical director Dr. Stafford Warren, chief scientist Robert Oppenheimer and overall project chief Gen. Leslie Groves.

Loeb cited as his reference a book published several years ago by the University of California Press, "The Dragon's Tail," by Barton Hacker, which briefly mentioned the radiation experiments but gave few details.

"There was a lot of animal experimentation (with radioactive substances) going on, but they felt that could take them only so far," Loeb said. So "it was decided — in Los Alamos — to make experiments involving human beings."

The experiments have defenders.

The research shouldn't be judged too harshly because experiments probably didn't hurt anyone, and the secrecy — even the failure to inform patients they were being injected — is understandable in the context of wartime and the Cold

War, said a former top official at the Department of Energy.

The experimenters "were not fiends or ogres," said A. David Rossin, a former secretary of Energy in the Reagan administration.

In any case, he maintained, there's no clear scientific evidence the plutonium or strontium could have harmed patients. While the press frequently calls plutonium the world's most dangerous substance, it's typically dangerous only

if inhaled, Rossin said.

In the 1940s, he said, scientists feared the health effects of atomic bomb attacks on the United States by Nazi Germany — which many experts feared was developing the weapon. In the following decade, the Soviet Union was felt to be the potential atomic menace.

To learn to treat radiation sickness, the U.S. government experimented on citizens, Rossin said.

"You obviously don't tell a patient, 'We're going to do an experiment on you, and it's secret,'" he said. "(Failure to inform a patient) is crass, and it's not what we would do today, but it has to be understood in terms of the standards of the times."

In Hamilton's 1950 memo, he told Atomic Energy Commission official Shields Warren: "For both political and scientific reasons, I think it would be advantageous to secure what data can be obtained by using large monkeys such as chimpanzees, which are somewhat more responsive than the lower mammals."

"Scientifically, the use of such animals bears the disadvantage of the fact that they are considerably smaller than most adult humans and a critical evaluation of their subjective symptoms is infinitely more difficult."

That cool assessment of the comparative research advantages of humans and animals is a far cry from the atmosphere in today's laboratories, where even animal research is increasingly subject to academic regulation.

George Raine of *The Examiner* staff, *Examiner* news services and the *Albuquerque Tribune* contributed to this report.

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2078

Energy Official Seeks to Assist Victims of Tests

By KEITH SCHNEIDER **A1**

Energy Secretary Hazel R. O'Leary yesterday called on the Government to compensate Americans who were exposed to radiation from human medical experimentation that the United States conducted for decades after World War II.

Mrs. O'Leary said her appeal on behalf of people who were used as subjects in the medical testing was prompted by the Government's long resistance to providing compensation to thousands of people in the Southwest known as "downwinders" — those who asserted that they or members of their families were harmed by radioactive fallout from open-air testing of atomic bombs in the 1950's and early 1960's.

"I looked at the history of the Energy Department with the downwinders where the department for some years really did battle with these people to hold off their ability to make claims," Mrs. O'Leary said in an interview. "It doesn't occur to me that is the posture I want to be in."

'Make These People Whole'

Referring to the thousand or more subjects of radiation experiments, the Secretary added: "It seems to me that my position ought to be, what does it take to make these people whole? If they can prove there was no consent for the experimentation and harm resulted from the experiments, they or members of their families are going to want something more than a formal apology."

Mrs. O'Leary's first statement on compensation came in an interview on CNN yesterday morning after she was asked if she would consider compensation. She replied: "Many have suggested, and I tend to agree personally, that those people who were wronged need to be compensated. And we ought to go forward and explain to the Congress what has happened, and let the Congress of the United States and the American public determine what would be appropriate compensation."

The Secretary said she was acting largely on her own in calling for compensation for anyone who was harmed during the decades of human medical experimentation conducted by the Atomic Energy Commission. The nu-

clear weapons industry later came under the ownership and management of the Department of Energy. She said she notified the White House on Monday that she would propose a measure to provide compensation.

If approved by the Clinton Administration and Congress, it would be the fifth time since the early 1950's that the Government has compensated people put in jeopardy by radiation from the American nuclear weapons industry. The first four, however, were initiated by foreign governments or the American victims.

Two Departments in Conflict

Secretary O'Leary's comments were the first in which a head of the nuclear weapons industry initiated the Government's effort to apologize and compensate people who may have been harmed by its nuclear materials.

Her appeal for compensation, though, puts the Department of Energy in direct conflict with the Department of Justice. In every other instance in which Congress considered legislation to compensate people exposed to harmful levels of radiation, including the case of the downwinders in the Southwest, the tort branch of the Justice Department's civil division has opposed the effort.

The department has also defended the Government in lawsuits, dating to the early 1950's, in which ranchers, soldiers, uranium miners and the industry's own workers asserted that they had been harmed by radiation from the nuclear weapons industry.

Department lawyers are now defending the Government in a case in Nevada in which the families of more than 200 weapons industry workers, most of whom have died, contend that their relatives were injured or killed by radiation from atomic bomb testing at the Nevada Test Site northwest of Las Vegas.

In that case, which began in Las Vegas on Dec. 13, several of the Government's chief medical witnesses are doctors who conducted the human medical experiments that have come under Mrs. O'Leary's scrutiny.

Three Witnesses Named

One witness is Dr. Constantine Malletskos, a former researcher at the Massachusetts Institute of Technology who performed radiation experiments on retarded teen-age boys at the Fernald State School in Waltham, Mass.

Another is Dr. Clarence Lushbaugh, who directed several human medical experiments, including several in which children were exposed to radiation, at a research institution financed by the Atomic Energy Commission in Oak Ridge, Tenn. Some of Dr. Lushbaugh's studies were halted in the early 1970's after officials of the commission said they had done little to provide medical benefits for the patients involved.

A third witness is Dr. Eugene Saenger, a retired radiologist at the University of Cincinnati College of Medicine, who in the 1960's and 70's exposed indigent cancer patients to levels of radiation that were known to make people acutely ill. According to records of the studies, which were performed for the Defense Department, 9 of the first 40 people exposed to the radiation died within 36 days.

All three doctors have maintained in interviews with Congressional researchers and journalists over the years that their work had been ethical and proper.

Potential for Conflict

Mrs. O'Leary said she had not talked with Janet Reno, the Attorney General, but was aware of the potential for conflict with the Justice Department. "I cannot imagine there would be any other posture that I could take on this," she said. "I am also clear on the fact that the Justice Department may come from another position and point of view."

The Justice Department today said it would not comment on Mrs. O'Leary's proposal.

Mrs. O'Leary's appeal for compensation came three weeks after she directed the Department of Energy to investigate the experiments, determine their ethical and medical propriety, and locate test subjects or members of their families.

Stewart L. Udall, who was Secretary of the Interior in the Kennedy and Johnson Administrations, said yesterday that Mrs. O'Leary's appeal for compensation was breathtaking.

"It's a very bold step," said Mr. Udall, who as a lawyer helped prepare the Nevada Test Site case and two others on behalf of thousands of Americans who believed they had been victimized by the nuclear weapons industry. "Hazel O'Leary is talking to the country. She is saying there were grievous things done to people and, in effect, she is apologizing to the country. But it's not clear anybody else in the Government is listening. The next thing the Clinton Administration ought to do is pull everybody together so they can talk to each other."

Inside Politics

ALP
EXCERPT.

Radiation alarm

Callers are swamping a new federal hot line set up to find people who suspect they were used as guinea pigs in government-sponsored radiation experiments, USA Today reports.

Reports of these experiments arise as a result of media investigations and Energy Secretary Hazel O'Leary's order releasing thousands of previously secret documents on government research.

Some calls to the new Human Experimentation Hotline indicate people are unnecessarily panicked about standard medical treatments — such as radiation treatment for cancer — or are calling to ask if they were test subjects.

"We can't answer that," Mike Gaudin, spokesman for the Department of Energy, told the newspaper.

SAN FRANCISCO CHRONICLE

DEC 29 1993

EDITORIALS**San Francisco Chronicle**
THE VOICE OF THE WEST**The Poisonous
Legacy of Cold
War Secrecy**

THEY READ like horror stories from Nazi Germany: Mentally retarded children were fed radioactive iron and calcium in their breakfast cereal in order to study the effects on the digestive system; hospital patients (some but not all terminal) were injected with plutonium; newborn infants (mostly black) were injected with radioactive iodine; prisoners (mostly black) had their testicles irradiated; and on at least a dozen occasions radioactive bombs were exploded in the atmosphere, releasing up to 20 times the amount of radiation emitted by the Three Mile Island nuclear power accident.

**A horrifying
glimpse of
Cold War
era
madness**

Except these incidents were not accidents, and they were not conducted by Nazis.

They were conducted by American scientists as part of the official research policies of a paranoid U.S. government in the throes of the Cold War.

The continuing series of revelations emerging from declassified documents about the government's use of human guinea pigs in radiation experiments provides a gut-wrenching illustration of how a presumably enlightened, law-abiding government can sink into barbarity under the shroud of secrecy that is part of the national-security state.

FOR AT LEAST a thousand mostly unwitting victims of the experiments, the cult of secrecy proved more dangerous than the security threat under whose name it was justified.

For all the American people, the official condoning of such horrors, even in the name of fighting communism, leaves a disgraceful, unjustifiable stain on the nation's history.

How can the nation atone?

We can begin by following the advice of Energy Secretary Hazel O'Leary, who had to fight the Pentagon and her own bureaucracy to pierce the darkness around the past and present horror stories about the nation's nuclear weapons complex. She advocates continued disclosures in order to identify the surviving victims of the experiments so they can be treated or compensated.

Beyond compensating the individuals involved, the government must come clean with the American people about the full extent of the Cold War era's nuclear madness and the poisonous legacy it has left us.

There is evidence that many of the people who built and tested the nuclear arsenal and nuclear reactors were no more thoughtful about the hazards they were creating than were the officials who approved spiking children's milk with radioactive iron.

The biggest, most damning secret of all may be the extent of the radioactive mess that still surrounds nuclear weapons plants and storage facilities in more than a dozen states. Until that secret is dispelled, we cannot begin to deal with the costly cleanup horrors that await us.

BURRELLE'S

NEWS EXPRESS

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Amarillo Globe-Times

(Circ: 21,187) DAY Wed DATE 12-29-93 PAGE 11A

O'Leary: Victims should be compensated

WASHINGTON (AP) — Energy Secretary Hazel R. O'Leary says people exposed to radiation in government experiments more than 40 years ago should be compensated.

O'Leary promised Tuesday to collect as many documents as possible and "let the Congress of the United States and the American public determine what would be appropriate compensation."

In an interview with CNN, she did not indicate how many people might be compensated or how much they might get.

O'Leary said earlier this month that as many as 800 people might

have been subjected to human experiments involving radiation, many of them in the 1940s and '50s. Some of the experiments were believed to be within medical guidelines and with consent, but others clearly were not, officials have said.

O'Leary has told her agency to find out how many human studies were done, find test subjects and their survivors and check the legality of the research.

A hot line asking survivors to contact the Energy Department has been swamped with hundreds of calls.

The hot line number is 1-800-493-3999. The line is open Monday through Friday, 7:30 a.m. to 3:30 p.m. Amarillo time.

ARIZONA REPUBLIC

DEC 29 1993

U.S. experiments on human beings had Nazi echoes

Ethicist: 'We were hypocritical'

Reuters

A6

CHICAGO — Barely years after the Nazis committed atrocities in the name of science, U.S. researchers conducted experiments on unwitting or misinformed subjects, and only recently has there been a significant change in the scientific community.

"We tried and hung people in Germany for crimes that had echoes in this country," said Arthur Caplan, an expert on medical ethics at the University of Minnesota, on recent disclosures that children were fed radioactive cereal, and human guinea pigs were injected with plutonium without their consent.

The revelations that unwitting human subjects were injected with plutonium in the 1940s and '50s prompted U.S. Energy Secretary Helen O'Leary to recommend Tuesday that Congress offer compensation to the victims' families.

In a new disclosure, meanwhile, it was revealed that a 13-year-old boy suffering from bone cancer was injected in the 1940s with almost twice the amount of radioactive strontium that a scientist a few years later estimated could kill a person.

At the end of the Nuremberg trials for Nazi war criminals, American judges helped write the Nuremberg Code, which called on scientists to adhere to humanitarian principles in any experiments using human subjects.

"To be fair, those codes of ethics were in response to Nazi atrocities and were not taken seriously in America by scientists," said Caplan, of the University of Minnesota.

"Nevertheless, given the revelations about plutonium studies, we were, in our rhetoric and in our formal statements, hypocritical."

Rules enacted since World War II sharpened the scrutiny over scientific research by requiring that human subjects be informed and grant their consent to be studied, that health risks be minimal and that independent review boards oversee the experiments.

But the scientific community was slow to accept those rules.

The scientists who conducted the experiments said they were unaware of the dangers, but a memo brought to light this week showed that officials at the Atomic Energy Commission knew the risks and ramifications.

"The dangers of radiation were known then. We didn't do X-rays on pregnant women, and it had been well-recognized that workers who painted radium watch dials often contracted cancer," said Dr. John

Glasson, chairman of the American Medical Association's Council on Ethical and Judicial Affairs.

"There's a lot more consciousness of the principle of informed consent than there was 30 to 40 years ago."

The *Boston Sunday Globe* disclosed that 19 retarded children in Fernald, Mass., had radioactive materials added to their breakfast cereal to track the progress of the materials through their digestive systems. Neither they nor their parents were told.

In the newest case of experimentation to come to light, formerly secret documents show that the boy injected

with radioactive strontium was one of eight patients identified as having received radioactive strontium or non-radioactive strontium from 1941 to 1944 at the University of California Hospital in San Francisco. Some also received phosphorous-32, which is radioactive.

The boy, identified in a medical chart as Wallace Reid, received 18.9 millicuries of radioactive strontium in 1941-42 in 12 injections.

The boy died three months after the final injection was administered. The cause of death was exhaustion and intracranial pressure, states the two-page chart, which is stamped "Secret" several times.

The *Albuquerque Tribune* found the chart on Reid and the other seven patients in the files of deceased scientist Joseph Hamilton at the Bancroft Library at the University of California at Berkeley.

Many experiments that used humans as guinea pigs often were scientifically flawed and poorly planned, and produced useless results, Caplan said.

It was not until Harvard researcher Henry Beecher described a dozen unethical experiments in a 1966 *New England Journal of Medicine* article that the scientific community responded.

But medical atrocities continued in the public and private realm, experts said.

In an interview with Cable News Network, O'Leary promised to collect as many government documents as possible on such experiments and "let the Congress of the United States and the American public determine what would be appropriate compensation."

As part of the investigation, which is likely to last for years, O'Leary has set up a toll-free telephone line, 1-800-493-2998.

Contributing to this article were *Scripps Howard* and *The Associated Press*.

BURRELLE'S

NEWSPRESS

RADIO TV REPORTS

NATIONAL MARKET COVERAGE

TRANSCRIPT

FOR DEPARTMENT OF ENERGY STATION WUSA-TV
CBS Network
PROGRAM CBS Evening News CITY Washington, D.C.
DATE December 29, 1993 7:00 PM AUDIENCE
SUBJECT Secret Radiation Tests on Unsuspecting Americans

CONNIE CHUNG: CBS News has learned new and shocking details about the government's secret radiation experiments on unsuspecting Americans. A lot more people may have been zapped than the government admits.

Correspondent Jim Stewart has this exclusive report.

JIM STEWART: In addition to exposing active-duty soldiers to aboveground nuclear tests, CBS News has learned the government is now investigating whether it also used retired soldiers in the nation's veterans hospitals as nuclear guinea pigs.

Department of Energy Hazel O'Leary has ordered a search of records of experiments done in veterans hospitals.

AIDE: Framingham.

SECRETARY O'LEARY: Framingham.

AIDE: V.A. Hospital is in his district.

SECRETARY O'LEARY: Do we know facts regarding that hospital?

AIDE: We're looking into it.

SECRETARY O'LEARY: Okay. As soon as you know, then you'd better tell me.

WOMAN [on telephone]: Department of Energy.

STEWART: Veterans' horror stories to a government hotline have also moved the Department of Energy to ask the Defense Nuclear Agency to review its records for other possible experiments on active-duty soldiers in military hospitals.

New York: 212-309-12
Chicago: 312-541-2026
Detroit: 313-344-1177
Los Angeles: 213-466-6124
Washington, D.C.: 301-656-4068
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Philadelphia: 215-567-7600
San Francisco: 213-466-6124
Miami: 305-358-3358

More and more, it's becoming clear it was the Pentagon behind the Department of Energy's secret radiation testing on humans.

REP. EDWARD MARKEY [D-MA]: The Department of Defense and the Cold War drove the agenda of many federal agencies during the '40s, '50s, '60s, '70s and into the '80s, in fact.

STEWART: Even beyond. In response to a CBS News request for information, the Department of Energy confirmed today it is currently funding 120 human radiation experiments of its own, while providing facilities for 100 others by separate agencies, including some classified by the Pentagon. Unlike earlier tests, Energy officials say these follow strict safety guidelines.

PETER BRUSH [Department of Energy]: The work that's being done now is directed at medical benefits, rather than general scientific studies, which apparently was part of the problem in the past.

STEWART: A problem many in Congress still must be paid for.

REP. MARKEY: We have a responsibility to ensure that people are given some compensation.

STEWART: A bill to that effect will be introduced into Congress as soon as it reconvenes next month. As to the final cost, officials say the only guess they can venture now is "a lot."

Jim Stewart, CBS News Washington.

RADIO TV REPORTS

NATIONAL MARKET COVERAGE

TRANSCRIPT

FOR DEPARTMENT OF ENERGY STATION CNN-TV

PROGRAM The World Today CITY Washington, D.C.

DATE December 29, 1993 6:00 PM AUDIENCE

SUBJECT Government Radiation Tests on Unsuspecting Americans

GENE RANDALL: Relatives of those Americans used in government radiation experiments during the Cold War are voicing their anger as details of the scandal continue to unfold. Meanwhile, some scientists disagree about whether the studies were unethical.

CNN's Carl Rochelle has the latest.

CARL ROCHELLE: More than a dozen mentally retarded teenage boys who attended this school in Fernald, Massachusetts were given radioactive iron and calcium on breakfast cereal, starting in 1946. Scientists were trying to see how radiation would affect the human body.

STEVEN AFTERGOOD [Federation of American Scientists]: The people involved in conducting those experiments were not sadists. They were serving what they believed was the interest of national security.

ROCHELLE: It was the time of the Cold War, the Iron Curtain, and the threat of nuclear war between the U.S. and the Soviets. Scientists wanted to know if people could survive a nuclear war. But a lawyer who deals in medical ethics says that's no excuse.

LORI ANDREWS [ethicist/attorney]: Well, even if that is true, we don't generally draft people without telling them. And we give all sorts of veterans' benefits to soldiers who do things for the national security.

ROCHELLE: The experiment started before the Nuremberg Trials of Nazi war criminals and extended into the 1950s. Those trials established what is generally accepted as a universal code for human experimentation: full, informed, voluntary consent.

Many of the victims of radiation experiments in the U.S. received little or no information about what was being done to

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them. One victim's daughter said even though her father was told about his plutonium injections, he probably didn't understand.

ELMERINE WHITFIELD: My father had a sixth-grade education, and I'm convinced that he did not understand what they were saying.

ROCHELLE: Energy Secretary Hazel O'Leary says victims should be compensated, but some say money won't take away the pain.

MRS. WHITFIELD: My father cannot be compensated for 44 years of having plutonium in his system. However, the Department of Energy could respect my family enough to release all of the records.

ROCHELLE: O'Leary says she is working to do that but it won't happen overnight. She has also established an independent panel to determine whether the experiments violated the code of conduct established at the Nuremberg Trials.

As for the nearly 800 victims and their families, O'Leary says Congress is already beginning to look at how to help them.

Carl Rochelle, CNN, Washington.

RADIO TV REPORTS

NATIONAL MARKET COVERAGE**TRANSCRIPT**

FOR DEPARTMENT OF ENERGY **STATION** WGN-TV

PROGRAM CHANNEL NINE NEWS **CITY** CHICAGO

DATE 12/29/93 12:00 PM **AUDIENCE**

SUBJECT RADIATION EXPERIMENTS ON HUMANS

New York: 212-309-1400
Chicago: 312-541-2020
Detroit: 313-344-1177
Los Angeles: 213-466-6124
Washington, D.C.: 301-656-4068
Boston: 617-536-2232
Philadelphia: 215-567-7600
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HAZEL O'LEARY, US ENERGY SECRETARY: We must proceed disclosing these facts and information, regardless of the fact whether it opens the door for a lawsuit against the government. And many have suggested, and I tend to agree personally, that those people who were wronged need to be compensated.

SONJA GANTT, NEWS ANCHOR: Energy Secretary Hazel O'Leary commenting on secret radiation tests the government performed in the 1940's and '50's. The test involved as many as 800 people; three of them tested right here, at the University of Chicago.

O'Leary has opened secret Energy Department files; they include records of experiments in which people were unwittingly exposed to radiation. One experiment involved children at this Boston mental institution; they were fed radioactive cereal.

O'Leary says, she doubts many people will file lawsuits as a result of the tests; that's because the statutes of limitations have expired.

As we mentioned, there are Chicago connections to those radiation tests. The Chicago-based cereal manufacturer, Quaker Oats, help fund the Boston study. Authorities say they may have provided money or even the radioactive cereal used.

In 1945, three terminally ill patients at the University of Chicago Hospitals were injected with plutonium; they all died within a year.

And, in the 1970's, southwest suburban Argonne National Laboratory was involved in follow-up tests on others who were injected with plutonium.

RADIO TV REPORTS

NATIONAL MARKET COVERAGE

TRANSCRIPT

FOR DEPARTMENT OF ENERGY

STATION CNN-TV

PROGRAM CNN & Company

CITY Washington, D.C.

DATE December 29, 1993 11:30 AM AUDIENCE

SUBJECT Secretary O'Leary/Government-Sponsored Radiation Tests

NATALIE ALLEN: It may sound like a sci-fi story of horror or a chilling report from the death camps of Nazi Germany: retarded teenagers fed radioactive cereal, newborn babies reportedly injected with radioactive iodine, people injected with plutonium. It didn't happen on some distant land, it all happened right here in the United States at the hands of government scientists. Americans were used as guinea pigs in radioactive experiments during the '40s and '50s.

How did it happen? Could it happen again?

Our guests today: Eileen Welsome of the Albuquerque Tribune, whose reports on test victims helped put this shocking story in national headlines. Lori Andrews is an attorney who specializes in medical ethics. Also with us, Energy Secretary Hazel O'Leary. And joining us on the phone from Dallas, Elmerine Whitfield with a personal story. She says her father, Elmer Allen, was one of those subjected to experimental tests unknowingly back in 1947.

Elmerine, thank you for talking with us. And take us back to that year. Tell us what happened to your father.

ELMERINE WHITFIELD: The year was 1947. At the time, I was only 22 months old. But my father was a railroad porter. He worked out of San Francisco.

About a year prior to this injection, he had injured his leg in an accident on his job. After about a year, the leg had not properly healed, and his doctor recommended him to the University of California at San Francisco.

After X-rays were done, supposedly, he was diagnosed with a malignant bone sarcoma. On July 18th, 1947, he was injected with plutonium 238. Three days later his leg was amputated.

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ALLEN: Who injected him, and did he have any knowledge of what was going to happen to him, that it was plutonium being used on him?

MRS. WHITFIELD: I'm not sure which doctor stuck the needle in him, but he was injected.

My father did not sign a consent form. There is a note on his chart signed by two doctors and a nurse. And the sentence says, "The experimental nature of the intramuscular injection of the radioactive tracer sample was explained to the patient."

Now, my father had a sixth-grade education. And I'm convinced that he did not understand what they were saying.

ALLEN: Your father died just a few years ago. During the course of his life, did he try and talk about this? Did he try to get the facts?

MRS. WHITFIELD: No. My father always felt that he was ill in some way. Nobody understood what he was saying. His favorite thing to say was that he had been used as a guinea pig. He never used the word plutonium. I'm not sure if it was ever introduced to him. If it were, I don't think he understood it. But I am sure that my mother and the rest of the family knew nothing about this until we were contacted by the Albuquerque Tribune in July of last year with the fact that my father might be the person that was called CAL-3.

Elmerine, we have the person who reported that story for the Albuquerque Tribune. Eileen Welsome is with us, as well.

Eileen, tell us what you found out about Elmer Allen and others. And how difficult was it to uncover information?

EILEEN WELSOME: I found Elmer Allen through a clue in a Department of Energy document last summer. It made reference to the fact that a scientist at Argonne National Laboratory had contacted the physician of CAL-3 in Italy, Texas. Knowing that Italy was a small town, I called the city hall, described Elmer Allen, and they told me he had died a year earlier, and gave me his wife's telephone number. And that began the story. I flew to Dallas and met the family.

It has been a matter of chipping piece-by-piece to try to find out who these people are.

This story, by the way, has come out despite the fact that the DOE, not because of the DOE. The DOE has refused to release the names of these 18 patients for the past four years, including the last year in which Hazel O'Leary has headed the agency.

ALLEN: Hazel O'Leary is with us.

Would you like to respond?

SECRETARY O'LEARY: Yes. And I will and have responded repeatedly on this question.

One, it is not the Department's goal or mission to disclose the names of individuals or families to reporters. It is our mission, as we have attempted to be open and to help explore this story, which is shocking to all of us, to see first of all that we are respecting the needs and the desires of the individuals and the families involved.

And I am well aware of the interest of the press, and certainly credit the Albuquerque newspaper for the work that they've done. But I would hope that the public would understand that it's not our role to simply, without informing families and, first of all, locating families, to share that information to third parties.

I'm very clear on this as an ethical standard that I must follow. And I'm also very clear on my desire to get to the bottom of and expose all of this behavior and these activities...

ALLEN: But did you not...

SECRETARY O'LEARY: ...without further harming the families involved.

ALLEN: But did you not start to pursue this to get to the bottom of it until after Eileen Welsome started reporting about it?

SECRETARY O'LEARY: No, not true at all. I began, almost simultaneous with my arrival at the Department of Energy, an exercise to declassify all information available to the Department of Energy which was no longer necessary to be remaining secret, because the Cold War is over. The process of identifying all information to be declassified, much of which is not in my hands, not in the Department's hands, which is in the hands of individual researchers, is the business that the Department has been about for some eight or nine months. Understanding that there's some three miles of documents, three-miles-high worth of documents and papers in the hands of the Federal Government in the Department of Energy.

MRS. WHITFIELD: May I add something to what she's saying?

ALLEN: Yes. Elmerine, go ahead.

MRS. WHITFIELD: In 1986 the United States House of Representatives Subcommittee on Energy, Conservation and Power, which was chaired by Representative Markey of Massachusetts, issued

a staff report titled "America's Nuclear Guinea Pigs: Three Decades of Radiation Experiments on U.S. Citizens." That was 1986. And this report named some of the more bizarre and repugnant experiments, which involved about 695 persons. And that was also - in that report was the Manhattan Project involving my father.

Now, the committee requested that the Energy Department assist in identifying and compensating the victims. And in response to that, the Secretary, who was John Herrington at the time, less than four months later, on February 10th, 1987 -- and I have that document in my hand -- he concluded and wrote back to the committee that there was no scientific reason for attempting follow-up studies on the subjects, nor to propose new legislation to compensate them.

And I also have in my hand from my father's doctor, who were his doctor during this time, a letter on Argonne National Lab stationery that gives a number, area code number, extension. And they ask the doctor to call in case my father died, because they wanted to do a post on him to see in which body organ the plutonium was lodged.

They knew where my father was.

It's my contention that the Energy Department can locate at least 695 of these people, and they're not attempting to do so. And if the Energy Secretary has the same mind-set as Secretary Herrington, I want her to know that at the time of that report my father was ingesting the following medications, and had been ingesting these medications for well over a decade. He was taking Thorazine for psychosis, Dilantin for epileptic seizures, as well as high blood pressure medicine. He was taking Cogentin for bladder dysfunction and Lanoxin -- I think that's how -- L-a-n-o-x-i-n -- for a heart condition.

I got these medications from his druggist.

ALLEN: Elmerine, thank you.

There are many questions to be asked on this subject, and we'll continue in a moment. And we'll also ask: How do we know that such dangerous, unethical tests aren't taking place today?

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ALLEN: We are talking about radioactive tests performed on people -- some people, apparently, unknowingly -- during the '40s and '50s.

Let's bring in Lori Andrews, who is an expert on medical ethics.

Lori, some of the scientists have said their work was ethical and proper. These were scientists injecting cancer patients with levels of radiation known to make people ill. Was there anything ethical and proper about what was going on, from what you've heard?

LORI ANDREWS: Absolutely not. There were clear legal and ethical tenets at the time: that you have to respect people's bodily integrity and you don't interfere with it without uncoerced, voluntary consent.

I think that the excuses the scientists and doctors have been giving are pretty lame. I mean, one, the first excuse is that everybody was doing it. Well, that's exactly what the Nazi doctors said when they were on trial, and we still found them liable.

Another excuse was they said it wasn't harmful. And yet there were clear writings at the time, in the 1940s, saying that this sort of radioactive material was harmful. I'm sure the doctors wouldn't have injected it into their pregnant wives, for example.

And the third excuse was that it was necessary for the national security. Well, even if that is true, we don't generally draft people without telling them. And we give all sorts of veterans' benefits to soldiers who do things for the national security. I think we should start thinking about compensation of these victims, as well.

ALLEN: And to Eileen.

What do you hear from the families when you contact them with your information and tell them what was done to their family members in the name of national security?

WELSOME: This gets back to Hazel O'Leary's point a few minutes ago about not releasing the names of the 13 other families. We feel, at the Albuquerque Tribune, that it's a violation of the Freedom of Information Act not to reveal the names of these families. We feel that Hazel O'Leary should follow the law, release the data, the medical records. Let us find the families and let them decide whether they want to talk to us or not.

The families that we did find were very grateful for learning about this heinous part of their family history. And in fact, three of the five families cooperated in our investigation, giving us permission to seek their families' medical records.

ALLEN: Miss O'Leary, you are coming out and set up a toll-free number, disclosing some information, saying that you want more. I'm wondering, what is the response elsewhere in the government to what you're doing now? And does the President support you?

SECRETARY O'LEARY: Fair enough.

Yes, the President does support me. And the President, first of all, directed that each Cabinet agency begin a declassification effort almost the moment he was sworn in. So that's -- he's clear on the record there.

I think I'm clear on the record with respect to moving to declassify, and also moving to make this information that the press now wants available. I'm afraid it can't happen overnight, simply because I don't have all the documents in my hand at the moment.

But let me talk to you about the kind of public reaction.

First of all, I understand and we all understand the anguish, the heartache and the anger felt by Mr. Allen's daughter. The nation shares that heartache and that anger and that shock. The reason I'm so certain is this toll line, which has now been operating for three days, attempting to identify others who have been subject of experimentation, we have received over ten thousand calls just on yesterday, which we could not process. I mean that's how many people have called in.

Now, I'm not suggesting that ten thousand people have called because they believe that they have been subject of these human experiments. The two days prior, what we understood was about a third of the calls we were receiving were coming from people who believed they had been subject of human experimentation. The rest of the people are calling to express their anger, their dismay and their befuddlement, and to also ask that this government, under this administration, focus on ensuring that the checks and the balances are inherent and in place in this government, so that these kinds of experiments cannot be conducted in the future.

MRS. WHITFIELD: But Secretary O'Leary, I'd just like to talk about that 800 number.

SECRETARY O'LEARY: Yes, ma'am.

MRS. WHITFIELD: Had the Albuquerque Tribune not notified me, even if my father had been living, did you know we would not have called that hotline?

SECRETARY O'LEARY: But Mrs. Whit...

MRS. WHITFIELD: We did not know that my father was a victim.

SECRETARY O'LEARY: I'm understanding that. But understand, too, that I can't own what happened before I came into the job.

MRS. WHITFIELD: But I'm saying I really am disappointed, but really not surprised, about the hotline number. Because, to me,

it's just going to create a mass hysteria among the general population, especially those who live in areas near those plutonium storage sites, or persons who feel, you know, that maybe their family was exposed because they were in one of those hospitals that have been named.

SECRETARY O'LEARY: But you under...

MRS. WHITFIELD: It would be so easy to identify some of the people, the 695 that I am sure that are in the record. At least get those people and their survivors informed, and then perhaps work with the rest of them.

SECRETARY O'LEARY: Mrs. Whitfield, I understand that. And that is the work that we are about doing. Understand, please, that we are attempting to get into our hands as quickly as possible current loads of documentation.

And I can understand your point of view with respect to the hotline. But I would tell you that professional people are on the phone to handle these calls.

MRS. WHITFIELD: Well, when I called...

SECRETARY O'LEARY: And I believe that any -- just if you please.

MRS. WHITFIELD: Okay. Sorry. I'm sorry.

SECRETARY O'LEARY: And I believe that anyone who is upset or has a concern needs to make a contact, and that contact can be positive. And more importantly, thorough follow-up can be extremely positive.

WELSOME: Natalie, may I say something?

ALLEN: Yes. Go ahead.

WELSOME: First of all, I'd like to applaud Secretary O'Leary for openness. However, going back to our Freedom of Information Act request, during the last year, when some of the most intense legal wrangling has occurred, we have gotten small amounts of information. After this story broke, suddenly five boxes of documents appeared in the DOE's legal counsel offices.

Now, what's going on here?

And then going on to the question of compensation and hearings and the nation mourning, I think that what we should do is hold congressional hearings so that people like Elmerine Whitfield and other victims damaged by 50 years of these experiments can tell their story to the American public.

ALLEN: And yesterday, Miss O'Leary, you mentioned on CNN of wanting Congress to get involved in this. Do you think they will? When do you think victims may see any help?

SECRETARY O'LEARY: Indeed, I know that the Congress will be involved. I have talked, just in the past 22 hours, to several members of Congress, some of whom are now in process of drafting legislation and others of whom plan to be involved in scheduling hearings.

ALLEN: All right.

SECRETARY O'LEARY: And I believe this is what needs to happen. And the press has been very useful in providing the impetus for this to take place.

ALLEN: All right, Miss O'Leary.

WELSOME: Secretary...

ALLEN: I have to take a break right now. We'll return in just a moment.

Something possibly is being done now, but why only now is all of this coming out? We'll talk more about that in a moment.

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ALLEN: I'll begin with Lori Andrews, in the short time we have left.

How do we know that medical ethics have changed enough over the years to guarantee that nothing like these tests are going on right now?

ANDREWS: I don't think they've changed enough. And I think that we should not just look to compensating the victims here, but wending a clear message that informed consent is necessary for human experimentation. I know of studies as recently as the late 1980s where genetic testing was done on pregnant women without their consent. That's been published in the literature.

And so, I would consider something like even holding the individual physicians liable, in this case, to send a clear message about how we want consent and experimentation conducted today.

There's also an issue about using people for experimentation who are in some sort of coercive situation. Part of the experiments you're talking about were done on prisoners, and there's a real question about whether prisoners can actually give consent. There are such pressures by the institution. Some of the experiments were done on very poor pregnant women who were getting

charity care. Maybe they felt they had to consent to the experimentation in order to receive prenatal care.

And I think those pressures are still involved today, and we have to be very closely scrutinizing the type of subjects, the mentally retarded subjects, the prisoners, the pregnant women, who are used in experimentation even yet today.

ALLEN: Eileen Welsome, are there more stories that you're uncovering? Is this just the tip of the iceberg?

WELSOME: I feel that this is just the tip of the iceberg. I have hundreds of stories that I've come across or leads that appear almost like smoke. And I don't think -- I think that we're going to see more and more every single day.

And going back to this issue of compensation, I know that the current compensation act for the downwinders and other radiation victims is filled with red tape and that the amounts range from \$50,000 to \$100,000. And frankly, in some of the cases I've heard, \$50,000 couldn't compensate a day of the misery of some of the people -- of the lives of some of these people that I've uncovered.

ALLEN: Hazel O'Leary has mentioned compensation. And I want to ask Elmerine if that gives you any comfort.

MRS. WHITFIELD: Well, the word compensation at this time bothers me, because my father cannot be compensated for 44 years of having plutonium in his system. However, the Department of Energy could respect my family enough to release all of the records describing my father's amputated limb, whatever they found in it, whatever they did to it, and the follow-up studies from, I know, 1973 through '83, which I have evidence of, where they were tracking him. I would really like to know...

ALLEN: Miss O'Leary, we have time for just one final remark from you.

SECRETARY O'LEARY: Yeah. And that is, that information will be released. And we will respect you and your father and the families and the individuals who were involved in any and all of the cases in which the Department of Energy's predecessor agencies had any hand. That I commit personally.

ALLEN: All right.

Thanks to all of you for joining us today to talk about this subject.

How fear spawned human radiation tests

UC doctors and others readied for nuclear cataclysm, wanted to be able to treat victims

By Keay Davidson
EXAMINER SCIENCE WRITER

P.A.

The project's aim was to protect the many by endangering the few.

But the full extent of America's radiation experiments on its own citizens is only now beginning to become clear, including its roots in the Manhattan Project — the World War II crash program to invent the atomic bomb — and in postwar dread of the health effects of a nuclear holocaust.

A half-century ago, amid spreading fears of atomic annihilation from the skies, doctors at UC-San Francisco and elsewhere secretly planned for apocalypses by injecting unwitting fellow citizens with radioactive substances.

The ghoulish-sounding details have been exposed by a flood of once-secret documents — some stored at UC-Berkeley's Bancroft Library — from World War II and the early days of the Cold War.

One of the apparent goals was to learn how to guard against radiation illness should the United States suffer an atomic attack. But the project's moral ambiguities —

particularly the failure to inform patients they were being injected with the substances — evidently troubled one of the experimenters himself, radiation biologist Dr. Joseph G. Hamilton.

He warned in a newly released 1950 memo that critics might say the project had "a little of the Buchenwald touch," an allusion to

[See RADIATION, A-12]

Nazi experiments on humans. From 1941 to 1944, Hamilton — now deceased — oversaw the patient injections at UCSF.

At least 800 people nationwide were exposed to potentially harmful amounts of radiation during the experiments, Secretary of Energy Hazel O'Leary has said Tuesday. She urged Congress to compensate surviving victims.

"She's appalled," O'Leary spokeswoman Mary Freeman said Tuesday. "If anyone is going to participate in some sort of health experiment like this, they need to know exactly what they're getting into."

O'Leary gave scant details when she mentioned the radiation experiments during a Dec. 7 press conference. She promised that by next year she would release details on the experiments that, she said, "gave me an ache in my gut and my heart." But details have already begun to emerge, giving O'Leary's bare statistics a very human face:

► Eight to 11 UCSF patients

were unwittingly treated with radioactive strontium or plutonium.

Among them was an unidentified 4-year-old boy with bone cancer who was injected with plutonium that emitted 24 times as much radiation as the average person receives in a lifetime.

A 13-year-old boy with bone cancer, Wallace Reid, was injected with 18.9 millicuries of radioactive strontium on 12 occasions in 1941 and 1942. That's almost twice as much strontium as a UC-Berkeley scientist later estimated could kill a

person. He died three months after his final injection.

It's unclear whether the injections themselves harmed patients, some of whom lived for decades. For example, a 36-year-old railroad porter with bone cancer was injected with plutonium. Tissue samples from his leg, which had been amputated, were secretly analyzed to find how long plutonium lodged in the body. Despite the injection, he lived until 1991.

► Nineteen retarded boys were fed radioactive cereal in Massachusetts as late as 1956 without their parents' knowledge.

► Eleven patients at the University of Rochester's Strong Memorial Hospital were secretly injected with plutonium.

"The hospital was never consulted about it — (the doctors) just went and did it," said Strong spokesman Robert Loeb. "We're not defending this. We regret that it happened."

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What they don't know ...

Three decades later, two Rochester patients were told about the injections, but a physician declined to inform remaining survivors. Her reason: She believed that the injections hadn't hurt them, and that being informed would cause needless psychological stress.

The same experiments wouldn't happen today, thanks to elaborate requirements for patient consent, UC officials say.

"If what is said happened happened, it wouldn't happen today," said University of California President Jack Peltason, who stressed he had no firsthand knowledge of the experiments. "Today, there are very elaborate regulations that control how an individual can engage in research on human subjects."

Loeb says the decision to conduct the experiments was made in the early 1940s by leaders of the Los Alamos, N.M.-based Manhattan Project to develop the atomic bomb.

Loeb traced the decision to bomb project leaders, including medical director Dr. Stafford Warren, chief scientist Robert Oppenheimer and overall project chief Gen. Leslie Groves.

Loeb cited as his reference a book published several years ago by the University of California Press, "The Dragon's Tail," by Barton Hacker, which briefly mentioned the radiation experiments but gave few details.

"There was a lot of animal experimentation (with radioactive substances) going on, but they felt that could take them only so far," Loeb said. So "it was decided — in Los Alamos — to make experiments involving human beings."

The experiments have defenders.

The research shouldn't be judged too harshly because experiments probably didn't hurt anyone, and the secrecy — even the failure to inform patients they were being injected — is understandable in the context of wartime and the Cold

War, said a former top official at the Department of Energy.

The experimenters "were not fiends or ogres," said A. David Rossin, a former secretary of Energy in the Reagan administration.

In any case, he maintained, there's no clear scientific evidence the plutonium or strontium could have harmed patients. While the press frequently calls plutonium the world's most dangerous substance, it's typically dangerous only

if inhaled, Rossin said.

In the 1940s, he said, scientists feared the health effects of atomic bomb attacks on the United States by Nazi Germany — which many experts feared was developing the weapon. In the following decade, the Soviet Union was felt to be the potential atomic menace.

To learn to treat radiation sickness, the U.S. government experimented on citizens, Rossin said.

"You obviously don't tell a patient, 'We're going to do an experiment on you, and it's secret,'" he said. "(Failure to inform a patient) is crass, and it's not what we would do today, but it has to be understood in terms of the standards of the times."

In Hamilton's 1950 memo, he told Atomic Energy Commission official Shields Warren: "For both political and scientific reasons, I think it would be advantageous to secure what data can be obtained by using large monkeys such as chimpanzees, which are somewhat more responsive than the lower mammals."

"Scientifically, the use of such animals bears the disadvantage of the fact that they are considerably smaller than most adult humans and a critical evaluation of their subjective symptoms is infinitely more difficult."

That cool assessment of the comparative research advantages of humans and animals is a far cry from the atmosphere in today's laboratories, where even animal research is increasingly subject to academic regulation.

George Raine of *The Examiner* staff, *Examiner* news services and the *Albuquerque Tribune* contributed to this report.

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MINNEAPOLIS STAR TRIBUNE

DATE: DEC 29, 1993

Pay victims of radiation, says O'Leary

U.S. acknowledges liability for first time

From News Services

1A

Washington, D.C.

The U.S. government should compensate victims of radiation testing conducted as part of its Cold War nuclear program, Energy Secretary Hazel O'Leary said Tuesday.

In an interview on Cable News Network, O'Leary said, "We ought to go forward and explain to the Congress what has happened and let the Congress of the United States and the American public determine what would be appropriate compensation."

Her comments marked the first time the federal government has indicated it is willing to acknowledge liability for possible harm done by hundreds of tests conducted

Radiation continued on page 11A

from the late 1940s into the 1970s.

A series of articles published in the Albuquerque Tribune last month documented cases in which dozens of people, including prisoners, mental patients and pregnant women, were injected with radiation-rich plutonium. The articles sparked renewed interest in the extent to which federal scientists used humans as guinea pigs, often without their knowledge.

The Atomic Energy Commission, a forerunner of the Energy Department, oversaw most of the experiments.

O'Leary is leading the administration's probe of the reports. She has appointed a nongovernment panel of ethics experts to determine what ethical violations were committed during the tests and a team of researchers to study classified documents to determine the extent of the experiments. The panel is expected to release its findings in six months.

While some of the tests resulted in scientific advances, O'Leary said, the circumstances under which some took place were unacceptable. "I am appalled by what was done," she said. "Clearly, standards were used that should never have been approved."

Preliminary estimates suggest that the number of radiation victims does not exceed 800, O'Leary said.

O'Leary said her appeal was prompted by the government's long resistance to providing compensation to thousands of people in the Southwest, known as "downwinders," who have asserted that they or members of their families were harmed by radioactive fallout from open-air testing of atomic bombs in the 1950s and early 1960s.

Government compensation for test victims across the country could total hundreds of millions of dollars, and could end in costly lawsuits brought by several citizen groups.

The Energy Department late last week established a toll-free phone line for individuals who believe they have been subjects in a test involving radiation. Since Friday, the department has received about 100 calls per day, a department official said.

A third of the callers identified themselves as victims, the official said, while the others called to voice disapproval of the experiments. "People are outraged," the official said. "They should be outraged."

Energy Department researchers fielding the calls will research all cases of those who identify themselves as victims, according to officials. To handle the flood of responses, the department increased the number of operators handling calls. The number is 1-800-493-2998.

Asked yesterday if the disclosures leave the government vulnerable to lawsuits, O'Leary said, "My view is that we must proceed with disclosing these facts and information regardless of the fact of whether it opens the door for a lawsuit against the government. Many have suggested, and I

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tend to agree personally, that those people who were wronged need to be compensated."

If Congress approves, the payments would probably ease the legal barriers for many who have sought reparations from the government.

Courts have frequently turned away suits in such cases, arguing that the government could not be sued for discretionary acts performed in good faith.

At the same time, however, a decision to compensate for radiation experiments could place strict limits on the amounts the victims could receive.

One expert suggested that such a compensation decision could give momentum to hundreds of claims filed by workers at nuclear produc-

tion plants, many of whom allege that they were exposed to unsafe levels of radiation.

"If we're going to engage in a debate over what to do with (unwitting victims of) dangerous radiation, we should include in their numbers those who were exposed on the front lines of the Cold War — the nuclear production workers, who were no less exposed," said Paul DeMarco, a Cincinnati attorney who has handled several class-action suits against the government on behalf of nuclear workers.

In only one major case has the federal government approved compensation for large groups of individuals affected by the U.S. nuclear program.

In 1988, Congress approved a compensation bill for people who lived or worked downwind from nuclear tests or worked in uranium mines and who developed certain kinds of cancer.

Federal researchers familiar with the radiation experiments pointed out in interviews yesterday that the Cold War included a race between the Soviet Union and the United States for scientific advances, particularly in the field of the effects of radiation on humans.

"This is not meant to excuse what was done," said one scientist, who asked not to be identified. "But it may help explain the context in which it took place."

Congressional aides said that hearings on the radiation tests will be held soon after Congress reconvenes next year.

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Task force to probe tests

■ I'll walk away if there's any political interference, says the expert tapped by the DOE to chair the committee.

By EILEEN WELSON

Staff reporter

The Department of Energy has set up a task force to examine hundreds of radiation experiments conducted on U.S. citizens during the Cold War.

Ruth Faden, who will chair the task force, said the committee

will be made up of experts in medicine, history and law and will be independent from the DOE, the troubled department whose predecessor agencies funded many of the experiments.

Faden heads the law, ethics and health program at the School of Public Health at Johns Hopkins University in Baltimore.

"I would not have taken the offer if I didn't feel I would be able to proceed in a scholarly and open fashion," Faden said in a telephone interview Tuesday.

"I would walk away if there was any indication we were being hampered or interfered with politically."

Faden predicted that the examination of the Cold War experiments would be a "huge task."

"We don't know how many subjects participated in the stud-

The Plutonium Experiment

ies," she said. "The department assured me they are casting the net as wide as possible."

Energy Secretary Hazel O'Leary said Tuesday on the "MacNeil-Lehrer News Hour" that the DOE has received 600

calls in two days on a "human experimentation hot line" set up last week by the DOE.

O'Leary said that about two-thirds of the callers wanted to express their shock and horror about the experiments and the other third believed that they had been used in such tests.

Faden said the specific responsibilities of the task force will be set by O'Leary, but the areas the committee will focus on will include:

■ What should be done for

surviving family members and subjects used in the experiments. That will include issues such as how to notify families, medical follow-up and possible compensation.

■ An examination of the regulatory structure to ensure such projects won't happen again. There are numerous regulations in place today governing experiments with human beings and all federally funded studies must be approved by institutional review

Please see DOE/A7

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boards.

Many of the experiments took place in the 1940s through 1970s. But as early as 1947, the Atomic Energy Commission's legal division had instructed its contractors that no radioactive materials were to be given to human beings unless there was some expectation of therapeutic benefit, records show.

Faden said the task force will be composed of eight to 12 experts from radiation medicine and biology, epidemiology, law, ethics and history.

It will probably be six months before findings are released, she said.

In an interview with CNN Tuesday, O'Leary said human beings used in the radioactive experiments "need to be compensated."

"We ought to go forward and explain to the United States Congress what's happened and let the Congress and the American public determine what would be appropriate compensation," she said.

In the courtroom, the road to compensation is fraught with obstacles such as statute of limitations, patchy paper trails and other laws that protect the federal government and its contractors from lawsuits, say Albuquerque lawyers who have handled radiation cases.

The track record of the Radiation Exposure Compensation Act, which went into effect in 1992, also suggests that getting compensation for the victims of

HOT LINE

The Department of Energy's "human experimentation number" is 1-800-493-2998. It is open from 6:30 a.m. to 2:30 p.m. MST Monday through Friday.

SERIES REPRINTS

The Tribune has reprinted the three-day series "The Plutonium Experiment." Please send your name, address and \$1 per reprint package to The Tribune, P.O. Drawer T, Albuquerque, N.M., 87103.

human experiments won't be easy.

The Radiation Exposure Compensation Act allows three groups of people who can prove they were damaged by radiation and now suffer from certain diseases to collect anywhere from \$50,000 to \$100,000.

The groups covered by the law include officials who can prove

they were present at the Nevada Test Site during above ground testing. They are eligible for \$75,000.

Residents, or "downwinders," who lived near the Nevada Test Site for anywhere from one to two years when above-ground testing was conducted are eligible for \$50,000.

And former uranium miners can receive \$100,000.

Albuquerque lawyer Dan Dolan, who helps prepare those claims for radiation victims, said the victims must meet stringent medical requirements and possess hard-to-find documents verifying their presence in the area when the testing was done.

What's more, the Clinton administration several months ago recommended that millions of dollars allocated for the claims be transferred to legal services for the poor, Dolan said.

"What you're seeing is a lot of words to placate these people," he said of statements by O'Leary and others.

"The probability that these people are going to get compensated reasonably is nil."

In Our Opinion

Cereal irradiated by war criminals

P. 20

The Cold War is not to be sneered at. It had nearly everything those noisier wars with better media coverage had — casualties, ruined resources, massive amounts of wasted money, distortion of national goals.

... And war criminals.

Right here in the U.S.A., too (God only knows what the other guys did).

Despite the horrors we learned from Hiroshima and Nagasaki of the effects of radiation, patriotic Americans well into the 1950s (at least) were conducting experiments to make Dr. Josef Mengele proud.

The guinea pigs were the usual Mengele-like victims — retarded children, newborns (mostly black) and people deemed less than human because they were already medical patients. The experiments were near the same high order of the bad doctor's, too, nearly as silly as killing 600 people to find out what happens to Jews when you give them typhus (they die).

The retarded kids were given radioactive breakfast cereal so the mad scientists could track their food. Babies were injected with radioactive iron. Patients got plutonium injections.

There are no excuses. These people's own paper trail shows that they knew they could be accused as Nazis, that they knew they might be in violation of the 1947 Nuremberg Code, which severely limited human experimentation. In short, they knew what they were doing was unethical and wrong.

All this is coming out because Energy Secretary Hazel O'Leary has di-

rected her agency to investigate the work of its predecessor Atomic Energy Commission, asking details of studies, location of participants and investigation of legality.

That work may take years, at least partially because these dedicated mad scientists haven't exactly followed up on their experiments. It will take a while merely to learn the extent of the madness, let alone its effects.

The great postwar panic is no excuse. So the entire U.S. government was paranoid over the Red Menace. So, we might recall, was the German government of 20 years before. Governments and their hirelings don't get to use the insanity defense.

Ignorance won't fly either. You

might not know exactly what the effect of injecting plutonium into a human being might be, but it doesn't take a genius to predict it won't be good.

The people who ordered and took part in these experiments are criminals acting under color of government. They are war criminals, denied the plea that they were only following orders. A scientist willing to inject babies with poison deserves no better than what Adolf Eichmann got, even if he or she waves the American flag with great conviction.

Once the evidence is assembled, there is only one thing to do.

Hunt the bastards down and try them for crimes against humanity.

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Compensation for unwitting subjects could help others

A-3 at

SEATTLE TIMES NEWS SERVICES

WASHINGTON — Can the government be sued for discretionary acts performed in good faith? Courts have frequently said no. But Energy Secretary Hazel O'Leary's proposal that Congress approve compensation for subjects of radiation experiments would likely ease the legal barriers for many, including nuclear production workers, who have sought reparations from the U.S. government.

Speaking on CNN yesterday, O'Leary said the government should "explain to the Congress what has happened and let the Congress of the United States and the American public determine what would be appropriate compensation."

O'Leary's comments marked the first time a U.S. energy secretary initiated the government's effort to compensate people exposed to potentially harmful levels of radiation. The department runs the U.S. nuclear-weapons industry and was responsible for many of the tests.

O'Leary said that as many as 800 people were subjected to the experiments and exposed to potentially harmful amounts of radiation, some apparently without their consent.

She said some of those affected by the tests are suing the government, but others involved in earlier tests cannot sue because the statute of limitations has expired.

One expert suggested such a decision also could give momentum to hundreds of claims that have been filed by workers at U.S. nuclear production plants.

"If we're going to engage in a debate over what to do with (unwitting victims of) dangerous radiation, we should include in their numbers those who were exposed on the front lines of the Cold War — the nuclear production workers, who were no less exposed," said Paul DeMarco, a Cincinnati attorney who has handled class-action suits against the government on behalf of nuclear workers.

"These people have not received the compensation due," he argued. "What is worse? Someone completely unaware that they're being subjected to radiation? Or someone

who's brought in to a nuclear facility, given a radiation badge, given regular urinalyses and led to feel safe when he's not?"

Strict limits possible

At the same time, however, a decision to compensate for radiation experiments could place strict limits on the amounts awarded.

In only one major case has the federal government approved compensation for large groups of individuals affected by the U.S. nuclear program. In 1988, Congress approved a compensation bill for three groups of people, representing about a thousand individuals, affected by the nuclear-weapons program:

- Those who could prove that they were downwind from open-air nuclear tests in Nevada and devel-

oped certain cancers received maximum benefits of \$50,000.

- Soldiers and other defense workers who were on duty at Nevada and the Pacific Island test sites when bombs went off and developed certain cancers were awarded benefits of no more than \$75,000.

- Those who worked in uranium mines for the U.S. nuclear program and developed certain cancers could receive a maximum of \$100,000.

1947 Nuremberg Code violated?

Recent reports on radiation testing have cited various experiments:

- The Boston Globe disclosed on Sunday that 19 developmentally disabled teenage boys at the Fernald School in Waltham, Mass., were given radioactive food in experiments from 1946 to 1956 without their parents' knowledge.

- Last month, The Albuquerque Tribune reported that 18 patients, including prisoners, mental patients and pregnant women, were injected with plutonium in another test.

- In a dozen secret tests con-

ducted in New Mexico, Tennessee and Utah between 1948 and

1952, radiation was deliberately released into the atmosphere, according to a recently released General Accounting Office report. The tests were part of an attempt to see how far and fast radioactive particles spread.

- Other documented radiation experiments were conducted on prisoners in Oregon and Washington state and on African Americans at Vanderbilt University in Tennessee.

One issue is whether the tests — most of them overseen by the Atomic Energy Commission, a forerunner of the Department of Energy — violated the 1947 Nuremberg Code. It was established after the Nazi war-crimes trials as the universal standard for

human experiments.

The code requires full, informed and voluntary consent for all tests on humans. Also, test subjects must be protected from "even remote possibilities of injury, disability or death."

Did Bush, Reagan stonewall?

The latest revelations of radiation testing bolstered longstanding calls for an investigation by Rep. Edward Markey, D-Mass. In 1986, when he was chairman of the House energy conservation and power subcommittee, his staff found that humans had been used in nuclear tests.

After his committee report was released, officials of the Reagan and Bush administrations were reluctant

to cooperate in making amends, he said yesterday. "It was part of the stonewalling that characterized the Cold War," he said.

Under Energy Department direction, 32 million pages of documents about the experiments are now being declassified.

O'Leary has appointed a

0009

nongovernment
panel of ethics
experts to de-
termine what
ethical viola-
tions were committed and research-
ers to study classified documents to
determine the extent of the tests.
The panel is expected to release its
findings in six months.

"I am appalled by what was done,"
O'Leary said. "Clearly, standards
were used that should never have
been approved."

Hotline: A Department of Energy
hotline set up to hear concerns about
the tests can be reached at 1-800-
493-2998. It is open Monday through
Friday, 5:30 a.m. to 1:30 p.m. PST.

*Compiled from Los Angeles Times, The
Washington Post and Boston Globe.*



Energy Secretary Hazel O'Leary
is "appalled by what was done."

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ple concerned that their relatives may have participated in the Fernald tests.

"We want to identify all the people involved and find out what their status is," he said. "There is a good chance that some have died. We want to look at their causes of death. It's going to be a big job."

Ryan said about 30 patients apparently were involved in the tests, based on letters exchanged between MIT and the Fernald School. Some of the patients may not even have been retarded, he said, noting the

Fernald also housed orphans and problem teens.

Meanwhile, Dr. David S. Egilman, who has investigated Atomic Energy Commission human experiments and released a letter to the media likening such tests to those at a Nazi concentration camp, said it does not refer to the tests at the Fernald School, but to others, particularly those performed on veterans in the Cincinnati area.

The letter, written by Dr. Joseph Hamilton of Livermore National Laboratory in 1950, said tests in the 1940s and 1950s on veterans to see how much radiation they could withstand

in a nuclear onslaught had "a little of the Buchenwald touch."

But Egilman, a Braintree doctor, said the Fernald case "doesn't seem to fit that pattern," because the tests were medical in nature and not designed to measure toxicity tolerance.

Still, Egilman said the Fernald experiments would have been wrong if the patients or their parents had not been told.

Dr. Belton Burrows, chief of nuclear medicine at the Department of Veterans Affairs Medical Center in Jamaica Plain, also refuted suggestions that radioactive isotopes administered to veterans in a Framingham veterans hospital in the 1950s posed undue health risks.

Burrows said the Framingham facility was one of 14 around the country designated "radioisotope units," where researchers used radioactive iodine to treat veterans with thyroid conditions and for use as radioactive "tracers" to check for metabolism of potassium and sodium.



HAZEL O'LEARY

Says feds should compensate

Levels of radiation

Millirems

Cereal given to Fernald patients.....	12
Typical chest X-ray.....	8
Radioactive iodine for thyroid.....	110
Barium enema.....	400

(Source: Massachusetts General Hospital Radio-logy Dept., MIT report)

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2/2

Reps demand probe in radiation scandal

Boston
Herald

By JOE BATTENFELD,
NICK TATE, and
MICHAEL LASALANDRA

WASHINGTON — Two Bay State congressmen yesterday called for a full investigation of U.S. government-sponsored radiation experiments — including at least three studies done in Massachusetts on retarded

children, the elderly and terminally ill patients.

The demand for a federal probe came as Energy Secretary Hazel O'Leary said the government should compensate people who were subjected to harmful experiments without their consent.

"We ought to go for-

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ward and explain to the Congress what has happened and let the Congress ... and the American public determine what would be appropriate compensation," O'Leary said in an interview on Cable News Network.

U.S. Rep. Edward Markey (D-Malden), who asked O'Leary last week to endorse a compensation plan, said yesterday he will call for hearings to determine the extent of the experimentation.

U.S. Rep. Joseph P. Kennedy II (D-Brighton) echoed Markey's calls and urged the Department of Veterans Affairs to conduct a parallel investigation of radiation experiments on veterans from the 1940s to the 1970s.

Markey said he believes "thousands" of people were exposed to harmful radiation levels during government-sponsored tests in the 1940s, 1950s and 1960s.

"There will be an intensive investigation of this," said Markey, a member of the House subcommittee on energy conservation and power. "It is clear ... many Americans were being used as human guinea pigs."

A report released by Markey in 1986 showed Massachusetts General Hospital and the Massachusetts Institute of Technology were among institutions which conducted government-funded tests.

At MIT in the early 1960s, 20 elderly people were injected with higher-than-permissible doses of radium and thorium to determine how they pass through the body, the report said.

The subjects were recruited from the now-defunct Age Center of New England in Boston, and it's unclear whether they were aware of the possible danger of the experiments. The youngest subjects would now be well over 90 years old.

At Massachusetts General, 12 terminal brain tumor patients — most described as comatose or semi-comatose — were injected with uranium to determine the rate of kidney damage.

The report showed 31 radiation tests involving nearly 700 people were performed in the country during the early years of the nuclear age.

But Markey said the Reagan administration never responded to the report and "stonewalled" its release.

The issue of human radiation tests erupted into a growing scandal this week as new reports claimed researchers, including scientists at Harvard University and MIT, injected or fed doses of radiation to sometimes unwitting subjects.

O'Leary's agency is now conducting a review of all radiation experiments and has established a toll-free number (1-800-493-2898) for people who may have information on such tests.

Meanwhile, a former Massachusetts Institute of Technology researcher yesterday defended human medical tests conducted by MIT and Harvard in the 1940s and 1950s on mentally retarded boys who were fed cereal laced with radioactive iron and calcium at a Waltham school.

Constantine Maletskos, who helped coordinate the tests at the Fernald State School between 1946 and 1956, said radiation used in studies of several dozen teen-agers was not high enough to place them at risk.

He also disputed Boston Globe reports that parents of the teens, aged 15 to 17, were not informed that radiation was used in the tests, which were partly funded by the

Quaker Oats Co. and the Atomic Energy Commission.

Although consent forms sent to the teens' parents did not explicitly mention that the experiments involved radioactivity, he believes school officials and other researchers discussed it with parents.

Maletskos, now 72, said the test participants were exposed to levels of radiation well within federal limits — then and now — in an effort to determine if a heavy diet of cereals slowed down the body's digestion of calcium and iron.

Gerald Ryan, spokesman for the state Department of Mental Retardation, said yesterday his office has received dozens of phone calls from peo-

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1/2

Pay for radiation victims urged

FROM OUR STAFF AND NEWS SERVICES

Washington — Energy Secretary Hazel O'Leary urged the government Tuesday to compensate Americans who were exposed to radiation during human medical experiments the government conducted for decades after World War II.

O'Leary promised to collect as many government documents as possible on such experiments and "let the Congress of the United States and the American public determine what would be appropriate compensation."

In an interview with CNN,

O'Leary did not indicate how many people might be compensated or what the compensation might be.

Earlier this month, O'Leary said that as many as 800 people may have been subjected to human experiments involving radiation, many of them in the 1940s and '50s. Some of the experiments were believed to be within medical guidelines and with consent, but others clearly were not, officials have said.

Some took place in the South. Seven newborns were injected at John Gaston Hospital in Memphis, Tenn., which is now closed. At least 89 infants were injected in 1960 at the Uni-

versity Hospital of Arkansas in Little Rock. Doctors gave 751 pregnant women cocktails made with radioactive iron as part of a nutrition study at Vanderbilt University's clinic between 1945 and 1947, and a follow-up study showed that three of their children died of cancer.

O'Leary told CNN that some of those affected by the tests are suing the government, but others involved in earlier tests cannot sue because the statute of limitations has expired.

"My view is that we must proceed with disclosing these facts and information regardless of the fact of whether it opens the door for a lawsuit against the

government," she said. "And many have suggested, and I tend to agree personally, that those people who were wronged need to be compensated."

The New York Times reported Tuesday that Dr. Shields Warren of the Atomic Energy Commission, the government official who directed some of the early radiation tests, was urged to use chimpanzees to avoid comparisons with Nazi experiments.

A hotline asking survivors to contact the Energy Department has been swamped with hundreds of calls. The hotline number is (800) 493-2998 and is open 8:30 a.m. to 4:30 p.m. Monday through Friday.



Hazel O'Leary says as many as 800 Americans may have been subjected to tests involving radiation.

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LOS ANGELES TIMES

DATE: DEC-29-93

Payments Urged for All Radiation Test Victims

■ **Government:** Energy Secretary O'Leary's call is first indication that U.S. is willing to acknowledge liability.

By MELISSA HEALY
TIMES STAFF WRITER

WASHINGTON—The U.S. government should compensate victims of radiation testing conducted as part of its Cold War nuclear program, Energy Secretary Hazel O'Leary said Tuesday as disclosures mounted about extensive experiments involving humans as often-unwilling subjects.

In an interview on Cable News Network, O'Leary said: "We ought to go forward and explain to the Congress what has happened and let the Congress of the United States and the American public determine what would be appropriate compensation."

O'Leary's comments marked the first time the federal government has indicated it is willing to acknowledge liability for possible harm done by hundreds of government-funded tests conducted from the late 1940s into the '70s. Government compensation for test victims across the country could total hundreds of millions of dollars, but could end costly lawsuits brought by several citizen groups.

O'Leary said that up to 800 people were subjected to the experiments and exposed to potentially harmful amounts of radiation, some apparently without their informed consent.

Under O'Leary, the department has vowed to "come clean" on the secrets of nuclear testing. Her

Please see RADIATION, A10

department and an independent task force it has named are conducting investigations of dozens and possibly hundreds of government-sponsored experiments in which humans were subjected to radiation.

O'Leary's promise to unmask the experiments has set off a flurry of news reports detailing human experiments, although few names have emerged because many of the consent forms and logs of the experiments have been lost.

The Energy Department late last week established a toll-free phone line, (800) 493-2998, for individuals to call if they believe they have been subjects in a test involving radiation. Since Friday, the Department has received roughly 100 calls a day.

In recent months, reports on radiation testing have cited experiments that include conducting nuclear tests over populated areas and injecting patients, including newborn babies, with plutonium and radioactive iodine.

The Boston Globe has reported that in one experiment between 1946 and 1956, at least 49 mentally retarded teen-agers were fed radioactive food in a study of the human digestive process. The tests, funded partly by Quaker Oats Co. and the U.S. Atomic Energy Commission, used radioactive forms of iron and calcium to determine if a heavy diet of cereals slowed digestion of those minerals, the newspaper said. The experiments were conducted by researchers from Harvard University and the Massachusetts Institute of Technology.

Asked Tuesday if the various disclosures leave the government vulnerable to lawsuits, O'Leary said: "My view is that we must proceed with disclosing these facts and information regardless of the fact of whether it opens the door for a lawsuit against the government. Many have suggested, and I tend to agree personally, that those people who were wronged need to be compensated."

In the latest indication that scientists even at the dawn of the Atomic Age had reservations about the human experiments, a report Tuesday said that a top radiation biologist warned in 1950 that the research had "a little of the Buchenwald touch," a reference to a Nazi concentration camp where medical experiments were carried out on inmates.

Dr. Joseph Hamilton, who worked for the U.S. Atomic Energy Commission, made the analogy to Buchenwald in a memo outlining his concerns about experiments designed to gauge levels of radiation that would injure soldiers.

According to the New York Times, which quoted from Hamilton's memo in its Tuesday editions, Hamilton warned that commission officials "would be subject to considerable criticism" for conducting experiments that exposed people to potentially harmful doses of radiation.

If Congress approves compensation for subjects of radiation experiments, the payments would probably ease the legal barriers for many who have sought reparations from the U.S. government. Courts have frequently turned away suits in such cases, arguing that the government could not be sued for discretionary acts performed in good faith.

At the same time, however, a decision to compensate for radiation experiments could place strict limits on the amounts the victims could receive.

One expert suggested such a decision also could give momentum to hundreds of claims that have been filed by workers at U.S. nuclear production plants, many of whom allege they have been exposed to unsafe levels of radiation.

"If we're going to engage in a debate over what to do with [unwitting victims of] dangerous radiation, we should include in their numbers those who were exposed on the front lines of the Cold War—the nuclear production workers..." said Paul DeMarco, a Cincinnati attorney who has handled several class-action suits against the government on behalf of nuclear workers.

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"These people have not received the compensation due," DeMarco said. "What is worse? Someone completely unaware that they're being subjected to radiation? Or someone who's brought into a nuclear facility, given a radiation badge, given regular urinalyses and led to feel safe when he's not?"

In only one major case has the federal government approved compensation for large groups of individuals affected by the U.S. nuclear program.

In 1988, Congress approved a compensation bill for three groups of people affected by the nuclear weapon program. Those who could prove that they were downwind from open-air nuclear tests in Nevada and developed certain kinds of cancers received maximum benefits of \$50,000; soldiers and other defense workers who were on duty in Nevada and the Pacific Island test sites when bombs went off and developed certain cancers were awarded benefits of no more than \$75,000, and those who worked in uranium mines for the U.S. nuclear program and developed certain cancers could receive a maximum of \$100,000 in benefits.

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State expects further 1940s-50s revelations

By David Armstrong
CONTRIBUTING REPORTER

The state Department of Mental Retardation, which is investigating human radiation experiments at the Fernald State School, said yesterday it suspects other scientific tests were performed on its clients during the 1940s and 1950s.

"I think there is a great likelihood other tests will come to light," DMR spokesman Gerald Ryan said yesterday. "There is a general sense a lot of this went on years ago."

A special task force to be appointed this week will investigate nutrition studies at Fernald from 1946 to 1950 that involved scores of mentally retarded children drinking radioactive milk and eating radioactive food.

Also yesterday, an advocacy group noted that two proposals for human testing, including one to test the effects of the sweetener Nutrasweet, were rejected at Fernald after the adoption of new regulations in 1971 and 1975.

Ryan said that if evidence of past tests at Fernald or other state schools surfaces in coming weeks, the task force probably would expand its investigation.

"There is a sense there was a lot of these tests at different locations or at Fernald," he said. "Quite frankly, these were segregated, closed institutions. They were the perfect laboratory for these things."

"You could do a lot of tests. They were closed, heavily monitored facilities."

Ryan cautioned that the DMR had not confirmed the existence of other tests at Fernald or elsewhere. But he said the department was concerned about the possibility of other experiments because of the environment at state schools during the 1940s and '50s.

In the early 1970s, new regulations at Fernald and across the state severely limited the possibility of experiments involving retarded people in state care.

The condition of the schools also began to improve during this time with the intervention of a federal judge and the advent of human rights committees across the state.

The first of the two proposals rejected by Fernald, made soon after

effect of different dosages of Dilantin, said Joan Hanlon of the Fernald League, an organization of family members and advocates.

Hanlon said the researchers wanted to record the reaction of retarded clients at the school to varying dosages of the drug, which is used to control seizures.

The proposal was rejected by the league and by a newly established ethics committee at the school, she said. Retarded clients at the Waltham school were never tested.

A Boston hospital submitted a second proposal approximately 10 years ago to test the effects of Nutrasweet on retarded clients at the school, Hanlon said.

Hanlon said the hospital proposed to disprove the notion that too much Nutrasweet could be harmful. This proposal was also rejected and never tested at the school.

Ryan, the DMR spokesman, said the current Fernald superintendent, Peter O'Meara, had no recollection of the two proposals cited by Hanlon but added that he has been on the job for only about eight years.

Advocates and DMR officials suspect other tests occurred at Fernald before the 1970s because of the school's proximity to major Boston hospitals and universities and the medical connections of the former Fernald superintendent, Dr. Makom Farrell.

The other large state schools for the mentally retarded in operation during the 1940s and 1950s included the Wrentham State School, the Belchertown State School, the Monson Developmental Center in Palmer and the Dever State School in Taunton. Officials said they could not estimate the total number of clients at all the schools.

The Globe on Sunday reported that members of a so-called Fernald Science Club ate cereal mixed with

radioactive milk and consumed iron supplements that gave them the radiation equivalent of at least 50 chest X-rays.

The goal of the experiment, conducted by Massachusetts Institute of Technology and Harvard University researchers, was to track the materials through the digestive system.

MIT to investigate

MIT yesterday said it has begun a search of its records for informa-

In a brief statement issued by the school's news office, MIT said it is "also seeking to learn what methods were used to obtain from the subjects or their families their consent to take part in the study."

A letter sent at the time to the parents and guardians of teen-agers in the study made no mention of radiation, saying only that study participants would receive "a special diet rich in" iron and vitamins.

Fernald records identify dozens of boys who may have participated in the experiment. Each year, the participants in the study were rewarded with a Christmas dinner party at MIT.

Ryan, the DMR spokesman, yesterday said he did not expect the number of clients identified as taking part in the radiation study to grow. He said some of those identified in Fernald records may have been used as study controls and therefore did not receive radiation doses.

Doses now considered unwise

At least one of the Fernald researchers has defended the study, saying every effort was made to limit radiation exposure. The radioactive compounds were used because they produce the best picture of what is happening in the digestive system.

At the time of the experiment, an MIT biochemist said there was "absolutely no ground for caution regarding the quantities of radioactive substances" in the experiment.

But some of the doses of radiation administered to the teen-age Fernald clients are considered unwise today.

Ryan said the task force investigating the experiment should be named this week.

He said members would include physicians from Fernald and private hospitals, advocates for the mentally retarded, DMR staff, a representative from the Department of Public Health, nurses, and a representative of the Governor's Commission on Mental Retardation.

The DMR is also sending letters to current and former Fernald residents informing them of the experiment.

Ryan said DMR officials did not know about the Fernald experiments until contacted by a Globe reporter.

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Radiation experiments on humans

After World War II, tests were conducted on humans at various sites.

Experiments include:

SUBJECTS	EXPERIMENT
About 800 pregnant women in the late 1940s	The women were studied at Vanderbilt University in Tennessee to determine the effect of radioactive iron on fetal development. A follow-up study found a high rate of cancer in the women's children.
18 people, 1945-1947	Subjects at a US Army hospital in Oak Ridge, Tenn., and hospitals associated with the University of Rochester, the University of Chicago and the University of California were injected with high concentrations of plutonium, apparently without their informed consent. The Albuquerque Tribune has identified five subjects.
As many as 49 mentally retarded teenagers, 1946-1956	Students at the Fernald School in Waltham, Mass., were given radioactive milk with their breakfast or radioactive iron supplements by researchers from MIT and Harvard.
35-40 people with Down syndrome in the 1950s	Researchers at Beth Israel Hospital in Boston gave radioactive isotopes of iodine to patients with Down syndrome to determine if they were suffering from malfunctioning thyroid glands.
An undetermined number of patients in the 1950s	Minute amounts of radioactive material were given to patients at the Veterans Administration Hospital in Framingham and Massachusetts Memorial Hospital (now University Hospital) in Boston, to study how various substances such as potassium metabolize in the body.
12 terminally ill cancer patients in the late 1950s	Subjects were injected with concentrations of radioactive calcium and strontium-85, a radioactive material, to measure the rate at which these substances were absorbed into tissue.
67 inmates of Oregon state prison, 1963-1971	Researchers exposed inmates' testicles to X-rays, attempting to learn the effects of radiation on production and function of sperm. The consent forms signed by the prisoners did not mention that radiation could cause cancer.
84 inmates of Washington state prison, 1963-1970	This study was intended to determine the minimum dose that would cause healthy men to become temporarily sterile.
About 200 cancer patients in the mid-1970s	The patients were exposed to high levels of radiation at the Oak Ridge National Laboratory.

SOURCES: Fernald School, Dr. A. Stone Freedberg, The Albuquerque Tribune, The New York Times

GLOBE STAFF GRAPHIC

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CHICAGO SUN-TIMES DEC 29 1993

Study Deceived U. of C. Patients

By Jim Ritter
Staff Writer

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In 1945, researchers at a University of Chicago hospital injected three terminal patients with huge doses of radioactive plutonium—without their knowledge or consent, according to published reports.

The patients were among 18 subjects of a federal study of how the body excretes plutonium, a material used to make nuclear weapons, the Albuquerque Tribune has reported.

And earlier this month, U.S. Energy Department officials said documents yet to be reviewed could shed new light on previously revealed studies in which hundreds of human subjects were exposed to plutonium.

Energy Secretary Hazel O'Leary has said that when she learned of the studies, she was "appalled and shocked and it just gave me an ache in my gut and my heart."

Three Got Plutonium Injections in '45

University of Chicago Hospitals spokeswoman Susan Phillips said ethical standards for medical research have changed since 1945. Today, the hospitals do no research on patients without their knowledge and consent.

In 1945, thousands of Manhattan Project workers were handling plutonium while building atomic bombs. In order to set worker-safety standards, researchers needed to know how fast the body retains or excretes plutonium. Animal studies weren't sufficient, according to a 1976 fact sheet from the Energy Research and Development Administration.

Researchers injected patients at four hospitals around the country. According to the Albuquerque Tribune, the U. of C. patients were a 68-year-old man with cancer of the

chin, a 56-year-old woman with breast cancer and a young adult male with Hodgkin's disease.

They received radiation doses ranging from 57 to 844 times the amount a person would normally receive in a lifetime, the Tribune reported.

All three Chicago patients died within a year. But several other research subjects lived longer than expected. In the early 1970s, researchers at Argonne National Laboratory did a follow-up study on three of the four surviving subjects, and on the remains of several subjects who had died.

Researchers took blood, urine and fecal samples from the living subjects to determine how much plutonium remained in their bodies. (Researchers did not inject any additional plutonium.) The patients

weren't told what the study was about, although their doctors knew, said Argonne spokesman Dave Haurac.

The Atomic Energy Commission "gave us explicit instructions not to breathe the word 'plutonium' outside our offices," Haurac said. "Today we would refuse to accept research unless patients were informed."

The Atomic Energy Commission later changed its mind and asked doctors to tell the four surviving patients of the plutonium injections. Three patients were so informed. The doctor of the fourth patient declined to tell because he "felt the knowledge would be detrimental to her health," said the energy research administration fact sheet.

All patients have since died, O'Leary said.

Although the research has been public knowledge for at least 17 years, the Albuquerque Tribune published a series of articles on the study in November.

ALLE'S

NEWS EXPRESS

PAGE 7 OF 3

Nuclear Guinea Pigs

By Laurie Garrett
STAFF WRITER

3 city facilities used humans in '50s radiation experiments

Researchers at three city facilities used humans as subjects in radiation experiments sponsored by the Atomic Energy Commission in the 1950s, according to congressional documents.

In a test done by Montefiore Hospital in the Bronx and Columbia University, 10 terminally ill cancer patients were injected with radioactive isotopes to gauge the effects of atomic fallout, according to documents obtained by a subcommittee of the House Committee on Energy and Commerce and published in a subcommittee report in 1986 that recounted many instances of radioactive tests. At New York University, three healthy individuals had radioactive material placed on their skin, the panel found.

The radiation tests were among about 800 that Energy Secretary Hazel O'Leary has said were conducted on humans in the 1940s and '50s in secret federally sponsored research. O'Leary said yesterday that she would support federal compensation for people who were exposed to radiation.

In the New York City tests, the doses used were small, and the cancer patients probably gave informed consent, a Columbia official said. But critics charge that true informed consent couldn't have been possible in the 1950s, as no one then knew the risks of various radioactive substances and their doses.

The earlier reported experiment was done by NYU in 1955. Three healthy people had highly radioactive patches — paper blotters soaked with Thorium X (also known as Radium-224) — placed on their forearms for two days.

"There is no indication that any of the subjects received medical benefits from the experiment," according to the congressional document, and no follow-up was done to see if the NYU trio suffered long-term effects.

Dan Parks, spokesman for New York University Medical Center, said yesterday that his staff was searching for clues to the events of 40 years ago, but hadn't been able to find files or people who could recall what might have happened.

In a joint experiment in the late 1950s, Columbia and Montefiore injected 10 terminally ill cancer patients with 17 to 114 microcuries of Strontium-85 and Calcium-45, and examined them in autopsies after their cancer deaths. Apparently, the goal was to see whether calcium could keep strontium — a key component of atomic fallout — from being absorbed into the bones.

Dr. Daniel Lazlo handled the Montefiore side of the experiment. Lazlo died three years ago, and hospital officials were unable to find further information yesterday.

At Columbia-Presbyterian, where Dr. Eric Hall heads the radiation review, safety and radioisotope programs, there was some memory of the experiment.

"I heard about it, vaguely," said Hall, who came to Columbia from Oxford University in 1968. Hall's staff is scour-

ing their files for further details; he says files from the 1950s indicate the university and hospital took great pains in those days to review all research plans carefully, and gain informed consent from the patients who participated in experiments. "I would find it very hard to believe that anyone was administered radioactive material without a consent form," Hall said.

But Dr. Alexander Capron, a medical ethicist at the University of Southern

California, said that is not the issue.

"We might today know that X is safe, but we didn't, at the time, in the '50s, know that," Capron said. "And that's what matters — what was known at the time."

Given that the cancer patients couldn't have benefitted medically from the experiment, Capron said, did they fully understand that they risked uncertain radioactive effects for the sake of general scientific knowledge?

"Informed consent isn't just a piece of paper," Capron said. "It's a process. And we'll never know whether the process they used in those New York experiments in the 1950s would meet current ethical standards."

LOF4

Official asks damages for test victims

Energy chief vows to bar experiments

By John W. Mashek
and Pamela Constable
GLOBE STAFF

WASHINGTON - Energy Secretary Hazel O'Leary said yesterday that victims of past government-supported radiation testing should be financially compensated, and that she would work to make sure the practice "never happens again."

In a telephone interview, O'Leary said her office has been flooded by calls since it set up a special 800 number last week to gather information about radiation testing. She said the office was "in no way prepared" for the more than 600 calls that have jammed the lines since then.

She said two-thirds of the callers were complaining about the practice, and one-third were worried they might have been subjected to such tests.

In the latest case, the Boston Sunday Globe reported that researchers from Harvard University and the Massachusetts Institute of Technology gave radioactive milk and iron supplements to retarded teenagers at a state school in the 1940s and 1950s, in the course of conducting federally supported experiments.

In recent months, the Energy Department has confirmed reports of radiation testing, from conducting nuclear tests over populated areas in order to gauge what would happen, to injecting patients with radioactive iodine and plutonium.

O'Leary said she expected Congress to hold a series of hearings on the issue, which could open the government to lawsuits, when it returns

She previously appointed a special panel of doctors, lawyers and aides in the department to investigate the radiation experiments on humans.

The latest revelations of radiation testing bolstered longstanding calls for an investigation by Rep. Edward Markey, Democrat of Malden. In 1986, when he was chairman of the energy conservation and power subcommittee of the Energy and

O'LEARY, Page 10

Commerce Committee, his staff found that humans had been used as guinea pigs in nuclear experiments.

Reached by telephone in Los Angeles yesterday, Markey said he was pleased that the "shroud of secrecy" has finally been lifted from such experiments. After his committee report was released, he said, officials of the Reagan and Bush administrations were reluctant to cooperate in making amends. "It was part of the stonewalling that characterized the Cold War," he said.

He said that when he asked in 1986 for documents on radiation experiments, he was given reports on 31 tests conducted at Massachusetts General Hospital or by MIT, using a total of 695 persons. He said the committee had to struggle with officials to obtain the information, and the recommendations were "not given proper attention."

But in the past several weeks, O'Leary's office has said it wants to release a variety of documents relating to government radiation tests from the 1940s to the 1970s.

"We are just beginning to see the magnitude of this problem," Markey added. "Everyone is stunned by the enormity of this."

The Globe and The New York Times reported yesterday that a 1950 memo to the commission likened proposed radiation testing on humans to experimentation in Nazi concentration camps, indicating officials were aware of ethical concerns about such tests.

The energy secretary said it would be difficult to determine

whether and how much to compensate individuals exposed to radiation during such experiments. She said between 600 and 800 people might have been involved in the federally supported radiation testing.

But she said she would recommend compensation amounts similar to those paid to Japanese-Americans interned during World War II, and to groups of people, known as the "down-winders," who were affected by nuclear testing in several Western states during the Cold War.

Earlier in the day, she told CNN she believes the Clinton administration should tell the public everything it learns about the experiments, "regardless of whether it opens the door for a lawsuit against the government," and that Congress "and the American public" should determine the appropriate compensation.

"There is a group that did give adequate consent, but there are others who fell outside that realm," she told the Globe, adding that "it will not be easy" to determine which subjects were capable of giving consent, or which had been fully informed about the nature of the experiments.

In a letter to O'Leary last week, Markey asked that the Energy Department "do its utmost to identify and inform all individuals" used in such research, "provide sufficient medical followup" to determine the effects of the tests, and "explore the possibility" of compensation. Markey no longer is chairman of the energy conservation subcommittee.

The Energy Department number for those concerned about radiation experiments is 1-800-493-2998.



HAZEL O'LEARY

Says office overwhelmed by calls

Boston
Globe

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The Staying Power of Secrecy^{A16}

"Culture of secrecy" may not be a phrase coined by Bush Administration Secretary of Energy James Watkins, but Watkins gave it new currency when he declared his determination to change this culture as it affected the part of government he was responsible for. Cultures, however, have great staying power, and he made little headway.

Thus, in April, 1990, Washington's Gov. Booth Gardner wrote Watkins warning that unaddressed safety problems at the Hanford nuclear reservation were proving "deadly to the credibility of the Department of Energy." Gardner credited Watkins with good intentions but insisted that "your call for a cultural change emphasizing safety and candid behavior in the Department of Energy has not reached all levels of the agency at Hanford." That was putting it diplomatically.

Will Clinton Administration Secretary of Energy Hazel O'Leary prove

more successful than Watkins? She has made an unprecedented move by establishing a telephone hot line—(800) 493-2998—for persons who believe they were subjects in secret nuclear experiments conducted by the U.S. government on American citizens from the 1940s through the 1960s.

News of these experiments, whispered of in the past but made effectively public by the Albuquerque Tribune, has deeply shocked the nation. Rabbi Abraham Cooper of the Simon Wiesenthal Center has suggested that they may constitute prosecutable crimes against humanity as defined by the Nuremberg War Crimes Tribunal.

The Times has already urged O'Leary to seek full disclosure of all such actions at the earliest possible date, and we are gratified that, going beyond disclosure, she has urged compensation for victims.

The broader change, however, is

one that goes beyond the conduct of the Department of Energy toward the victims of sickening past experimentation. The mantra "national security" has been spoken to justify much in American life that had little to do with national security, much that entailed and continues to entail dire cost to individual Americans.

The candor and dispatch that O'Leary brings to bear on post-Cold War nuclear cleanup will be, in the end, the larger test for her assault on the culture of secrecy: Hanford, yes, and Savannah River and a list of sites about which, to this hour, the American people have been told far too little. A consensus has formed quickly around the need for full disclosure of the scandalous nuclear medical experiments. Consensus will form more slowly around the need for comparable candor elsewhere. But O'Leary has shown that she can do it. If she can do it again and again, the Cold War may finally be over.

ST. LOUIS POST DISPATCH

DEC 29 1993

EDITORIALS

B⁶ It Happened Here

Energy Secretary Hazel R. O'Leary, prodded by recent articles in the *Albuquerque Tribune* reporting that America's nuclear laboratories and medical institutions had injected medical patients with radioactive substances to see how they would react, has vowed to review and release information on more than 800 experiments done since 1945. She says the effort meets "an obligation to put the public's mind at rest and expose things that need exposing."

The tests certainly need exposing, but the public's mind is unlikely to be put at rest. Instead, the information that has been released so far is nothing less than shocking and outrageous. Though less was known four decades ago about radiation, its dangers were sufficiently understood to make the experiments reckless.

Worried at the prospect of nuclear war, government laboratories and medical institutions felt they needed to know how soldiers and civilians would react to exposure to radiation. And trace exposure was then considered so inconsequential that even shoe stores used X-ray devices to gauge customers' shoe sizes.

Still, those selected for injection with various kinds of radioactive substances, along with what they weren't told about the nature of the experiments, suggest dubious ethics on the part of the testers. Of course, fully informing subjects about the risks of experiments was less common decades ago than today, no matter what the experiment.

Nevertheless, to irradiate the testicles of prisoners in Oregon and Washington prisons or give radiation-dosed milk to mentally retarded boys at a school in Massachusetts was to prey on the weak and the captive. Nor were follow-ups done to determine whether the subjects were harmed. Worse was

injecting seven newborns with radioactive iodine in a Tennessee hospital or giving radioactive iron to 800 pregnant women at Vanderbilt University. Tests were done on the terminally ill, too.

Government officials almost certainly knew the ethical implications of what they were doing. In a 1950 memo, a senior official of the Atomic Energy Commission warned that the experiments could have "a little of the Buchenwald touch." The Nazis did many experiments on live subjects at the camp, often with fatal effects.

Moreover, the experiments may have violated the 1947 Nuremberg Code, established in light of Nazi war crimes. The code requires full, informed and truly voluntary consent for all experiments, as well as protecting human subjects from "even remote possibilities of injury, disability or death." So the American experiments were well over the line when it comes to medical ethics, and it was known.

Secretary O'Leary wants to release all relevant information. It's about time. A congressional committee asked the Energy Department to do so as far back as 1986. But the material is widely scattered, and will take time to collect. As well, the department feels the names of the individuals must be deleted to protect their privacy.

But the real issue is what government and the medical community will do in the pursuit of knowledge at the risk of innocent people. We now know even the smallest amount of radiation can be harmful. What else exists that we don't know much about yet, but are willing to try out on humans? What guarantees exist that the subjects will be told of all the risks? Decades of nuclear experimentation on humans is no comfort in trying to answer these questions.

BURRELLE'S

NEWS EXPRESS

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BC-USA-RADIATION-O'LEARY

U.S. PLANNING RESPONSE FOR RADIATION TEST SUBJECTS

WASHINGTON (Reuter) - Saying government should not aim to hurt people, Energy Secretary Hazel O'Leary said Wednesday the Clinton administration is examining how to help victims of Cold War-era government radiation tests.

"One doesn't expect your government to harm people, and if there's been harm and you can show damage ... ethics require some ability to correct or repair," O'Leary said in an interview with Reuters.

Victims of government radiation tests deserve compensation, O'Leary said she believed.

But the Energy Secretary said she had not discussed the issue with President Clinton and stressed she was just giving her view.

"I think the administration needs now the luxury of at least two weeks to work out a position and I'm well aware of the fact that legislation likely will be introduced as soon as Congress is back in session," she said.

At least one congressman is working on a bill to compensate subjects of government tests conducted primarily in the 1940s and 1950s to determine medical effects of radiation on humans.

Some of those tests used apparently unsuspecting or uninformed people, including some mentally retarded teen-agers. CBS-TV News reported Wednesday that some of the test subjects could have been retired soldiers.

CBS-TV News, after filing a Freedom of Information Act request, learned the Energy Department was currently funding 120 human radiation experiments and providing facilities for 100 other radiation experiments, including some that remain classified for other federal agencies.

The department is trying to gather information on the estimated 600 to 800 people used in radiation tests overseen by its predecessor, the Atomic Energy Commission.

The Justice Department has opposed compensating people exposed to harmful radiation levels, but O'Leary said Attorney General Janet Reno this week told her she was willing to work on the issue.

O'Leary also said she has discussed helping the victims with Budget Director Leon Panetta.

"We're all aware of the fact ... that there was no insurance policy against which the American public can draw," O'Leary said. "If the American public comes to the conclusion that there ought to be some recompense on the part of the federal government for any wrongs committed and harm suffered" the public will pay for that, she said.

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BC-USA-RADIATION-SCHOOL

RADIATION SUBJECT REMEMBERS BLOOD TESTS

BOSTON (Reuter) - A man used as a human guinea pig for secret radiation experiments at a school for the mentally retarded says he was never told he was being subjected to atomic testing, according to a published report Wednesday.

The former patient, Louis Frankowski, 53, told the Boston Globe he remembers belonging to a "science club" at the Walter E. Fernald State School, but said club members were never told they were participating in radiation experiments.

School records show Frankowski was one of at least 49 mentally handicapped teen-agers at the school who were fed a variety of radioactive substances by researchers at Harvard University and the Massachusetts Institute of Technology between 1946 and 1956.

The "Fernald Science Club," the Globe said, "meant participation in a Massachusetts Institute of Technology and Harvard University nutrition study involving radioactive milk and iron supplements."

"They didn't tell me about radioactivity," said Frankowski, who now works in a factory near Boston. "If they did, I would have remembered."

He told the newspaper he has no health problems traceable to radiation exposure, which some physicians knowledgeable about the tests have said was minimal.

Previous reports have indicated the researchers did not obtain consent forms from the patients or their guardians.

On Sunday, the Globe reported the first accounts of the tests in which mentally retarded teen-agers were fed radioactive milk and cereal by Massachusetts researchers.

In what is becoming a major scandal over U.S. involvement in the experiments conducted during the 1940s and 1950s, Energy Secretary Hazel O'Leary vowed Tuesday to locate surviving subjects of the tests and said they may be due government compensation.

Frankowski said he recalled belonging to the so-called science club, but not getting a club badge or going to a special dinner for male patients December 22, 1952. The Globe says Fernald records list his name as attending the meal at the Massachusetts Institute of Technology.

Gerald Ryan, state Department of Mental Retardation spokesman, said there are lists of names and correspondence identifying Fernald patients who belonged to the club.

"That's our understanding at this point," Ryan said. "They are the ones who participated in this specific experiment," which involved ingesting radiation-laced milk to trace mineral metabolism.

The Globe previously raised questions about the degree of informed consent Harvard and MIT researchers allowed Fernald school inmates and their families who took part in medical tests involving radiated products in 1946-56.

The paper quotes another unidentified former Fernald inmate, who worked in the school's blood laboratory, as saying, "They didn't tell you anything. You were a retard."

Frankowski, who had cerebral palsy and was committed to the school in 1950 by his father, said Dr Clemens Benda, Fernald chief physician in the 1950s, directed school aides to use his blood.

"He (Benda) just wanted to see what type of blood you had, if you had negative or Type O or Type B," Frankowski said.

"I didn't like doing it," he said. "They gave you candy every time they took blood out of you."

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The Oak Ridger

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45TH YEAR-NO. 282

OAK RIDGE, TENNESSEE

New approach, old at.

Says no change in attitudes since tests

by Paul Sloca
Oak Ridger staff

A Martin Marietta Energy Systems employee claims that attitudes of managers at Oak Ridge National Laboratory about worker safety and health have changed little since the facility was involved in experiments on human beings in the 1940s and '50s.

Along with a dozen others, J.D. Mayton, an Oak Ridge Y-12 Plant employee who has also worked at ORNL and the Oak Ridge K-25 Site, last week sent a letter to lawmakers stating that employees possibly are being "intentionally exposed to toxic and radioactive

materials in order to determine the short and long-term health effects" without their informed consent.

Energy Systems, the company that now manages ORNL, Y-12 and K-25 for the Department of Energy, today denied that any experiments are taking place on human beings. "No, we are not conducting experiments using human subjects at Energy Systems," company spokeswoman Patricia Greeson said today. She added that the company had no further comment on the letter.

Energy Systems was not the contractor that oversaw operations at the Oak Ridge facilities during the time when the early experiments

took place, though many of its personnel were employed by the previous contractor, Union Carbide Nuclear Division.

Copies of the Mayton letter were sent to U.S. Sens. Jim Sasser, D-Tenn., and John Glenn, D-Ohio, and to U.S. Reps. Marilyn Lloyd, D-3rd District, and John Dingell, D-Mich.

The letter stated that the medical staff at each of DOE's three Oak Ridge facilities are tracking workers purposely exposed to radiation.

Those who received the letter

See WORKER, Page 4



Hazel O'Leary

Urging

by Keith Schneider
N.Y. Times News Ser

Energy Secretary O'Leary Tuesday call government to compensate those who were exposed from human medical experiments that the United States conducted for decades after II.

O'Leary said her behalf of people who were subjects in the medical experiments prompted by the government's resistance to providing compensation to thousands of people in the Southwest, known

WORKER:

Continued from Page 1

have yet to respond, though Saxser has already requested that Energy Secretary Hazel O'Leary conduct a thorough investigation into the experimentation, especially those involving Tennesseans.

Much of the recent media coverage has focused on several human experiments in the past conducted nationwide and in Oak Ridge without their consent, including minorities and mentally retarded children in other states.

The concept of informed consent in this country is a relatively recent phenomenon. It was not until the 1970s that New York became the first state requiring researchers to acquire such consent from people before involving them in experiments, according to the Dec. 8, 1993, issue of the *Chronicle of Higher Education*.

The claims Mayton and the others make in the letter raise questions about what kind of experimentation on humans, if any, is still taking place by those who were involved in the early experimentation.

The first experiment ever involving the injection of plutonium into a human being took place in 1945 at the U.S. Army Engineer District Hospital in Oak Ridge with aid from researchers at ORNL, according to DOE's own declassified documents.

"When you read these stories about the other early experiments, you have to wonder where the material came from. Most likely, a lot of it came from Oak Ridge," said Mayton in a telephone interview today. "The same people who may have been involved or knew about the experiments at ORNL are still there. How many people have 40, almost 50 years there? I'm sure people remember things."

Thus far, only one person, Karl Morgan, 86, has spoken openly about experiments conducted in past decades on humans that involved ORNL researchers and materials. Morgan, for 30 years head of ORNL's Health Physics Division and now retired, helped develop some early standards for worker exposure.

To illustrate his point, Mayton, who testified in the 1992 Department of Labor whistleblower trial of Charles "Bud" Varnadore, may actually have been good for

Varnadore's health.

"It's comments like that which make you wonder," Mayton said of Shults, who came to ORNL in the early 1950s when human experiments were still being conducted.

In a telephone interview today, however, Shults said he was never made aware of experiments on humans because he was a chemist and was not involved with work going on in the Health Physics Division, where a lot of the experimentation work was directed from.

"I'm just as surprised and appalled" by the experiments, Shults said. "I didn't know that was going on."

Mayton, however, pointed to a DOE report released earlier this year in response to Varnadore's allegations. The DOE report stated that an "old culture" exists in some segments of ORNL and in the Analytical Chemistry Division.

The topic of the old management culture also appeared in Labor Department Administrative Law Judge Theodor von Brand's judgment in favor of Varnadore earlier this year.

Betty Freels, an ORNL worker who filed a DOL complaint claiming she was forced to work around hazardous and radioactive materials after requesting that she not be because of her health, said today she is concerned that she was being used to see what effects exposures would have on her.

A DOL investigation found no basis for Freels' claims, though Freels is appealing that decision.

"I feel they were waiting to see what happened to me," Freels, one of the employees who signed the letter, said.

An article in the *Albuquerque Tribune* last month stated that as late as 1983, DOE was still concerned about the early experiments becoming public.

Without citing the source, the article quotes Alvin Trivelpiece, now director of ORNL but at the time director of DOE's Office of Energy Research, on the subject of informed consent involving human experimentation.

"The issue of informed consent, if raised, will be difficult to deal with in light of present DOE and federal policies and procedures regarding human subjects." The *Tribune* quotes Trivelpiece as having said.

However, an ORNL spokesman

O'LEARY:

Continued from Page 1

ORNL's civil division has aggressively opposed the effort.

The department also has vigorously defended the government in lawsuits, dating to the early 1950s, in which ranchers, soldiers, uranium miners and the industry's own workers asserted that they were harmed by radiation from the nuclear weapons industry.

Department lawyers are now defending the government in a case in Nevada in which the families of more than 200 weapons industry workers, most of whom have died, contend that their relatives were injured or killed by radiation from atomic bomb testing at the Nevada

Test Site northwest of Las Vegas.

In that case, which began in Las Vegas on Dec. 13, several of the government's chief medical witnesses are doctors who conducted the human medical experiments that have come under O'Leary's scrutiny.

Another is Dr. Clarence Lushbaugh, who directed several human medical experiments, including several in which children were exposed to radiation, at a research institution financed by the Atomic Energy Commission in Oak Ridge. Some of Lushbaugh's studies were halted in the early 1970s after officials of the commission said they had done little to provide medical benefits for the patients involved.

Las Vegas Review-Journal, 12/29/93 (BB)

(Circulation: 140,494 daily; 208,789 Sunday)

Business in the shadows

■ Horrifying experiments show open government of concern to more than just the media.

The journalist's standing with the public these days being just below used car salesman or lawyer, media efforts to champion "open government" often elicit a yawn from people who perceive them as self-serving attempts to sell newspapers or attract viewers.

True, unfettered access to government meetings or documents would be eminently useful for generating news stories. But a government that routinely conducts business in the shadows harms more than just a handful of reporters searching for dirt.

There is no more evidence of this thesis than the horrifying revelations that the U.S. government sanctioned radiation experiments on hundreds of Americans — many of whom never gave their consent. Each day, it seems, the Department of Energy releases another trickle of information about how scientists 25 to 50 years ago used pregnant women, babies, retarded teen-agers and others as guinea pigs in experiments involving radiation and highly poisonous plutonium. On Tuesday, DOE chief Hazel O'Leary said people who wrongfully were exposed to radiation through federally funded experiments deserve to be compensated. O'Leary has said her department will "come clean"

on the secrets of nuclear testing. The DOE has named an independent task force to conduct investigations of dozens and possibly hundreds of government-sponsored experiments in which humans were subjected to radiation.

While some results of these Nazi-like procedures appeared in various medical journals or scientific literature, the details and extent of the experiments remained secret, tucked away among classified federal documents. The cover of "national security" facilitated these experiments — without it, the public likely would never have tolerated such evil deeds.

We Americans like to think of ourselves as the freest people on Earth, immune to the fascism and totalitarianism that have inflicted so much suffering on so many of the world's people this century. To some extent, that's true — but only so long as our political system operates under the notion that its powers derive from the consent of its citizens. A government that surreptitiously performs medical experiments on unknowing subjects has turned that principle on its head, and those who cherish the rights of individuals will realize the ramifications such secrecy has for the long-term freedom of a nation.

The views expressed above are those of the Las Vegas Review-Journal. All other opinions expressed on these pages are those of the artist or author indicated.

Las Vegas Review-Journal, 12/29/93 (3A)

(Circulation: 140,494 daily; 208,789 Sunday)

Nevada office looks for records on human radiation experiments

By Keith Rogers
Review-Journal

Department of Energy workers in Las Vegas launched a document search Tuesday for any records that could reveal clues about the government's Cold War-era human radiation experiments, an agency official said.

Spokesman Chris West said Energy Department officials in Washington, D.C., have asked field offices, including the Nevada Operations Office, to look for documents that might contain names or facts about experiments related to human research.

"We're getting people together to start looking," West said.

Energy Secretary Hazel O'Leary, in an effort to compensate victims of the once-secret experiments, will establish a task force to examine moral and scientific issues surrounding the tests, he said.

Ruth Faden, director of the Johns Hopkins University program on law, ethics and health,

will lead the task force, West said.

"The department is casting a net widely" to locate people involved in the experiments, he said. "Some meetings will have to be closed to protect confidentiality of individuals."

A hot line that was established last week for people with knowledge of the experiments to give comments to the department had received 340 calls on its voice mail by Monday afternoon, West said. The hot line number is 1-800-493-2998.

Asked if downwinders — people primarily in Nevada and Utah who were exposed to fallout from above-ground nuclear tests at the Nevada Test Site — would be included in O'Leary's drive to compensate victims, West said they were covered by the Radiation Exposure Compensation Act.

The act provides some \$50,000 to victims, or their survivors, who suffered from certain diseases stemming from exposure to fall-

out from nuclear detonations at the test site, 65 miles northwest of Las Vegas.

West said he is unaware of any human radiation experiments conducted in Nevada.

He noted, however, that the Environmental Protection Agency and its predecessor, the U.S. Public Health Service, built and operated an experimental farm from 1964 until 1981 to see how fallout at the test site, particularly radioactive iodine, would affect beef and dairy cows.

More than 70 studies involving livestock, crops, soil, fish and microorganisms were conducted at the 30-acre farm, which included a reservoir, in the northeast corner of the test site.

"Tissues from sacrificed animals were analyzed for radionuclide content and any discernable radiation effects. Findings showed these animals to be entirely normal," according to an EPA fact sheet on the experimental farm.

ence to radiation in the tests.

"They were not being up-front by their own standards at that time. I would have to fault the consent form," said Philip Reilly, who is chairman of a human-studies committee at the Shriver Center for Mental Retardation, next door to the Fernald School.

Other ethicists said a common defense of human-radiation experiments — that there were no federal standards on human experimentation until the 1970s — does not excuse what happened at Fernald.

Especially with the horrors of the

*'It was a hotter topic then
than it is now, because it
came right after the
Nuremberg trials.'*

DR. DAVID EGILMAN

*An assistant professor
at Brown University*

Nazi experiments being revealed through the Nuremberg trials, scientists understood the notion of "informed consent" — to fully reveal the purposes and methods of a study to prospective subjects or to their parents or

guardians if the subjects are unable to speak for themselves — said Tufts University professor Sheldon Krinsky and MIT molecular biologist Jonathan King, both of whom have been long concerned with biomedical ethics.

"The abuses raised in these radiation experiments are particularly heinous because people knew that radiation was very, very harmful," Krinsky said. "It's important that we reveal these hidden crimes of science. We have to try to understand what conditions had fostered such activities and such misuses of science, and we have to see to it that nothing like this ever takes place again."

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NEWS EXPRESS

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DEC 28 1993

8 PATIENTS WERE INJECTED DURING 1940s

Radiation testing at UCSF revealed

Documents indicate humans used as unwitting guinea pigs in dangerous strontium experiment

By Eileen Welsome
ALBUQUERQUE TRIBUNE

PA1

A 13-year-old boy suffering from bone cancer was injected in the 1940s with almost twice the amount of radioactive strontium a UC-Berkeley scientist later estimated could kill a person, formerly secret records show.

The boy was one of eight patients identified as having received radioactive strontium or nonradioactive strontium between 1941 and

1944 at UC-San Francisco, the records show. Some also received phosphorus 32, which is radioactive.

The boy, identified in a medical chart as Wallace Reid, received 18.9 millicuries of radioactive strontium between 1941 and 1942 in 12 separate injections.

One of Reid's legs had been amputated above the knee joint before the strontium injections began. He also was receiving X-ray therapy for cancer in his skull, according to the medical chart.

The boy died three months after the final injection was administered. The cause of death was exhaustion and intracranial pressure, states the two-page chart, which is stamped "secret" several times.

The Albuquerque Tribune found the chart on Reid and the other seven patients in the files of

[See STRONTIUM, A-14]

late UC-Berkeley researcher Dr. Joseph Hamilton at the university's Bancroft Library.

Hamilton, according to declassified records, injected radioactive materials into numerous human beings. But the doctor responsible for the strontium injections is not listed on the medical chart.

Hamilton later estimated 10 millicuries of radioactive strontium would approach a lethal dose. Reid received almost twice that amount.

Seven of the patients listed in the chart were suffering from cancer, and an eighth patient was suffering from a blood disease called polycythemia vera, a condition in which the body is making too many red blood cells. All the patients were getting X-ray therapy in addition to the other substances.

Four of the patients were women of child-bearing age. One 34-year-old woman gave birth to a healthy baby weighing nearly 11 pounds six years after she was given a combination of phosphorus 32 and strontium 89.

Phosphorus 32 is the radioactive isotope of phosphorus, a common element found in plant, mineral and animal compounds. Strontium 89 is a highly radioactive fission product found in atomic fallout. It behaves much like calcium, lodging in the bone marrow, liver and spleen.

Both phosphorus 32 and radioactive strontium were used in some medical treatments during the '40s, according to news reports of the time.

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But the "secret" classification given to the medical chart of the eight patients suggests the strontium injections were experimental rather than therapeutic in nature.

In addition, the Atomic Energy Commission, the predecessor of the Department of Energy, more than a decade later sought out more information on the eight patients to set permissible limits of radioactive isotopes in water supplies.

Berkeley scientist John Gofman, an expert in the effects of low-level radiation, said he "couldn't see why" strontium was administered to cancer patients. In high enough doses, the radioactive material could shorten a person's life span, he said in a recent interview.

In addition to Reid, the patients identified on the chart are:

► Bertha Martin, 55. Martin was suffering from breast cancer. In December 1941, she underwent a radical mastectomy. Because of severe chest pain, Martin began getting repeated injections of what was called strontium lactate on Jan. 15, 1943. The strontium lactate was not radioactive and probably not harmful to the patient, Gofman said. Martin died six months "post-Rx" from breast cancer that spread to her bones and intestines, the medical chart states.

► Velma Murray, 34. Murray was suffering from a form of lymphoma. Beginning in 1942, Murray received 2.9 millicuries of strontium 89 in seven injections and five separate doses of phosphorus 32 in 1945. She gave birth to a healthy child in 1948, and in 1953, was feeling well.

► Henrietta Wilbert, 59. Wilbert, who suffered from polycythemia vera, received 1 millicurie of strontium 89 in 1941 and numerous doses of phosphorus 32 between 1941-45. She died five years later of lymphoid leukemia.

► Lillian Anderson, 34. Anderson was diagnosed in June 1944 with cancer in her right breast. She received 100cc of strontium lactate over the next two months. Although she felt she had "definitely been helped by the treatment," she died a month after the last strontium treatment.

► Charles Brunn, 21. Brunn was suffering from thigh cancer. He received 6.4 millicuries of strontium 89 in seven injections beginning in 1941. He was still alive in 1953.

► Olaf Erickson, 54. Erickson, also suffering from cancer, was given 5.6 millicuries of strontium 89 in five injections beginning in 1941. He died 16 months later.

► Edith Harbison, 41. Harbison, was suffering from breast cancer. She received 100cc of non-radioactive strontium beginning in 1944. She died nine months after the injections.

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Tests alarmed Berkeley scientist

Warned in 1950
that using humans
recalled experiments
at Nazi death camps

EXAMINER NEWS SERVICES

PAT

NEW YORK — A UC-Berkeley researcher who played a central role in post-World War II radiation testing on humans urged that animals be used in the experiments to avoid comparisons with Nazi medical experiments, a 1950 memo shows.

The recommendation was made in a 1950 memo to Dr. Shields Warren, a senior official of the Atomic Energy Commission, from Dr. Joseph Hamilton, a UC-Berkeley scientist working for the commission.

Hamilton, a proponent of radioactive warfare, wrote Shields in 1950 to support studies to find out how much whole-body radiation it took to incapacitate an individual.

But Hamilton warned that exposing humans to radioactive material would bring considerable criticism because they would "have a little of the Buchenwald touch."

The Nazis did human experiments at the Buchenwald concentration camp, including one that killed 600 people exposed to typhus bacteria.

"For both political and scientific reasons," Hamilton wrote, "I think it would be advantageous to secure what data can be obtained by using large monkeys such as chimpanzees."

Details of the memo were published Tuesday in the Albuquerque

[See RADIATION, A-14]

Tribune, New York Times and Boston Globe.

Hamilton was a key architect of an experiment in which 18 people were injected with plutonium between 1945 and 1947. He devoted his career to probing the damages of radiation on living tissue.

Both Warren and Hamilton are now dead. Hamilton died of leukemia in 1967, at the age of 49. Colquhoun said at the time they believed the illness had been caused by his extensive work in radiation.

In reply to a growing outcry from weeks of revelations about the plutonium experiment and other undisclosed testing, Energy Secretary Hazel O'Leary said Tuesday that subjects should be compensated.

O'Leary, in an interview on CNN, said, "We ought to go forward and explain to the Congress what has happened and let the Congress of the United States and the American public determine what would be appropriate compensation."



Energy Secretary Hazel O'Leary
wants test subjects compensated.

O'Leary has directed her agency to find out how many human studies were done, find test subjects and their survivors and check the legality of the research.

One issue raised in the debate over the experiments is whether the now-defunct commission's experiments violated the 1947 Nuremberg Code, which was established after the Nazi war crimes trials as the universal standard for human experiments.

The code requires full, informed and voluntary consent for all experiments on humans. Also, test subjects must be protected from "even remote possibilities of injury, disability or death."

Barton Bernstein, a Stanford

13815

RADIATION HOT LINE

The U.S. Department of Energy has opened a toll-free hot line for anyone who might have been a subject of radiation testing and for those seeking information on the testing.

The number is 1-800-493-2988, and the department says the phone will be answered from 8:30 a.m. to 1:30 p.m. PST, Monday through Friday.

University historian, said Hamilton's memo proves that by 1960 the scientific community understood the unethical nature of such experiments.

"By the time that letter is written, it's clear even to Hamilton that this is not ethical behavior," Bernstein said.

The revelations of human experiments conducted on U.S. citizens in recent weeks reveal "the massive hidden cost of the Cold War to the American public," Bernstein said.

"At this point in 1993, can we even imagine any disclosure that would be shocking or incredible? Or are we coming to recognize that the seemingly unthinkable and the seemingly unbelievable were thought, believed and, yes, even implemented?" he asked.

The Hamilton memo suggests that researchers "knew clearly at the time that the studies were unethical," said Dr. David Egilman, a Rhode Island physician who has investigated the Atomic Energy Commission's human experiments and gave the memo to the Times and the Globe.

The Globe disclosed on Sunday that 19 retarded teenage boys at the Fernald School in Waltham, Mass., were fed radioactive cereal in experiments from 1946 to 1968 without their parents' knowledge.

Several other radiation experiments from the 1940 and 1950s, apparently carried out without the informed consent of the subjects, have been reported since last month. These include nuclear tests over populated areas of Utah and New Mexico, the injection of 18 patients with plutonium and the exposure of fetuses and young children to other radioactive substances.

In most cases, the aim of the research was to determine the effects of radiation on humans.

O'Leary said Tuesday the government does not have information yet on illnesses or deaths directly related to the tests. But she said, "I don't expect that to happen overnight," adding that the government first must gather information spread across the nation.

O'Leary said at least 600 to 800 people were subjected to government experiments in which they were exposed to potentially harmful amounts of radiation. Some officials say the number of subjects is much higher.

The Albuquerque Tribune contributed to this report.

12 to 15 2/2



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Fear spreads over radiation report

By Maria Puente
USA TODAY

3A

Alarmed callers are swamping a new federal hot line set up to find people who suspect they were used as guinea pigs in government-sponsored radiation experiments.

And Monday, Massachusetts authorities began assembling an investigative team to find out what happened to dozens of mentally retarded teen-agers fed radioactive food between 1946-56 as part of government research on digestion.

The *Boston Globe* reported Sunday that researchers at Harvard University and the Massachusetts Institute of Technology experimented on at least 49 retarded male teens — apparently without the consent of their guardians — at the Fernald State School in Waltham, Mass.

Reports of radiation experiments on Americans have been coming out as a result of media investigations and Energy Secretary Hazel O'Leary's order this month releasing thousands of previously secret documents on government radiation research.

Reports have included radiation bombs detonated near populated areas and experiments on pregnant women and prisoners.

But calls to the new Human Experimentation Hotline indicate that some people are unnecessarily panicked about standard medical treatments — such as radiation treatment for cancer — or are calling to ask if they were test subjects.

"We can't answer that," said Mike Gauldin, spokesman for the Department of Energy. He said the hot line was set up to track down records on experi-

ments sponsored or funded around the country by the old Atomic Energy Commission.

"We want to talk to people who suspect they may have been involved in order to get a better idea of where to look for that information," he said.

The toll-free hot line — 1-800-493-2998 — opened Thursday; it logged the most calls Monday — 340 by early afternoon, said Gauldin.

In Massachusetts, authorities pledge a thorough investigation into the Fernald tests.

"We're going to try to locate all the people who participated and determine their current status, or if they've died, whether the death was related to the tests," says Gerald Ryan, of the state Department of Mental Retardation.

The researchers in the Fernald tests, funded partly by Quaker Oats Co. and the AEC, were trying to better understand the human digestive process. Patients were fed cereal and milk with radioactive forms of iron and calcium to make it easier to trace digestion of those minerals.

The experiments were never secret and the researchers' findings were published in scholarly journals. One researcher defended the tests, telling *The Globe* they yielded important information.

"I feel just as good about it today as the day I did it," said Constantine Maletskos, a former MIT researcher.

Gauldin said the government has an obligation to find out as much as possible about what went on and disclose it.

"At some point a moral judgment has to be made about what was done," Gauldin said. "But we can't do it if we don't know what happened."

RADIATION TEST VICTIMS SHOULD BE COMPENSATED - US

(Eds: Updates with O'Leary saying that most of the testing was done with informed consent)

By Vicki Allen

WASHINGTON (Reuter) - Energy Secretary Hazel O'Leary said Tuesday that 600 to 800 Americans took part in government radiation tests after World War Two, but most knew what was involved and gave their consent.

However, appearing on the "MacNeil-Lehrer Newshour" television program, O'Leary said she was "horrified" by the fact that subjects, including some who were mentally retarded, had been tested without consent or with inadequate consent.

In what is becoming a major scandal over U.S. involvement in the experiments conducted during the 1940s and 1950s, authorities Tuesday vowed to locate surviving subjects of the tests, which exposed subjects to potentially harmful levels of radiation.

It was revealed, in addition, that at the time, some of the tests were compared to experiments in Nazi concentration camps.

In an earlier interview on the Cable News Network, O'Leary said that the people tested may be due government compensation.

"We ought to go forward and explain to the Congress what has happened and let the Congress of the United States and the American public determine what would be appropriate compensation," she said.

Speaking later on "MacNeil-Lehrer," O'Leary said:

"What I know now, from the information at hand, and understand that we are still gathering information, approximately 600 to 800 human beings were subject to experimentation."

But she said: "A great majority of that work was done with informed and voluntary consent with a clear medical purpose."

O'Leary said there have been 600 calls to a special government telephone hotline in the last two days, with about 400 people expressing horror over the experiments and the other 200 saying they believe they might have been tested.

On Sunday, the Boston Globe reported the latest example of such testing -- researchers in Massachusetts fed radioactive milk and cereal to mentally retarded teen-agers.

The newspaper said researchers at Harvard University and the Massachusetts Institute of Technology fed the milk to at least 49 mentally handicapped teenagers housed in a state home between 1946 and 1956.

In recent months, reports have also listed experiments ranging from conducting nuclear tests over populated areas to injecting patients, including newborn babies, with plutonium and radioactive iodine.

In a 1950 memo, Dr Joseph Hamilton, a top radiation biologist who worked for the U.S. Atomic Energy Commission, warned that the radiation research had "a little of the Buchenwald touch," referring to the Nazi concentration camp where medical experiments were carried out on inmates.

Hamilton's memo was written to express his concern over proposed experiments aimed at discovering the levels of radiation that would injure soldiers.

The research was going on at the height of the Cold War to try to help understand the effects of radiation on humans. It

While some scientists now criticize the U.S. government research as ethically questionable, if not dangerous, others said in their opinion the vast majority of the experiments furthered medical science while posing little risk to patients.

The government disclosed earlier this month that it conducted 204 nuclear blasts at a Nevada test site during the 1940s and 1950s that exposed people to radiation.

In the CNN interview, O'Leary was asked if the disclosures leave the government vulnerable to lawsuits.

"My view is that we must proceed with disclosing these facts and information regardless of the fact of whether it opens the door for a lawsuit against the government," she said.

"Many have suggested and I tend to agree personally that those people who were wronged need to be compensated."

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makes availa
[Energy]

O'Leary: Government Should Compensate Victims of Radiation Experiments

WASHINGTON (AP) - People who wrongfully were exposed to radiation through federally funded experiments more than 40 years ago deserve to be compensated, Energy Secretary Hazel R. O'Leary said Tuesday.

O'Leary promised to collect as many government documents as possible on such experiments and "let the Congress of the United States and the American public determine what would be appropriate compensation."

In an interview with CNN, she did not indicate how many people might be compensated or what that compensation might be.

"We're still trying to take a look at the whole thing," said department spokesman Sam Grizzle.

O'Leary earlier this month said as many as 800 people might have been subjected to human experiments involving radiation, many of them in the 1940s and '50s. Some of the experiments were believed to be within medical guidelines and with consent, but others clearly were not, officials have said.

Attempts to reach Mrs. O'Leary, who was said to be in meetings Tuesday, were unsuccessful.

O'Leary told CNN that some of those affected by the radiation tests are suing the government, but others involved in earlier tests cannot sue because the statute of limitations has expired.

"My view is that we must proceed with disclosing these facts and information regardless of the fact of whether it opens the door for a lawsuit against the government," she said. "And many have suggested, and I tend to agree personally, that those people who were wronged need to be compensated."

The New York Times reported Tuesday that the U.S. government official who directed some of the early radiation tests was urged to use chimpanzees to avoid comparisons to Nazi experiments.

The warning was made in a 1950 memo to Dr. Shields Warren, a senior official of the Atomic Energy Commission, from Dr. Joseph G. Hamilton, a top commission biologist, the Times said. Parts of the memo were also quoted Tuesday in The Boston Globe.

Hamilton warned that exposing humans to radioactive material would bring considerable criticism because they would "have a little of the Buchenwald touch."

The Nazis did human experiments at the Buchenwald concentration camp near Weimar, including one that killed 600 people exposed to typhus bacteria.

"For both politic and scientific reasons," Hamilton wrote, "I think it would be advantageous to secure what data can be obtained by using large monkeys such as chimpanzees."

O'Leary has told her agency to find out how many human studies were done, find test subjects and their survivors and check the legality of the research. A hot line asking survivors to contact the Energy Department has been swamped with hundreds of calls.

One issue is whether the now-defunct commission's experiments violated the 1947 Nuremburg Code, which was established after the Nazi war crimes trials as the universal standard for human experiments.

The code requires full, informed and voluntary consent for all experiments on humans. Also, test subjects must be protected from "even remote possibilities of injury, disability or death."

The Hamilton memo suggests that researchers "knew clearly at the time that the studies were unethical," said Dr. David S.

Egilman, a Rhode Island physician who has investigated the AEC's human experiments and gave the memo to the Times and the Globe.

Both Warren and Hamilton are now dead.

The Albuquerque Tribune reported Tuesday that Hamilton's files revealed that seven cancer patients and another with a blood disease were injected with strontium in the 1940s at the University of California Hospital in San Francisco.

All of the patients were undergoing X-ray therapy at the time of the injections. The doctor responsible for the injections is not listed in medical records, the newspaper said.

The patients included 13-year-old Wallace Reid, a bone cancer patient who received 12 injections of radioactive strontium between 1941 and 1942, the Tribune said. Three months after the final injection, Wallace died of exhaustion and intracranial pressure, according to a two-page chart stamped "secret" several times.

Last month, The Tribune reported that 18 patients were injected with plutonium in another AEC experiment.

The Boston Globe disclosed on Sunday that 19 retarded teen-age boys at the Fernald School in Waltham, Mass., were fed radioactive cereal in experiments from 1946 to 1956 without their parents' knowledge.

[Energy]

Clues sought on teens used in test

Reuters

5A

WALTHAM, Mass. — A team of doctors, nurses and advocates for the retarded assembled yesterday to try to find clues to the identities of at least 49 mentally retarded teen-agers used as guinea pigs and fed radioactive food in a study of the human digestive process in the 1940s and 1950s.

The tests, funded partly by the Quaker Oats Co. and the U.S. Atomic Energy Commission, used radioactive forms of iron and calcium to determine if a heavy diet of cereals

slowed down the body's digestion of those minerals.

The experiments, revealed by the *Boston Globe* on Sunday, were conducted by researchers from Harvard University and the Massachusetts Institute of Technology (MIT) on at least 49 mentally handicapped patients housed in a state home between 1946 and 1956.

Yesterday the team of doctors, nurses and advocates for the retarded were checking records in the Fernald School, where the teen-agers lived, for clues to the identities of the subjects, a state official said.

The team will try to determine whether any died from the research and will help those still living to secure any benefits or support available from the federal government, said Jerry Ryan, a state Department of Mental Retardation spokesman.

The youths, between the ages of 15 and 17, were fed radioactive calcium and iron, some in quantities equivalent to 50 X-rays, to see how they metabolized the substances, the *Boston Globe* reported.

The tests were intended to see the effects of the radiation on the subjects' spleens and blood.

DEC 28 1993

Nuclear testing

CHICAGO—I too was ^{P/2} shocked to learn that 18 civilians "had been injected with highly radioactive plutonium" (Dec. 8) in government tests. Hazel O'Leary, Energy Department secretary, is to be commended for this disclosure, as well as her announcement of 204 previously secret U.S. nuclear test explosions.

Her candor is an important step to correct what DOE officials have called the "damaging culture of secrecy at the DOE that compromised safety and environmental considerations" during the Cold War. However, she should go much further.

A full accounting by her department is long overdue for the thousands of American victims of the U.S. nuclear testing program. For many years, appeals from U.S. atomic veterans and Navajo uranium miners for medical care and compensation have fallen on deaf ears in the federal government. Similarly, the plight of the thousands of Americans who have lived downwind from the Nevada Nuclear Test Site, and were described by official DOE documents as a "low-use segment of the population," should be brought to full disclosure.

This administration should also take steps to ensure that similar tragedies never happen again.

Most important, O'Leary should continue to be a strong advocate for a permanent ban on all nuclear tests. She should urge President Clinton to get serious about a Comprehensive Test Ban Treaty—after nearly a year in office, there are still no official negotiations underway. A permanent test ban is crucial to winning extension of the Nuclear Nonproliferation Treaty in April 1995, as the non-nuclear states rightly insist on progress by the nuclear states toward nuclear disarmament in exchange for continuing to forgo nuclear weapons development. The Cold War is over, and it left a deadly nuclear legacy.

Kevin Martin

'50 Memo Shows Radiation Test Doubts

By KEITH SCHNEIDER **A8**

The American Government official who directed radiation experiments on human subjects was warned soon after the program began that the research would invite public criticism and comparison to Nazi experiments on concentration camp inmates, a private memorandum declassified by the Government shows.

In a 1950 memorandum to Dr. Shields Warren, a senior official of the Atomic Energy Commission, Dr. Joseph G. Hamilton, a top radiation biologist who worked for the agency, warned that the medical experiments might have "a little of the Buchenwald touch." At the Buchenwald concentration camp near Weimar a number of human experiments were done, including one that killed about 600 people exposed to typhus bacteria.

He warned that commission officials "would be subject to considerable criticism" for conducting experiments in which human subjects were exposed to potentially harmful doses of radiation.

The memorandum, declassified in the early 1970's, has been known to a handful of independent investigators interested in the early history of the Atomic Energy Commission. It has been publicly circulated in recent days as Government investigators and reporters have examined an extensive experimental program that involved at least 1,000 people in a variety of radiation experiments in the early years of the atomic era. One official said that number could go much higher.

Flood of Calls

The memo sheds light on what one of the Government's leading radiation researchers was thinking as the Government prepared to finance and direct the experiments.

This month Energy Secretary Hazel R. O'Leary directed her agency to determine how many studies were conducted, to find participants and their survivors and to investigate the propriety and legality of the research.

As part of the project, which is likely to last for years, Mrs. O'Leary has set up a toll-free telephone line, (800) 493-2998. Yesterday, hundreds of callers swamped the agency with questions about experiments they said might have involved them or family members. Peter Brush, the department's principal deputy assistant secretary for environment, safety and health, said the volume of calls was so intense that this week the department would triple the number of specialists an-

swering the telephones to 9 or 10, from 3.

"We've had an unbelievable response to the hotline," Mr. Brush said. "It's a much greater volume than we anticipated."

The Boston Globe disclosed on Sunday that 19 mentally retarded teen-age boys at a state school in Fernald, Mass., were exposed to radioactive iron and calcium in their breakfast cereal. The experiments, from 1946 to 1956, were intended to help researchers understand nutrition and metabolism, the paper said, though consent forms mailed to parents never mentioned that radioactive elements would be involved. It is not known if the subjects were harmed by the test.

Tests on Newborns

The Albuquerque Tribune, which in November published a series of articles on an experiment in which 18 patients were injected with plutonium, reported last week on another study conducted in Memphis. In that re-

A warning about 'the Buchenwald touch' in medical studies.

search, sponsored by the Atomic Energy Commission in 1953 and 1954, seven newborn boys, six of them black, were injected with radioactive iron. Those studies were intended to understand better how the thyroid glands of newborns functioned. Mothers agreed to the research, but some babies were later given up for adoption, according to The Tribune.

One of the issues the Energy Department is studying is whether any of the radiation experiments violated the 1947 Nuremberg Code, which was established after the Nazi war crimes trials, and is regarded as the universal standard for human experimentation. The code requires full, informed and voluntary consent for all experiments involving human subjects, along with demanding that test subjects be protected "against even remote possibilities of injury, disability, or death."

"We want to make sure the work was consistent with whatever ethical guidelines existed at the time," Mr. Brush

said. "Certainly some of the stuff I've read leads one to question whether it could have been consistent with any established ethics of the time."

The Hamilton memorandum suggests that medical researchers associated with the Atomic Energy Commission were aware of their ethical responsibilities. The memorandum, dated Nov. 28, 1950, was addressed to Dr. Warren, the director of the division of biology and medicine, the unit of the Atomic Energy Commission that commissioned and oversaw virtually all Government research related to radiation after the war.

Dr. Hamilton, under contract to the Atomic Energy Commission, summarized the limited knowledge then available about the risks military personnel faced should they be exposed to high levels of radiation, presumably as a result of nuclear war or military exercises involving atomic bombs. Dr. Hamilton urged the Atomic Energy Commission to conduct additional research to expose living organisms to intense radiation fields.

"For both politic and scientific reasons," he wrote, "I think it would be advantageous to secure what data can be obtained by using large monkeys such as chimpanzees." But Dr. Hamilton warned: "If this is to be done in humans, I feel that those concerned in the Atomic Energy Commission would be subject to considerable criticism as admittedly this would have a little of the Buchenwald touch."

The memorandum, made available to The Times by Dr. David S. Egilman, a physician from Rhode Island who teaches at Brown University and has investigated instances of human experimentation by the military and the Atomic Energy Commission. Dr. Egilman said the memorandum was a clear indication that the Government's own nuclear scientists knew they were working at the very edges of medical ethics. Both Dr. Warren and Dr. Hamilton are dead.

"Based on their own documents and the history of medical ethics, they knew clearly at the time that the studies were unethical," said Dr. Egilman. "They called this work, in effect, Nazi-like. The argument we hear is that these experiments were ethical at the time they were done. It's simply not true."

Mr. Brush, said the memorandum would become part of the extensive review of human radiation experimentation called for by Secretary O'Leary.

SEATTLE TIMES DEC 28 1993

CLOSE-UP

Nazi shadow hung over radiation tests here, experts say

BY SCOTT ALLEN AND DOLORES KING
Boston Globe

A 1950 memo to the U.S. Atomic Energy Commission's chief health official likens proposed radiation testing on humans to experimentation in a Nazi concentration camp, casting doubt on claims that radiation experiments at a Massachusetts mental institution and elsewhere were ethically acceptable at the time.

In the 1950 memo, Dr. Joseph Hamilton of Livermore National Laboratory in California worried that tests aimed at discovering at what level radiation would injure soldiers would conjure images of Nazi experiments if performed on humans.

"If this is to be done in humans, I feel that those concerned in the Atomic Energy Commission would be subject to considerable criticism, as admittedly, this would have a little of the Buchenwald touch," he wrote. Buchenwald was a Nazi concentration camp where inmates were used for heinous medical experiments.

Dr. David Egilman, an assistant

professor at Brown University who released the Hamilton memo yesterday, said some of the human research that Hamilton warned about went forward anyway.

Egilman, who has studied human-radiation experiments for 12 years, said Hamilton's memo reflects the high level of public awareness about medical ethics after the Nazi war-crimes trials in 1945 and 1946.

Human-radiation testing "was not less talked-about in the 1950s. It was a hotter topic then than it is now, because it came right after the Nuremberg trials," Egilman said.

The memo's release came as the Massachusetts Department of Mental Retardation declared it plans an investigation into less toxic human-radiation experiments at the Fernald school in Waltham, Mass. From 1946 to 1956, scores of developmentally disabled children were given radioactive milk with their breakfast or ate radioactive iron supplements for nutrition studies conducted by the Massachusetts Institute of Technol-

ogy (MIT) and Harvard University for Quaker Oats Co. and the U.S. Atomic Energy Commission.

The researchers used radioactive compounds because they show up well in blood and human waste.

The department has also begun referring people to a "human experimentation hot line" (1-800-493-2998) set up by the Department of Energy for possible federal benefits.

Energy Secretary Hazel O'Leary said today she supports federal compensation for people who were exposed to radiation during government experiments in the 1940s and '50s.

O'Leary told CNN that she feels the Clinton administration should openly tell all it learns about the experiments, "and let the Congress ... and the American public determine what would be appropriate compensation."

In the 1950 memo, Hamilton, a specialist in internal radiation poisoning, outlined his concerns about exposing human beings to radiation as part of a program to test ability to function during a nuclear attack.

The Fernald experiments were not intended to study the debilitating effects of radiation, but authorities on medical ethics said the behavior of the researchers working at Fernald suggests they knew they were exposing the developmentally disabled children to some risk.

Dr. Malcolm Farrell, superintendent of Fernald at the time, sent parents or guardians of the children who took part in the experiments notification forms that made no refer-

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INTERNATIONAL MARKET COVERAGE

TRANSCRIPT

FOR DEPARTMENT OF ENERGY STATION WRC-TV
NBC Network
PROGRAM NBC Nightly News CITY Washington, D.C.
DATE December 28, 1993 7:00 PM AUDIENCE
SUBJECT Accident at Fermi Nuclear Power Plant

BRIAN WILLIAMS: The Fermi nuclear power plant outside Detroit is shut down tonight following a fire inside the facility on Christmas Day. While officials say public safety was never at risk, some questions remain.

NBC's David Bloom reports.

DAVID BLOOM: Today, inspectors from the Nuclear Regulatory Commission began arriving at the crippled Fermi II nuclear power plant in Newport, Michigan, some 30 miles south of Detroit. The reactor is in cold shutdown and will be off-line for at least three to six months following a Christmas Day accident in which the plant's turbine began to shake violently, starting a small fire that was quickly put out, doing extensive damage to the turbine and main generator.

JAN STRASMA [Nuclear Regulatory Spokesman]: Water and steam sprayed out, and a chunk of the turbine flew through the steel housing surrounding it and landed about 75 feet away.

BLOOM: The NRC called the accident serious and unusual, but says there was no release of radiation. And the plant's owner Detroit Edison said the problem was confined to the non-nuclear side of the plant.

LEW LAYTON [Detroit Edison Spokesperson]: In terms of radiation release, there certainly was no release above what is normally released by the plant.

BLOOM: But two years ago a similar accident all but destroyed a turbine at the Salem II nuclear power plant in Hancock's Bridge, New Jersey. The NRC says there's no cause for concern. Critics are worried.

ROBERT POLLARD [Union of Concerned Scientists]: The large pieces of steel which can fly off from the turbine have sufficient force to actually penetrate thick reinforced concrete walls. So, in addition to the economic damage, you could have a nuclear accident by releasing radioactive material outside the plant.

BLOOM: Detroit Edison predicts the Fermi plant, which normally produces enough electricity to run a city of one million, will be back on line before a traditional summer peak in energy demand.

David Bloom, NBC News.

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TRANSCRIPT

FOR DEPARTMENT OF ENERGY STATION WUSA-TV
CBS Network

PROGRAM CBS Evening News CITY Washington, D.C.

DATE December 28, 1993 7:00 PM AUDIENCE

SUBJECT Government-Sponsored Radiation Tests on Civilians

CONNIE CHUNG: The legacy of U.S. Cold War policy is producing new fallout tonight. It turns out the researchers who ran secret radiation tests on unsuspecting American citizens should have known better. They were warned back then that their experiments were unethical or worse. And today the Energy Department said the test subjects deserve compensation.

Correspondent Jim Stewart has the latest.

JIM STEWART: It was 30 years ago that doctors at Vanderbilt University asked Tom Cochran if he would like to take part in a little experiment.

THOMAS COCHRAN: I was injected with radioactive material in '63.

STEWART: Doctors wanted to trace the isotopes as they invaded Cochran's bone marrow. It earned the young graduate student a \$100 fee, \$25 for follow-up visits, and a lifetime of worry.

COCHRAN: You're left with -- for the rest of your life with this lingering question: Are you going to get cancer from this experiment?

STEWART: Thousands of other Americans are asking that same question today, as the government investigates just how many nuclear experiments it conducted.

Most of those experiments were approved by eight regional offices of the old Atomic Energy Commission. The offices funneled research money to hospitals and universities. The Department of Energy was never told how many tests they authorized on how many people or at what price.

Dr. David Egilman has researched the experiments.

DR. DAVID EGILMAN: These studies, which were planned, at least, in the late '40s and early '50s, followed shortly after what was a tremendous public outcry about the research activities of the Nazis.

STEWART: An analogy at least one government scientists also recognized. As this 1950 memo unearthed by Egilman noted, "Work on humans would have a little of the Buchenwald touch."

The postwar Nuremberg Trials looked into human-research crimes at Nazi camps like Buchenwald and set new standards for human experiments like the one on Tom Cochran.

COCHRAN: Nobody wants cancer for a hundred dollars. But, I mean, that's why I wouldn't do it again.

STEWART: Has anybody followed up on your case?

COCHRAN: No. No.

STEWART: The government said that's what it's trying to do now, follow up, find out just how many Americans were involved in the tests and, more importantly, what's become of them.

Jim Stewart, CBS News, Washington.

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NATIONAL MARKET COVERAGE

TRANSCRIPT

FOR DEPARTMENT OF ENERGY STATION WETA-TV
PBS Network

PROGRAM The MacNeil/Lehrer NewsHour CITY Washington, D.C.

DATE December 28, 1993 7:00 PM AUDIENCE

SUBJECT Secretary O'Leary/Radiation Tests on Civilians

MARGARET WARNER: We begin tonight with some new Cold War secrets just now coming to light. In recent weeks, Americans have been hearing more about secret testing, research and experimentation conducted in the name of the nation's nuclear weapons program. The source of the revelations is the Federal Government itself. The facts coming to light are in some cases astounding and horrifying.

Forty years ago the Cold War was under way, and so was a deadly nuclear arms race. The American government was determined to stay ahead of the Soviets in the accuracy and sophistication of its nuclear weapons. Over the next four decades, the government would detonate hundreds of nuclear devices and produce thousands of bombs.

Until recently, the primary fallout from all that testing and weapons building was concern over the effects of nuclear waste on the environment. Then, early this month, Energy Secretary Hazel O'Leary dropped a bomb of her own. She called a press conference to announce that her Department wanted to come clean with all the nuclear secrets the U.S. Government had been keeping from us.

SECRETARY OF ENERGY HAZEL O'LEARY: We've got to expose the impact of the Cold War, both in terms of its environmental health and safety impacts, and also impacts on, if you will, the psyche of the nation.

WARNER: O'Leary revealed that over the past three decades the U.S. Government had conducted 204 unannounced underground nuclear tests. She also disclosed that the actual amount of spent plutonium stockpiled at government facilities around the country was 33 1/2 metric tons, carrying a cleanup price tag of \$200 billion or more.

But the most disturbing secrets she revealed concerned tests conducted on hundreds of private citizens, experiments designed to

trace the effects of radiation on humans. They included tests during the 1940s in Chicago, San Francisco and Tennessee, in which 28 people were injected with high levels of plutonium, apparently without their consent. During the late 1950s in New York, 12 terminally ill cancer patients were injected with radioactive material to try to measure the body's rate of absorption. And during the 1960s and early '70s in Washington State and Oregon, 130 prison inmates, apparently with their consent, had their testicles exposed to high levels of radiation to measure the effect on sperm function and production.

Now we're joined by the woman who instigated these disclosures, the Secretary of Energy, Hazel O'Leary.

Welcome, Madam Secretary.

SECRETARY O'LEARY: Thank you.

WARNER: This is pretty horrific stuff. Why have you decided that the government should reveal all this now?

SECRETARY O'LEARY: Well, for two reasons.

One, I work for a President who was clear, almost as soon as we came into office, that each Cabinet Department should declassify that information that was no longer required to be kept secret for national security reasons. At the Department of Energy, as you can well understand, there have been clamorings for years about release of information, first of all, revolving around the testing, the numbers of tests, the plutonium stockpiles, and certain around the question of human experimentation and other exposure to releases of radiated material.

So, it occurred to me that it was time not only to come clean, as we said at that press release, but also give the nation a chance to understand that this administration, with this leadership, simply wanted to start off on a different footing. And that, I think, we've done.

WARNER: How widespread was this human experimentation?

SECRETARY O'LEARY: / Well, what I know now, from the information at hand -- and understand that we're still gathering this information. I'll talk a bit about that later -- approximately 600 to 800 human beings were subjected to experimentation.

I want to make clear that a great majority of that work was done with informed and voluntary consent and done with a clear medical purpose. The thing that all of us are horrified about and react to in a way that's gut-wrenching is those cases where it is apparent that no consent or inadequate consent was sought, and

therefore given; and the issue of whether the consent was voluntary remains open.

So, it's that piece that people focus on, and they should rightfully focus on.

WARNER: Well, give us an example in which you think people did give their consent.

SECRETARY O'LEARY: Well, clearly, there are a series of experimentations that have led to very beneficial results. I'll point out use of cobalt 60 or 80 for irradiation of people with Hodgkin's disease, and other experimentation where people have known the purpose of the experiment, known the danger; and also, the scientists have been focused on the results desired. And I could chart instance after instance where we've gained excellent benefit, especially in the area of nuclear medicine, which tends to save people's lives. And many of us, I included, have personal experience where members of our family have gotten additional years of their lives because of resulting work from that experimentation.

So, that's well-documented and there's -- you know, the annals of medical records are filled with those examples.

What we tend to focus on now are the examples that don't measure up to any standard of ethics that we know or would want our government to apply.

WARNER: And this is what you're trying to unearth now.

SECRETARY O'LEARY: Exactly.

WARNER: Now, you've said 600 to 800 people. Is it possible that's just the tip of the iceberg, or do you think that's pretty much the extent of it?

SECRETARY O'LEARY: I want to be very careful about stating what I do know is a fact. And what I know is a fact is that I've been told and it's been represented to me that the number is 800. What I've learned in the last week is not to presume anything until the facts are in front of you. And what we've done is gathered around us a panel of experts that are going to help us review the documentation that we're now getting in hand and call for more.

So, I'll be in a position to more definitively state the numbers involved. At the moment, I believe it does not exceed 800, but I am not saying that that's where we'll end up.

WARNER: And you did set up a hotline, didn't you, for citizens just to call in if they thought they or their families had been the subjects of experiments. Have you gotten a lot of calls? Have any of them produced new information, really new leads?

SECRETARY O'LEARY: Here we are. In less than two -- well, two full days exactly, we've had 600 calls received on this hotline. Two-thirds of them have been people who are interested to express their point of view, more often than not reflecting their disturbance, and in some instance horror, at some of the facts revealed. Some are simply curious. And about a third of those people reporting that they believe that they were subject of human experimentation.

We are logging that information and following up on it. I'm not in a position today, after two days, to assess the quality of the information. But we're collecting it, and collecting it in a way that respects the privacy of the individuals who've made the phone calls.

WARNER: I see.

Well, to help us fill in this picture, we turn to two people who have studied the nuclear weapons program and its impact. Dr. Jack Geiger, a professor at the City University of New York's School of Medicine, co-authored a recent report for the group Physicians for Social Responsibility on the health effects of nuclear weapons testing. Professor Barton Bernstein teaches Cold War history at Stanford University.

Welcome, gentlemen.

Professor Bernstein, let me start with you.

To many Americans, the notion that their government could have experimented secretly on them just seems almost mystifying and impossible. How did this happen?

PROFESSOR BARTON BERNSTEIN: Well, I think this is one of those disclosures that's both shocking and, lamentably, not surprising.

In the Cold War, for American scientists, whether they be medical doctors or others, very often the ends justified the means. And in a venture which they thought would help America win or maintain its position in the Cold War, those physicians and other scientists were willing to sacrifice humans, or injure humans, even Americans, for some conception of the larger welfare and national security.

It's a morality now that, justifiably, we deplore. It's a morality that, practiced at the time, American physicians and others who were engaged in this purposely concealed in a shroud of secrecy because they knew many Americans would be angered and shocked.

WARNER: And what...

PROFESSOR BERNSTEIN: But -- go ahead.

WARNER: And what, precisely, were they trying to discover in some of these experiments?

PROFESSOR BERNSTEIN: Well, the particular things they were often trying to discover is what level of various radiological byproducts or radiation would be injurious, in what way. Sometimes they thought this might improve therapy, including possibly cancer treatment. Sometimes they thought it would indicate to them what the level of danger was on the nuclear bomb projects. And sometimes they hoped to discover what level of injury could be done to the enemy in what was called preparation for radiological warfare.

All of this was Cold-War-linked, but it ranged from therapeutic medicine to intentional injury or killing of the enemy.

WARNER: And to what degree was there a debate within the scientific community at the time about the ethical implications?

PROFESSOR BERNSTEIN: There is no indication so far that any systematically debated or challenged this kind of behavior. It's very significant that Joseph Hamilton, a physician at the University of California, out here in the Bay Area, in 1950, on November 28th, outlined the notion of testing on live Americans and referred to it as having "more than a touch of a Buchenwald," referring to the German concentration camps, "having more than a touch of a Buchenwald about it."

So far as we can determine, nobody in the AEC, the Atomic Energy Commission, the predecessor of the Department of Energy, nor any of Hamilton's associates, whether subordinates or superiors, ever challenge on ethical grounds such thinking, such recommendations, or many of the actions that Hamilton took over the course of almost a decade, between the mid-1940s and the early to mid-1950s.

WARNER: Let me get Dr. Geiger in this.

Dr. Geiger, was there any scientific or medical benefit out of these experiments, as horrible as they were?

DR. JACK GEIGER: -Well, there's an important distinction to be made between appropriate uses of nuclear isotopes and radiation therapy for real purposes of investigation and in treatment on people who had given fully informed consent, and those experiments in which, as has just been outlined, there were political, not medical, reasons driving them in the first instance; and in which, secondly, they were unethical, even by the standards of the time. The Nuremberg Code was published in 1947, and that made very clear that informed consent was essential.

There's an important distinction that needs to be made today. I suspect there are thousands of people out there right now who have received or are receiving nuclear medicine, isotopes for diagnostic or therapeutic purposes, or radiation for cancer therapy. We need to be very clear the distinction between those processes and treatments now and these bizarre, unethical experiments of the past. People in these situations today are not guinea pigs. They should not stop their treatments or their diagnostic investigations. And that's an important thing to understand.

Beyond that, the first tipoff to how outrageous some of these experiments were comes, as always, from the selection of subjects. Look at them: black babies, prisoners, terminally ill people, retarded children, pregnant women, mostly minorities. Over and over again in the history of unethical experimentation, failure to do informed consent, you find subjects of this kind.

And one other point that needs to be added.

While we have been focused on these 600 or 800, or however many they turn out to be, of individual human experiments, we have to remember that there were some 300,000 people in Washington and Oregon State who were deliberately exposed to some 400,000 curies of radioiodine. Soldiers marched to an atomic ground zero, sailors at Bikini Atoll, large populations exposed to the fallout from nuclear testing in the atmosphere -- they were experimental subjects too, without their knowledge or consent.

WARNER: Well, let me have Secretary O'Leary come back in on this, some of the points they just made.

What do you know now about the degree to which standards of consent may have changed? I mean that's one of the arguments that defenders use. But Professor Bernstein and Dr. Geiger certainly seem to feel that that's a bogus argument.

SECRETARY O'LEARY: I agree, as well. I think what we need to do is focus on the standards applicable at the time. And clear from what we know today -- and it's just been pointed out -- when you're dealing with those who are least able to defend -- I earlier today made the comment, "the weakest of us all" -- it's the thing which horrifies us the most. Because we think about the fact that each of us, in some circumstance, can be weakened.

So the focus, I think, is on the standard of the day. And what we're seeing with the isolated cases and incidents that have been brought to public attention in the last week is that many of these cases do not pass muster against that standard, and certainly don't by any standard that we'd apply today, as well.

WARNER: And so you think there should be even higher standards than there are today? I mean what exactly is it that...

SECRETARY O'LEARY: Well, I hope that part of the outcome from this public examination and this, if you will, this anguish and pain that the nation is now going through will lead us to focus on the requirement for our government for openness, for that ethical standard in the public debate that comes with the light of day, and, finally, for the clear understanding that the arrogance that attends a special intellect and a special need cannot overcome a set of ethical standards to which people expect, and indeed their government must adhere.

WARNER: Well, Dr. Geiger, what is your reaction to Hazel O'Leary's, Secretary O'Leary's initiative here?

DR. GEIGER: Well, it goes after -- it begins to go after the root cause of all of these violations that we've been talking about, and that's secrecy, usually falsely invoked in the name of national security in these cases. It is secrecy, together with arrogance and ignorance, that permitted these ethical violations. It is secrecy that limits the ability of a free people to control their government and what it does. It is secrecy that kept this kind of information from the public for almost two generations, 50 years of radiation exposures and lies about them that were unwarranted.

And I think we have to be concerned, beyond saying "never again," to assure that it doesn't happen again. And by that I mean, in addition to openness, the requirement for external accountability of the Department of Energy to other agencies where health and safety concerns are involved, the involvement of the Department of Health and Human Services, of OSHA, the Occupational Safety and Health Administration, of the Environmental Protection Agency, and really, I think, the further separation -- something that Physicians for Social Responsibility, the group with which I work, has called frequently -- the further dissociation of health responsibilities and surveillance from the agency that has indeed been involved in the creation of hazards.

WARNER: Dr. Geiger.

DR. GEIGER: That's an incompletely done job, although we're heading in the right direction.

WARNER: Let me give Professor Bernstein the last word.

Do you, as a Cold War historian, do you think that with the end of the Cold War this kind of passion for secrecy in government scientific circles has ended?

PROFESSOR BERNSTEIN: No. Definitively and unfortunately, it has not.

I actually sent a fan letter to Secretary O'Leary about two weeks ago after her press conference in which she announced that she was going to change policy. And I believe she's sincere in trying to move toward openness.

At lower levels, and I'm sure deep, at various levels in the Department of Energy are many who are devoted and dedicated to a culture in which they have long flourished and received plaudits and support. And I, myself, have found in filing Freedom of Information Act requests in various parts of the Department of Energy, including the Lawrence Livermore Laboratory, which is about 35 miles from here, a great willingness to misunderstand requests, to thwart well-intentioned, honest and legal ventures, and delay unusually, sometimes five and six years, in granting me access and other scholars access to materials that probably could have been declassified 30 years ago.

WARNER: I'm sorry. That's all the time we have.

Thank you for being with us, Dr. Geiger and Secretary O'Leary.

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NATIONAL MARKET COVERAGE

TRANSCRIPT

FOR DEPARTMENT OF ENERGY STATION WRC-TV
NBC Network

PROGRAM NBC Nightly News CITY Washington, D.C.

DATE December 28, 1993 7:00 PM AUDIENCE

SUBJECT Government-Sponsored Radiation Tests on Civilians

BRIAN WILLIAMS: Now a nuclear controversy of another kind, this one in Massachusetts. It began with the revelation by the Boston Globe that in the years following World War II some mentally retarded teenagers were given radioactive food as part of an experiment without their families knowledge.

NBC's Fred Briggs reports.

FRED BRIGGS: This is the Fernald state school where in the late 1940s and early '50s dozens of mentally retarded boys were fed radioactive food. It was a research project funded by the Quaker Oats Company and what was then called the Atomic Energy Commission. The research teams from Harvard and MIT used radioactive milk on cereal to study the digestive process. No boy got more than one dose, 10 millirems, of radiation.

MIT's Dr. Constantine Maletskos was on the original research team.

DR. CONSTANTINE MALETSKOS: Ten millirem is an extremely low value for such a -- any kind of a radioactive tracer experiment.

BRIGGS: The dosages, however, are not the key issue now. More important, did the boys' parents know their sons were being given the radiation?

The head of the research team assured the school that there were absolutely no grounds for caution, and then the superintendent sent out letters to parents and guardians asking their permission to use the children. At least one letter in 1949 told parents their son was to receive a special diet that would show how the body absorbs various cereals, iron and vitamins. No mention at all of radiation.

Was that intentional?

little interest in imposing sanctions on its ally, preferring more talks.

Does North Korea have a nuclear weapon or not? It's a crucial question because it determines what the U.S. does next: more talks, economic sanctions, or perhaps military force.

John Dancy, NBC News, with the President in Little Rock.

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TRANSCRIPT

FOR DEPARTMENT OF ENERGY STATION WJLA-TV
ABC Network
PROGRAM ABC World News Tonight CITY Washington, D.C.
DATE December 28, 1993 6:30 PM AUDIENCE
SUBJECT Government-Sponsored Radiation Tests on Civilians

DIANE SAWYER: For more than 40 years the documents were locked away in government archives. Now, every day a revelation: how atomic scientists, beginning in the 1940s, exposed thousands of Americans to radiation. The latest development is that the scientists did not simply make a mistake; they were warned what they were doing was wrong and did it anyway.

Our first report is from ABC's George Strait.

GEORGE STRAIT: At this school outside Boston, beginning in 1946, government scientists experimented on dozens of mentally retarded teenagers, making them nuclear guinea pigs. The students were fed radioactive foods to study how food is digested. Parents signed consent forms but many of those forms never mentioned the radiation.

During the same time period, 800 pregnant women at this hospital in Nashville were given radioactive iron to see how it might affect them and their babies.

And at this laboratory in New Mexico, 18 people were injected with radioactive plutonium to see how much they could tolerate.

The Energy Department estimates that during the 1940s and '50s hundreds of radiation experiments were performed on thousands of Americans without their knowledge. Scientists now say that was an outrage.

ARJUN MARKHIJANI [Institute for Energy Research]: It was reprehensible that this work was done. I think to have subjected people to enormous levels of radiation, to have irradiated pregnant women and vulnerable people, deserves to be condemned.

STRAIT: In 1950 a senior government official wrote this memo to the man in charge of several of these experiments. It warned, "They have a little of the Buchenwald touch," suggesting that they

could be compared to experiments performed by the Nazis in concentration camps during World War II.

Dr. Shields Warren of the Atomic Energy Commission was urged to use animals, not humans, for "political and scientific reasons." But that warning was largely ignored.

Even today, scientists involved in many of the studies defend them. Constantine Maletskos was part of the team that fed radioactive food to those mentally retarded children in Massachusetts.

CONSTANTINE MALETSKOS: I don't know that I would do it any differently now, given the conditions that were available at the time.

STRAIT: Scientists who reviewed these experiments say the real tragedy is the victims were exposed to radiation for nothing.

DR. DAVID EGILMAN [Brown University]: As far as I know, there's never been a benefit from any of this research.

STRAIT: The Energy Department has established a hotline to try to find out more about these experiments. In two days it has been swamped with hundreds of calls from people who think that they or their family members have been used as unwitting guinea pigs by the U.S. Government.

George Strait, ABC News, Washington.

SAWYER: Even before that hotline was hooked up, many of the people subjected to the radiation experiments suspected that something was wrong and were trying to get attention. What's changed is that now the government is listening to them.

Here's ABC's Bettina Gregory.

BETTINA GREGORY: Jerry Moussa learned only a few months ago that his late uncle was injected with plutonium as part of a secret government experiment in a Rochester, New York hospital during the 1940s.

JERRY MOUSSA: He was nothing more than a laboratory rat.

GREGORY: Instead of getting a bone-marrow transplant, six-year-old Duane Sexton was subjected to massive doses of radiation in the 1960s as part of a secret government experiment at Oak Ridge Laboratory in Tennessee, according to Department of Energy documents. He died of leukemia at age seven. His family has fought but lost every battle for compensation for these experiments, which extended into the early '70s.

MARY SUE SEXTON [mother]: We would just like to see that this never happens again to another child, or anyone. Not even an adult deserves this kind of treatment.

GREGORY: But today, for the first time, a United States Secretary of Energy said the victims of these experiments and their families should be compensated.

SECRETARY OF ENERGY HAZEL O'LEARY: I am clear on the fact that there were people who were harmed that may have -- they ought to have available to them the means to be made whole.

GREGORY: But these reports are hardly new. Seven years ago Congressman Ed Markey issued this report detailing 31 experiments done on 700 people, who ate, inhaled or were injected with high doses of radioactive substances to see how long they would take to pass through their bodies. In 1986 Markey's call for compensation for victims fell on deaf ears.

REP. EDWARD MARKEY [D-MA]: But for many years the Department of Energy was not a nuclear watchdog but a nuclear lapdog that did not protect the American public.

GREGORY: And other congressmen are demanding the truth about these experiments.

SENATOR JAMES SASSER [D-TN]: And one of the most shocking things is that a pattern is emerging here. These experiments were conducted primarily on the most disadvantaged in our society.

GREGORY: The Energy Department says it does not have information about deaths or diseases from these tests. But one government source at Energy said, "When the full extent of these radiation experiments is known, it will be a scandal of enormous proportions."

Bettina Gregory, ABC News, Washington.

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TRANSCRIPT

FOR DEPARTMENT OF ENERGY STATION CNN-TV

PROGRAM NewsHour CITY Washington, D.C.

DATE December 28, 1993 12:00 PM AUDIENCE

SUBJECT Secretary O'Leary Comments on Radiation Tests

REID COLLINS: We'll begin with a high-level call for compensation for the victims of some secret U.S. Government radiation experiments in the 1940s and '50s. The Energy Secretary, Hazel O'Leary, told CNN today that Congress and the American public ought to decide the approximate payback. She says some six to eight hundred persons were exposed several decades ago to potentially harmful amounts of radiation, and some apparently without their informed consent.

Reports of these experiments on pregnant women, retarded teenage boys and others have emerged over recent days.

On CNN's Morning News, O'Leary said the government is acknowledging the tests and studying them with follow-up and the future in mind.

SECRETARY O'LEARY: Where we really ought to be focusing now is certainly on what we've discovered, on lamenting and mourning the fact that the government, in this time of misguided -- misguided pretense at secrecy, has really, apparently, applied some standards that would not be acceptable by today.

So, we've got to admit that, we've got to own it. And perhaps most importantly, I believe, we ought to be focusing on what is the appropriate standard for experimentation as we go forward.

COLLINS: The government has set up a hotline for those who think they might have been part of the U.S.-financed radiation tests. The number is 1-800-493-2998.

KELLEY: What have you directed your agency to do?

SECRETARY O'LEARY: Well, first of all, I've directed my agency to open the door and seek to find all the information available. This is a tough piece, simply because information can be found in Massachusetts, in Washington State, all over the United States. So we're anxious, first of all, to get all of the information regarding studies, both classified and unclassified, in our hands so that we may assess it.

KELLEY: I know that you have added staff to do so. Can you tell us at this point if you have found documented fatalities or illnesses involved?

SECRETARY O'LEARY: No, we have not. And I don't expect that to happen overnight. You have to recognize that we're talking about attempting to capture some 3.3 miles of information. That's all of the information that might be -- that is classified within the realm within the Department of Energy today. That's a lot of information to be reviewed. And most importantly, we have to make certain that the right people are reviewing that data. And we've asked an eminent ethicist, Dr. Ruth Faden of Johns Hopkins in Maryland, to lead the effort to locate all of the data and begin to analyze it.

So, this is a very long-term process.

KELLEY: And while it will be a long-term process, and you talk about all the information you do have to go through, one of the complaints or criticisms seems to be, in the reports that I've seen, is that there has been a complete -- not complete, but quite a lack of follow-up.

SECRETARY O'LEARY: Well, it's very difficult for me to respond to that. If the follow-up means over time, there's nothing that I can say about that.

KELLEY: But just to follow the folks who may or may not have been given the radioactivity, the iodine, or whatever else kind of experiment that's been done. But to follow these folks and to check their illnesses and to check and see what has happened to them.

SECRETARY O'LEARY: Oh, absolutely. I'm in complete agreement with that criticism. And understand that I'm taking on now the responsibility to begin to try and do that.

Most of these studies were done and shelved with no real intent to follow the human experiments at all. Our goal now is to identify what experiments were done and try to find these people,

or, more important, their families, and do follow-on studies. And the impression I want to leave with you is that this will be a difficult task because of the time that's been allowed to pass.

KELLEY: And because of that time that's been allowed to pass, I did see in one report that perhaps records have been destroyed.

SECRETARY O'LEARY: Well, I too have read that same information. And I think what we can do is put the net out and catch what's available, and also lament that that's not available.

The other piece that will be useful to us is the ability to find secondary data and information where original records have been lost or destroyed.

But I think where we really ought to be focusing now is certainly on what we've discovered, on lamenting and mourning the fact that the government, in this time of misguided -- misguided pretense at secrecy, has really, apparently, applied some standards that would not be acceptable by today.

So, we've got to admit that. We've got to own it. And perhaps most importantly, I believe, we ought to be focusing on what is the appropriate standard for experimentation as we go forward. And one of the things we're clear about is that this work should not be done in a shroud of secrecy, it should not be done by a group of people who are accorded some higher level of moral responsibility, or forgiven a set of acts that by the light of day pass no one's ethical test.

I think these are the things we need to be focusing on, as well. And that might be the positive legacy of what we're uncovering today.

KELLEY: What have you been able to find out about the folks, allegedly, who were experimented on? If they were fully informed, if they gave informed consent, were they aware of the possible danger and what the research would be for?

SECRETARY O'LEARY: Well, what we have been able to discover so far is there's a very mixed bag with respect to consent. Most of us now understand the standards coming out of Nuremberg, which, first of all, require that any person who's subject to experimentation have knowledge both of the benefits and the downside of any experimentation, and give informed and voluntary consent. But perhaps the most important thing after that is the requirement that no human experimentation would be likely to cause harm. That's the standard by today's measure.

Now, those were not the standards in 1940 and 1950. I'm not excusing that.

But one of the things we're after is to try and understand exactly how many experiments were performed with clear consent given and how many were not. And by all that we know and have read about the experimentation on the young retarded boys in Massachusetts, it would appear that no consent, by standard of today or by standard of the times, was given, simply because the people experimented upon were minors. Moreover, it appears they were mentally impaired and that their parents were not given adequate consent -- adequate information upon which to consent on their behalf.

KELLEY: And as you look at that, whether consent was given and whether it was fully informed consent, and also the standards of the time, what is the government prepared to do now? Could this happen again? And what about compensation for these folks? Would you expect some lawsuits or some sort of compensation to be looked at?

SECRETARY O'LEARY: Well, let's go to the first piece.

Airing this, in my view, will set the premise that this cannot happen again, because people now must demand that this work be done in the glare of publicity, that people have knowledge, and that some principles that meet an international standard are applied. And once again, the breath of fresh air into all of this ought to provide that groundwork to set the new ethical standard for doing research on human beings.

Two, it's clear to us that some of the people who were involved in both test and experimentation and releases of radiation have well passed the time for the statute of limitations. So they have no legal right against the government. There are others who still have legal rights and are now suing the government.

My view is that we must proceed with disclosing these facts and information, regardless of the fact of whether it opens the door for a lawsuit against the government. And many have suggested, and I tend to agree personally, that those people who were wronged need to be compensated. And we ought to go forward and explain to the Congress what has happened and let the Congress of the United States and the American public determine what would be appropriate compensation.

KELLEY: Energy Secretary Hazel O'Leary, we sure want to thank you for joining us this morning.

SECRETARY O'LEARY: Thank you.

KELLEY: And the Energy Department has set up a human experimentation hotline. It has been swamped thus far. If you think you may have been part of government-sponsored radiation research, you can call 1-800-493-2998, 1-800-493-2998.

NATIONAL MARKET COVERAGE

TRANSCRIPT

FOR DEPARTMENT OF ENERGY STATION CNN-TV

PROGRAM Morning News CITY Washington, D.C.

DATE December 28, 1993 9:00 AM AUDIENCE

SUBJECT Secretary O'Leary Discusses Radiation Tests

DONNA KELLEY: A U.S. Government researcher who directed radiation experiments on people reportedly was warned that the program would invite comparisons to Nazi experiments. Today's New York Times says the warning is in a 1950 memo to a senior Atomic Energy Commission official. In a declassified memo, a biologist tells the official the government-sponsored radiation research using human subjects might have, and we are quoting, a little touch of the Buchenwald touch.

Buchenwald was a Nazi concentration camp where several human experiments were performed.

In recent weeks there have been reports of pregnant women given radioactive pills, infants injected with radioactive iodine, and mentally retarded boys given radioactive milk. This research, reportedly funded by the U.S. Government, took place in the 1940s, '50s and '60s.

And joining us to talk about U.S. human radiation experiments during the Cold War is U.S. Energy Secretary Hazel O'Leary, who this month directed her agency to determine how many of these studies were done and to try and find the participants.

Secretary O'Leary, thanks very much for joining us this morning.

SECRETARY O'LEARY: Thank you.

KELLEY: Do you think that there are a lot more than the number of reports that we're hearing in the last several weeks?

SECRETARY O'LEARY: Well, by our count there are at least 600 to 800 persons who were subject to human experiments. What we're seeing now, as we begin the declassification process, of course, is event after event unfolding in the public.

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TRANSCRIPT

FOR DEPARTMENT OF ENERGY STATION WUSA-TV
CBS Network
PROGRAM CBS This Morning CITY Washington, D.C.

DATE December 28, 1993 8:00 A.M. AUDIENCE

SUBJECT Government-Sponsored Radiation Experiments on Civilians

JOHN ROBERTS: More and more details are coming to light about secret radiation experiments conducted on American citizens during World War II and the early days of the Cold War. The New York Times reports this morning that the federal official who directed some of those tests was warned they might well be compared to Nazi medical experiments on concentration camp inmates.

Jim Stewart has more on efforts to trace survivors of the American tests.

WOMAN: Hello. This is Amy. Department of Energy [unintelligible] experimentation hotline.

JIM STEWART: Hundreds of calls flooded the Department of Energy today from Americans who believe their government used them as nuclear guinea pigs.

WOMAN: So do you know exactly who gave you the radiation?

STEWART: Some of the callers were former servicemen exposed to atomic testing during the 1940s and '50s, but more and more are civilians from that era who unwittingly found themselves part of secret hospital and university experiments, all paid for by Washington.

The government originally estimated as many as 600 people may have been involved in the nuclear experiments, but with so many hotline responses coming in, it's clear that number will go far, far higher. So high the Department of Energy now says it will hire consultants to help them process the claims.

Once all the survivors' names have been collected, the government will appoint an advisory board to decide what to do next. The list could grow into the thousands.

This week alone came news Harvard researchers fed radioactive cereal to retarded boys at this school near Boston in the '50s, while last week Vanderbilt acknowledged giving radioactive pills to 751 pregnant women. The object? To trace radiation in the body.

SECRETARY OF ENERGY HAZEL O'LEARY: I recognize that almost daily the expansion of the data and the information regarding various tests and human experiments continues to come rolling out.

WOMAN [DOE hotline]: You'll need to send us a letter describing as much as you can about the exposure.

STEWART: When all the names have been collected in the claims examined, the Department of Energy vows it will make the findings public.

Jim Stewart, CBS News, Washington.

RADIO TV REPORTS

NATIONAL MARKET COVERAGE

TRANSCRIPT

FOR DEPARTMENT OF ENERGY STATION WAMU-FM Radio
NPR Network
PROGRAM Morning Edition CITY Washington, D.C.
DATE December 28, 1993 7:20 AM AUDIENCE
SUBJECT Secret Radiation Experiments Conducted on U.S. Citizens

BROADCAST EXCERPT

BOB EDWARDS: Energy Secretary Hazel O'Leary has set up a hot line to gather information about secret radiation experiments conducted by the federal government during the 1950s and '60s. The action was prompted in part by a series of reports in the Albuquerque Tribune last month detailing experiments conducted by the U.S. government on unsuspecting Americans after World War II.

Between 1945 and 1947, researchers working for the Manhattan Project injected 18 people with high concentrations of plutonium. Although information about these experiments first began coming out 20 years ago, it wasn't until a report in the Albuquerque Tribune that the identities of those injected with plutonium became known.

Tim Gallagher is the editor of the Albuquerque Tribune series. He says the experiments were prompted by a laboratory accident.

TIM GALLAGHER [Albuquerque Tribune Editor]: There was a chemist by the name of Don Matic at Los Alamos in the summer of 1944 who inadvertently swallowed a small amount of plutonium, about 1/10,000th of a teaspoon. That accident caused other scientists to wonder what effects plutonium, which at the time was known to be the most deadly chemical ever discovered by humans, they wanted to know what effect that would have on human beings in other uses, be they atomic explosions or be they in any sort of gas or any other type of use, and how devastating it might be to the human body.

EDWARDS: Who were some of the guinea pigs, and did they know what was happening to them?

GALLAGHER: Even Hazel O'Leary has admitted that none of the victims knew what was happening to them. In the case of Elmer Allen, he is the only one we've ever found any documentation that indicates partial permission. But Mr. Alan's daughter told us that her father was not a terribly educated man and they may as well

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have told him they were putting peanut butter into his veins. He wouldn't have known what plutonium was.

But in the other 17 cases, we had, well, for instance, John Muso, a 44-year-old man who was suffering from Addison's Disease. This is one of the most horrific cases. John was still alive up until the 1970s.

In the case of Fred Sauers, a supervisor in the town of Gateson in upstate New York, he was injected with plutonium. Other people were injected with plutonium and their bodies dug up after they'd already been buried just so that DOE could conduct further experiments on what plutonium did in their bodies.

They found young children, a four-year-old boy, suffering from cancer and injected him with plutonium. They found all kinds of people who they believed to be close to death anyway, and without really telling them what they were doing, they made guinea pigs out of them. This flies in the face of every medical ethic since the beginning of time.

These were the kinds of experiments that Mrs. O'Leary herself has said we thought were being conducted only in Nazi Germany, and yet they were being done by our government on our citizens. And now, nearly 50 years later, they are still refusing to release information about these experiments.

EDWARDS: All were seriously ill and yet a few lived a long time.

GALLAGHER: Elmer Allen, I believe, was the one who lived the longest. He lived 44 years after the experiment. Others lived in the neighborhood of 40 years or 30 years. Some of them did indeed die within a couple of years after the injection, but in many cases these folks were left to live horrible, horrible lives filled with illness.

Edith Charlton, a woman in upstate New York whom we detailed her life, we got her doctor's notes, lived a life filled with a variety of ailments and just lived a terribly, terribly painful life after she was injected with plutonium. Whether her illnesses were related to the plutonium injection or not is still a matter of some conjecture, but most of the doctors we spoke to for this series of articles believe that the plutonium did affect her life.

Mr. Allen had his leg amputated shortly after the injection because doctors wanted to see what happened to his leg where they had injected the plutonium. They took this man's leg off as part of an experiment, and he lived another 44 years with one leg, just because the government wanted to make him a guinea pig.

EDWARDS: Were you able to talk to any of the scientists who were involved in the research?

GALLAGHER: We talked to Glenn Seaborg, the inventor of plutonium who is still alive and living on the west coast. His reaction to this was that, no, I never meant this to be done on humans, but clearly, other people did think it was meant to be done on humans. In the other cases, most of the researchers and doctors have passed away, and all we have are their notes.

We have talked to folks at the University of California at Berkeley where most of the records on this experiment were kept, and it is a difficult thing in conjecture, at best, to try to recreate the mind-set of this American medical community after World War II and try to understand exactly what was going on inside the minds of these people that would cause them to do such a horrible thing.

EDWARDS: Did they come to some conclusion about what happens to the body when there are large amounts of plutonium in it?

GALLAGHER: The conclusions reached as a result of these experiments have not been made public. All we know is that researchers today, Patricia Durbin at the Lawrence-Berkeley Laboratory, says that everybody relies on the data that was garnered from these experiments. This is the single most often used set of numbers. Everything goes back to this one set of data. It's all there is. And yet we have been unable to obtain exactly what the results of those experiments were. So if there are people using this data, we'd like to talk to them because we don't know what exactly the data says.

It is clear that they found that plutonium -- I mean, deduction tells you that they found that the effects of plutonium in the human body were devastating, because they stopped the experiments within a couple of years and, to our knowledge, have never tried them again.

EDWARDS: How much of the secrecy do you think has to do with security and fear of lawsuit, and how much just to the fact that you have a bureaucracy and this is a relatively new team?

GALLAGHER: I think it's clear that DOE is afraid for its backside. They know that out of the 18 families they are likely to be sued by 18. That, I think, is part of the reason for the secrecy.

The other part of the reason for the secrecy is that this is certainly a shameful, shameful chapter in American history. And it is never easy for the successors to admit what their predecessors

did wrong.

EDWARDS: Tim Gallagher is an editor with the Albuquerque Tribune.

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TRANSCRIPT

FOR DEPARTMENT OF ENERGY STATION WJLA-TV
ABC Network
PROGRAM Good Morning America CITY Washington, D.C.
DATE December 28, 1993 7:10 AM AUDIENCE
SUBJECT Secretary O'Leary, et al./Radiation Tests

JOAN LUNDEN: It is a scandal whose roots go back nearly 50 years but whose full dimensions are only now really being revealed, as 32 million pages of documents are being made public. From the 1940s to the 1970s, an unknown number of people were subjected to possibly dangerous doses of radiation, often without their informed consent, as part of experiments supported by the Federal Government.

Secretary of Energy Hazel O'Leary recently ordered a full investigation by her department into these radiation experiments, and she joins us from Washington.

And joining us from WCVB-TV in Boston, Frederick Misilo, the Deputy Commissioner of the Massachusetts Department of Mental Retardation. He is heading up an investigation of a radiation experiment conducted on mentally retarded children in the late 1940s.

Also in Boston, Constantine Maletskos, a former researcher at MIT who worked on that study.

And also, our Science Editor Michael Guillen.

And good morning to everyone.

Hazel O'Leary, I want to start with you, because why did you decide to begin this investigation now?

SECRETARY O'LEARY: Well, for two reasons. First of all, President Clinton, when we came into office, indicated to all of us, by executive order, that we were to declassify material that no longer needed classification because of national security interest. When I came into the job, I indicated to the public generally that I wanted to be very open and very honest with people. These were issues raised constantly to me during my confirmation process, and I was determined to open the door on secrets of the past.

LUNDEN: When you look through all these documents now, how widespread do you think these abuses were? Have you been able to put your finger on that at all?

SECRETARY O'LEARY: Well, this is a very difficult piece to examine because of the very broad nature of the experimentation done. And understand that part of lifting the veil of secrecy involve these human experiments, as well as other details regarding nuclear testing.

So, we're just beginning to get our hands on information.

LUNDEN: Mr. Misilo, one of the controversial studies include giving doses of radioactive calcium and iron to a group of mentally retarded children. Your problem now, of course, is to identify who these children were.

Can you tell us what's going on with this investigation?

FREDERICK MISILO: That's right.

Good morning, Joan.

Our first step is really to determine what exactly took place at Fernald state school over 40 years ago. We've convened a team of physicians, researchers, academics, representatives from Harvard and MIT and representatives from the Governor's Commission on Mental Retardation, as well as our own DMR staff, to review the research and records from that time period. Specifically, we will examine all aspects of the research, including published and unpublished manuscripts and data relating back to that time.

We want to attempt to locate the people who were involved and participated in this study, determine their current status and where they are today. We also want to examine the causes of death of those individuals who have since passed away during the intervening years to determine whether or not there could be an linkages between their test participation and their death.

We also want to encourage people who may have been involved back in the late '40s and early '50s to use the Department of Energy's hotline of 1-800-493-2998 to provide the Department of Energy and the Department of Mental Retardation any information that they may have.

LUNDEN: I'm going to give that number again at the end of the segment.

I want to bring Mr. Maletskos in here because he was -- Mr. Maletskos, you were involved in the study. And I think you've been quoted as saying that you feel as good today as you did back then about the study. And what makes you feel that it was done in a safe manner?

CONSTANTINE MALETSKOS: Did you say that I feel good or...

LUNDEN: Well, I read a quote somewhere where you say you still feel as good today about the study as you did back then. And I ask you why you feel that it was done in a safe manner.

MALETSKOS: Yeah. What I meant by that was that I'm talking about the experimental aspect of it, and I don't know that I would do it any differently now, given the conditions that were available at the time. It was all done under careful conditions of experiment, animal experimentation first, getting all the appropriate data.

And remember that this is a radioactive tracer experiment. The idea was to find out what the nutritional characteristics are of certain cereals with respect to certain elements that are important to growing people.

LUNDEN: I think a big question, though, comes in when -- why were the parents of these children not told about the experiment?

MALETSKOS: Well, they were told about everything except the use of the radioactive material.

LUNDEN: But that's the most important part. That's the most dangerous part.

MALETSKOS: I understand that. And I was not involved with that part of the experiment because I wasn't even at MIT at the time. The information I am positive, knowing Professor Harris was the head of the -- who was the expert on the nutrition, and Professor Roblevans (?) was the head of the radioactivity center, I know that they both would have told the physician in charge of the school that radioactivity was involved. He'd have to know that. Why he excluded it, I don't have the slightest idea.

LUNDEN: I want to bring Michael Guillen in here at this point.

Because, I mean, what I'm hearing here, Michael, is that it was done with good intent in the end. But I also want to ask, did they know or do we know now -- how much do we know about what constitutes a dangerous level of radiation?

MICHAEL GUILLEN: Well, there are government regulations that set certain acceptable limits of radiation. But I have to be honest with you, Joan. They're based on rather uncertain scientific data. To this day, we still don't know a whole lot about the effects of radiation on the human body. We know, for example, that 600,000 millirems, which is a measure of radiation, will kill you. That's a lethal dose, on average. But what happens to the human body when it's exposed to small, low levels of radiation, such as happened in these experiments, over a long period of time, we don't know. Many of these experiments were meant to elicit results of that sort.

What confounds the whole situation even further is that there are at least three different kinds of radiation. I won't go into the technical names. But it depends on the kind of radiation you're exposed to, whether you ingest it or whether you're exposed to, what part of the body you're exposed to. All of that confounds the problem.

And one last thing. There is to this date a debate as to whether a little radiation will cause a little harm. There are some people who feel that you can absorb a certain amount of radiation without having no [sic] harm at all. There are certain mechanisms in the cells of the body, for example, that actually repair damage caused by radiation.

LUNDEN: Michael, leaving Mr. Maletskos's experiment aside, because he's not here to defend all scientists, but in general, some of these experiments that were done back then today would be considered unacceptably risky. Should scientists be held accountable for this?

GUILLEN: Wow, that's a tough question, Joan.

LUNDEN: Yeah.

GUILLEN: Let's be honest. For over 2000 years scientists have done experiments that in retrospect horrify us. You know, it's easy to have moral hindsight. I'm thinking of vivisections, when we used to cut people open to see how their internal organs functioned. Lobotomies. And even to this day, fetal tissue research or putting baboon hearts into children might be looked upon as being morally offensive to many people.

I think, short of making scientific curiosity a crime, I'm not sure exactly what you would charge scientists with.

LUNDEN: Yeah.

GUILLEN: And I think most reasonable people are not prepared to discourage scientific curiosity by making it against the law.

LUNDEN: Hazel O'Leary, I know you've set up a hotline number, which I want to give in a minute. I just want to know, have you gotten a good response in so far?

SECRETARY O'LEARY: Yes. We've gotten a tremendous response in less than a week of establishment of the hotline. And I think the reason the response is so great -- and many people, first of all, are concerned and understanding or believing they or family members have been exposed to experimentation -- is the very fact that the public demand some high ethical standards be established around experimentation on human beings. And I believe that the interest that the public has shown really is focusing on this need to, first of all, remove the veil of secrecy, to have a very open, informed public debate, and then establish a standard much higher than the standards that were in force during the '40s and '50s. And that's why there's so much public interest.

LUNDEN: And that, of course, is the reason for the investigations Mr. Misilo and yours as well.

I've got to jump out here. I do want an opportunity, though, to give this number one more time.

Thank you, all.

The Department of Energy has set up this toll-free line for anyone who may have been used in the federally supported radiation experiments. The number is 1-800-493-2998. Again, 1-800-493-2998. And that line is open from 8:30 A.M. to 4:30 P.M. Monday through Friday.

And we thank all of our guests. We'll be hearing more about this.

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Radiation testing disclosed

■ Retarded boys used for digestion experiments during 1940s, 1950s

Boston Globe

WALTHAM, Mass. — Records at the Fernald State School list them as "morons," but the researchers from the Massachusetts Institute of Technology and Harvard University called the retarded teen-age boys who took part in their radiation experiments "the Fernald Science Club."

In the name of science, members of the club would eat cereal mixed with radioactive milk for breakfast or digest a series of iron supplements that gave them the radiation equivalent of at least 50 chest X rays. From 1946 to 1950, scores of retarded teen-agers consumed radioactive food to help the researchers better understand the human digestive process.

"There is absolutely no ground for caution regarding the quantities of radioactive substances which we would use in our experiments," MIT biochemist Robert S. Harris assured Fernald's superintendent in a letter proposing the research in December 1945. At least some consent forms sent home to parents or guardians do not mention radiation.

The experiments at the Fernald School, which almost certainly would not be permitted today, are one of the darker corners of Massachusetts' atomic legacy. Along with pioneering the field of nuclear medicine, some of the state's leading academic institutions and hospitals also subjected the terminally ill, the elderly and others to radiation doses that are considered unsafe today, often with no possible benefit to the test subjects.

Though never secret — researchers published the results of the Fernald studies in scholarly journals — details of the research effort, funded partly by Quaker Oats Co. and the U.S. Atomic Energy Commission, have sat in a jumble of boxes in the Fernald School library until now.

The *Albuquerque Tribune* of New Mexico sparked new interest in human radiation experiments last month with harrowing accounts of prisoners, mental patients and even pregnant women who were given plutonium and other radioactive material in government-supported research after World War II. U.S. Energy Secretary Hazel O'Leary has started a federal review of human radiation experiments, promising to declassify government documents that shed light on the subject.

"It's very important that the public begin to see that secrecy at bottom is what lets this happen," said David Rush of the Human Nutrition Research Center at Tufts University in Medford, who has written a book on radiation exposure to defense workers.

Paper Says Radiation Test Used 19 Retarded Youths

A14

Nineteen mentally retarded boys who thought they were participating in a science club in the 1940's and 1950's were actually fed radioactive milk by scientists who wanted to learn about the digestive system, The Boston Sunday Globe reported.

The experiment is one of several radiation studies from that time that have come under ethical scrutiny this year. The growing number of questionable experiments has led to a Federal investigation of radiation experiments done on people.

The Massachusetts experiments, carried out from 1946 to 1956, were done on retarded boys at the Fernald State School in Waltham, Mass. Scientists from Harvard University and the Massachusetts Institute of Technology fed radioactive forms of iron and calcium to the boys, sometimes in their breakfast milk, to study the body's ability to digest minerals, The Globe reported, quoting a scientist who participated in the studies and old school records.

While one researcher said that the radiation levels to which the boys were exposed were not harmful, other experts said there was no such thing as a safe level of exposure. The experiment exposed the boys to radiation that was at least the equivalent of 50 chest X-rays, The Globe reported.

The school sent a letter to parents but did not mention radiation. "We are considering the selection of a group of our brighter patients, including your son, to receive a special diet," said a portion of the letter printed in The Globe. The boys were told that they were part of a science club.

Energy Secretary Hazel R. O'Leary promised earlier this month to undertake an investigation of radiation experiments on civilians to learn if the volunteers gave consent and if they fully understood the risks.

A toll-free telephone line, (800) 493-2998, has been set up by the Department to gather information from people who think they may have been used in radiation experiments financed by the Federal Government.

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Detroit hospital exposed babies to radiation in '54

DETROIT—Harper Hospital in Detroit was one of five U.S. hospitals in which newborn babies were exposed to radioactive iodine in 1954. The U.S. Energy Department is trying to find at least 235 people who were exposed to iodine 131, including 70 at Harper. The government experiment was meant to detect a thyroid condition that could cause mental retardation, although the isotope proved an unreliable means of testing. Researchers who conducted the study apparently didn't monitor the patients for subsequent health problems. But Harper spokeswoman Leigh Sullivan said Friday that the dosages were low and probably not harmful.