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Document Destruction Could Threaten INEEL Health Study

The Centers for Disease Control and Prevention (CDC) recently disclosed that over 62 boxes of documents relevant to their INEEL Dose Reconstruction Health Study had been destroyed by the Department of Energy (DOE) or their contractor. The 62 boxes represent approximately 310,000 pages of information. In addition to document destruction, CDC is finding that the original "owners" of documents were recalling the items from the archive without leaving a copy or a record of where the document went.

CDC gave DOE a list of all the documents in 1994 that the health agency wanted preserved for later analysis, however, that notification was not enough to save the information. Some of the destroyed documents included radiation emission records that are essential to determine what kind of radioactive isotopes were released, when they were released, and how much as released. This is called establishing the source term.

Lockheed Martin's INEEL employee newspaper "Star" ran an article on November 24, 1998 describing a two year campaign to clean-out files. The article titled "Site-wide files clean-out a big success" notes that 13,231 cubic feet of documents were destroyed in 1997 and 14,859 cubic feet were destroyed in 1998 for a total of 28,090 cubic feet over the two year campaign. Lockheed Martin believes that "it costs approximately $2,150 annually to maintain a single five-drawer filing cabinet in a local government office. Based on this last statistic alone, nearly $3 million in soft dollar savings may be realized by eliminating a total equivalent of 1,426 file cabinets worth of records and non-records." It is uncertain if there is a connection between the Lockheed Martin file clean-out initiative and the documents CDC wanted preserved, but the coincidence is telling.

CDC has appealed to DOE Headquarters and DOE's Idaho Operations Office in an attempt to stop the hemorrhaging. Jim Smith, Director of CDC's Radiation Studies Branch sent a letter to Elly Melamed at DOE/HQ expressing his concern over their lack of a process for tagging boxes that CDC has identified as relevant and preserving it in the archive. Smith also requested that if document "owners" attempt to pull items out of an archive, that a copy of the document is retained at the archive.

In May 1998, CDC's INEEL Health Effects Advisory Committee sent a letter to Paul Seligman at DOE Headquarters asking that the previous administration's (Hazel O'Leary) moratorium on document destruction be reaffirmed and expanded to include documents identified by CDC. Two quarterly reports (October-December 1993 and January-March 1994) by CDC researchers acknowledge DOE document destruction as a major problem.

Seligman's response to INEEL Health Effects advisory committee chairman Dr. Roy Ellsworth in October said that DOE's moratorium on the destruction of records was still in force at INEEL and throughout the Department and headquarters staff were working with the staff at INEEL to prevent the further destruction of any documents. CDC critics have noted that the agency did not adequately label the documents or boxes with bright "do not destroy or remove" stickers. With the incentive to remove potentially libelous information, it is not likely a label would provide a deterrent.

CDC started its INEEL document review and retrieval in 1992 and todate has yet to complete this phase of the dose reconstruction health study. The longer the process drags out the more likely that the only paper trail left will be the public relations reports. INEEL is the most challenging to audit because it had more different programs, agencies, and contractors than any other facility in the national DOE Complex. Consequently, documentation on these varied projects is literally spread all over the country in different government and contractor archives.

DOE resisted a Freedom of Information Act request for an index of its classified documents, using the excuse that an index did not exist. After an exhaustive appeal of the initial denial, DOE grudgingly released the existing index to the Environmental Defense Institute. This index will offer some minimal means of checking that CDC is requesting declassification of all relevant information and getting it identified to minimize the chances for destruction.

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National Cancer Institute Study Challenged by Independent Researchers

In 1990 the National Cancer Institute (NCI) released a study titled "Cancer Mortality in Populations Near Nuclear Facilities" which found no increased cancer risk near nuclear facilities. Jay Gould, PhD, and members of the Radiation and Public Health Project, including world renowned epidemiologist, Ernest Sternglass, recently published a book titled "The Enemy Within, The High Cost of Living Near a Nuclear Reactor" that challenges the NCI research findings.

Gould, also an epidemiologist and statistician utilized the same NCI, state health department, and Centers for Disease Control data on cancer incidence to show that there is a significant impact on populations surrounding nuclear power reactors and Department of Energy (DOE) nuclear sites. Gould offers official statistical evidence proving that residents of nuclear counties - the 1,321 counties within 100 miles of a reactor - suffer disproportionately from nuclear fallout.

Gould challenges the fundamentals of NCI's study methodology. He explains that NCI compared "nuclear" counties with adjacent "non-nuclear" counties. Since radiation from the nuclear sites can travel a hundred miles or more, Gould contends that NCI deliberately tried make it appear that there was no cancer increase by comparing highly irradiated counties with other highly irradiated counties as a control group. He states, "it is clear that the choice of 'control' counties alone virtually guarantees that there would be little or no difference in cancer rates. This permitted the misleading [NCI] conclusion that there is no evidence that an excess occurrence of cancer has resulted from living near a nuclear facility." Gould notes that "despite that bizarre method of selecting control counties, an examination of the aggregated NCI data for all 107 study or 'nuclear' counties and for all 292 [NCI] selected adjacent control counties combined for the periods before and after [nuclear] start-up ... in the NCI report, all show significant increases in cancer risk relative to that for the United States as a whole, which is in direct contradiction to the ultimate conclusion reached by the NCI."

Gould uses the same official data used by NCI to trace the differential growth of white female breast cancer mortality in each of the counties that make up the nation in order to analyze the environmental factors that have contributed to the epidemic rise of this disease over the past four decades. Breast cancer is universally acknowledged to be a health outcome from radiation exposure.

A database of county-by-county, age adjusted breast cancer mortality rates, secured from the National Cancer Institute, permitted the researchers to examine the environmental differences between those geographic clusters in which cancer mortality is both most and least concentrated. The age-adjusted county cancer mortality rates are what the rates would be if every county had the same age composition that the US had in 1950.

The NCI report concludes that "if...any excess cancer risk was present in US counties with nuclear facilities, it was too small to be detected with the methods employed." Gould's book shows "that in reaching this erroneous conclusion, the NCI misrepresented their own data, chiefly by defining only 107 counties as 'nuclear'. Such small samples of the nations's 3,000-odd counties would not be large enough for any divergent mortality trend to prove statistically significant. Our findings imply that women living near reactors are at greater risk of contracting breast cancer, which does not mean that women living further away from reactors are safe. It does suggest that some malevolent force of mortality is being emitted from reactors and that this force could interact with pesticides and other chemical pollutants, thus affecting residents of all counties to varying degree."

Gould goes on to note that "one of our most revealing findings concerns the 14 counties in which the 7 oldest Department of Energy reactor sites are located. The combined age-adjusted white female breast cancer mortality rate for all 14 of these counties rose by 37 percent from 1950-54 to 1985-89, when the corresponding rate in the United States rose by only 1 percent. Over that period, the number if breast cancer deaths in those 14 DOE counties quintupled, whereas the number in the United States doubled. The probability that so great a divergence in mortality trends could be the product of chance is infinitesimal."

One of the "nuclear" sites identified by both NCI and Gould was INEEL. Gould further expanded his study into two impact zones - fifty mile radius and a hundred mile radius around nuclear sites in the US. This more accurately accommodates the likely populations effected by radiation released from these nuclear sites. Gould found the age-adjusted white female breast cancer mortality rates per 100,000 population within 50 miles of INEEL (3 counties, Bingham, Butte, Jefferson) rose 329% between 1950-54 and 1980-84, and rose 318% between 1950-54 and 1985-89. The 1985-89 mortality rate per 100,000 of 21.1 exceeded the state of Idaho rate of 18.9. See Figure 1& 2. Within 100 miles of INEEL (16 counties), Gould found the breast cancer death rates per 100,000 rose from 41.2 in 1950-54 to 22.3 between 1980-84 or an increase of 57%. See Figure 3 & 4. The 1985-89 mortality rate per 100,000 of 20.1 within fifty mile radius and 19.8 within the hundred mile radius exceeded the state of Idaho rate of 18.9.

Gould's methodological approach to the NCI data caused quite a stir within the government agency. He notes

that "our use of the NCI database evidently caused some official concern. We are in possession of a confidential NCI memorandum dated 1/5/95, by Dr. Charles E. Land, a health statistician in the [NCI] Radiation Epidemiology Branch. His [Land's] memo was written to debunk our findings but unwittingly confirms them."

NCI's Dr. Land adopted the same 50 mile radius that Gould used and Land's results for INEEL (rate per 100,000) are compared with Gould and Idaho as a state. Figure 7 below shows that Gould's findings of breast cancer mortality rates are actually lower than Land's. This means that Land shows that more women are dying from breast cancer than what Gould shows with the exception of the 1950-54 time period. Land's own figures still show an 87% increase in the fifty mile radius around INEEL. Gould's understated cancer incidence rates are largely due to not including Clark county (on the north part of INEEL) which had double the state rate for breast cancer mortality though Gould included Clark county in his 100 mile radius.

Idaho and Utah have the lowest cancer rates in the whole nation. The Idaho counties around INEEL enjoyed a breast cancer mortality rate in the first half of the century that was about half the national rate. The four decades in the second half of the century shows a dramatic increase in breast cancer mortality that now approaches the national rates. These same counties around INEEL trailed significantly behind even the state mortality rates prior to the 1950's, and now exceed the state breast cancer mortality rate. This anomaly is occurring during an era when the national rates are relatively unchanged with a slight increase of 2%.

The state of Idaho experienced an increase in the 1980's of 18% which could be attributed to the combined impact in northern Idaho to Hanford and southern Idaho's exposure to the Nevada nuclear bomb fallout and INEEL. Another study in 1997 by the National Cancer Institute (NCI) acknowledged that five of the six counties in the United States receiving the most fallout from Nevada nuclear bomb tests were in southern Idaho. NCI came under considerable criticism for withholding the Nevada fallout report for five years because as NCI Director Bruce Wacholz stated to Congress, there did not seem to be any public interest in the report findings.

Jay Gould is launching a new study focusing on prostrate cancer around DOE reactors - including INEEL. For age-adjusted prostate cancer mortality rates, the national increase was 3 percent, but for the 14 counties around the seven oldest DOE reactors, the corresponding increase was 19 percent--based on an increase from 112 prostrate cancer deaths in 1950-54 to 649 in 1985-89. Gould notes that "we have found that the radiation-induced increases in prostate cancer are even greater than for breast cancer, and so we plan soon to publish a companion volume to *Enemy Within*."

Gould believes that " the current epidemic increase of breast and prostate cancer mortality reflects the cumulative effects of our 50 years of exposure to low-level radiation in the nuclear age, which has weakened the ability of the immune systems of old persons to cope with cancerous cells. Since 1980--particularly persons born after 1945 exposed at birth to two decades of above-ground nuclear weapons test equivalent to exploding 40,000 Hiroshima bombs--have been contracting cancer at increasingly younger ages. Baby boomer women now are getting diagnosed for breast cancer as young as 35. Baby boomer men are now beginning to be diagnosed with prostate cancer at the early age of 50 and 55."

Gould notes that "because the latency period for prostate cancer is 20 years longer than for breast cancer, we can expect a continuation of the current prostate cancer epidemic increase to continue well into the next century. Men born in 1945 will reach the peak years of prostate cancer mortality in the years 2010-2015."

These revelations are a vindication of Drs. Carl Johnston and Michael Blain's 1985 INEEL paper submitted to the American Association for the Advancement of Science that found comparable health impacts.

A useful resource book called the *Petkau Effect* by Ralph Graeub reviews recent health studies on radiation exposure. Graeub writes that, "the aim of this book is to present the range of health and ecological dangers of fission products released into the air and water. Among the most important of the recent scientific discoveries that has been successfully kept from the public is the Petkau Effect, the discovery that showed low-dose, protracted radiation exposures such as those produced by radioactive fission products, to be hundreds, to thousands of times as damaging as the same dose received in a short medical X-ray."

Graeub notes that "in the past three years, new and decisive information relating to the Petkau Effect has surfaced. In both the biochemical, pharmaceutical, and medical fields, the term 'oxidative stress' has been introduced at long last. This condition is caused by oxygen free radicals, a highly toxic, unstable form of oxygen that attacks living cells. These radicals already occur during the course of normal cellular life, especially in the respiratory process. They are controlled by a protective system of the body involving enzymes, vitamins and micro nutrients. If the level of oxygen free radicals exceeds that which the protective system can control, the result is oxidative stress and subsequent membrane damage (Petkau's discovery)."

Ernest Sternglass is heading up a Radiation and Public Health Project study of strontium-90 accumulation in baby teeth. They are asking people that live near nuclear facilities, to send in their baby or other extracted teeth so they can be analyzed. This new approach is a more definitive means of determining radiation dose to a given individual. By comparison, a dose reconstruction study can only vaguely

estimate a dose range for a hypothetical individual living in a certain area. The tooth study will also largely eliminate the cause and effect question. The government will have a difficult time avoiding responsibility for high strontium-90 concentrations in a individual's teeth.

For mor information contact the Radiation and Public Health Project at 1630 W 22nd St, Miami Beach, Florida 33140, 1-800-582-3716, Email: jbrown@icanect.net Internet Website: www.radiation.org

State Health Studies Also Indicate Problem Near INEEL

Idaho's Division of Health is conducting a cancer survey in counties around INEEL and the agency is finding higher rates than national averages. A 1995 study analyzed a 17 county area comparison of cancer incidence rates (1971 to 1992) and compared it to the other 27 Idaho counties. This 17 county study is similar to Jay Gould's 16 county (100 mile radius around INEEL). The state study counties include Bannock, Bingham, Blaine, Bonneville, Butte, Caribou, Cassia, Clark, Custer, Fremont, Jefferson, Jerome, Lincoln, Madison, Minidoka, Power, and Twin Falls. The aggregate 17 county study found cancer incidents (observed) compared to the other 27 county control group (expected). The results include: stomach cancer (observed 390 with 383 expected); brain cancer (observed 385 with 378 expected); and leukemia (observed 461 with 438.7 expected). This comparison may be understating the problem because the counties in northern Idaho have high cancer rates possibly due to Hanford radioactivity.

In 1996 the state narrowed the previous study down to six counties south and east of INEEL including, Bingham, Bonneville, Butte, Clark, Jefferson, and Madison. The age-adjusted incidence rate for central nervous system cancers in the six country area was 8.1 per 100,000. The rest of Idaho had a rate of 7.0 per 100,000 compared with national rate of 6.3 per 100,000. This means that there is considerably more cancer occurring in these six counties than is occurring in the state or the United States. The observed number of central nervous system cancers for the six-county area was 110 (89 expected, based on the rest of Idaho). The analysis was then confined to brain cancer (other central nervous system cancers such as chordoma and optic tumors were excluded). See Figure 5. The state report notes that "a significantly higher number of cases of brain cancer 182 were observed when 151 would be statistically expected in the six country area for the years 1975 to 1994." Another 1996 state analysis of a reported cluster area around the town of Moreland in Bingham county revealed an increased rate of brain cancers, 4 observed with 1 expected between 1980 and 1995. See Figure 6.

In Blaine county, a state survey requested by a local physician found that the female population younger than 70 had statistically significant elevated rates of breast cancer. Epidemiologist are studying the same factors as in the ongoing eastern Idaho brain cancer study. In Clark County, the agency found statistically significant increase of radiogenic cancers (25 observed, 16 expected) including eight cases of female breast cancer when only 3.2 cases were expected. In Minidoka County, the agency found 20 cases of stomach cancer when only 11.6 were expected.

The American Cancer Institute (ACI) Idaho Division also acknowledges breast and prostrate cancer at the top of the most common in Idaho. ACI ranks Clark county at the northern end of INEEL as nearly double all other eastern Idaho counties as well as national rates for breast and prostrate cancers.

The state reports reiterate that "considering the number of statistical tests that were done, the results did not indicate any unusual findings." Unless there is a statistically significant difference between a local cancer rate compared to a state or national rate, than the state health department is unconcerned. A more sensible attitude from a public health perspective is: if there are radical increases in radiogenic diseases over a long period of time, then the agency is obliged to make every effort to determine the cause and notify the effected public. To wait until there is a statistical significance is like waiting until the tornado hits before heading for the storm cellar. Copies of Jay Gould's INEEL related findings were sent to the Idaho Division of Health. The agency declined to comment but requested a copy of the entire book. Todate, the National Cancer Institute has yet to respond to Gould or the other authors of *Enemy Within* or to notify the public of the increased rates of breast and prostrate cancer near nuclear facilities. These health agencies have a mandate to protect the public health. Our tax dollars support their programs, yet there seems to be a disconnect in the realm of accountability.

References:

1. American Cancer Society, Idaho Division Bonneville Unit, M. O. Huntington, M.D. "Public Education Awareness: The Key to Cure"

2. *The Enemy Within*, by Jay Gould with Members of the Radiation and Public Health Project, Ernest Sternglass, Joseph Mangano, William McDonnell, 1996

3. Idaho Division of Health, "Idaho Public Health Brain Cancer Study" April 25, 1997

4. Comparison of Cancer Incidence Rates Between Selected Counties and the Remainder of the State of Idaho, Cancer Cluster Analysis Work Group, Idaho Department of Health and Welfare, March 1995

5. The Petkau Effect, The Devastating Effect of Nuclear Radiation on Human Health and the Environment, Ralph Graeub, 1994, Four Walls Eight Windows. ##

Age-Adjusted White Female Breast Cancer Rates 1950-89 Within 50 Miles of INEEL *

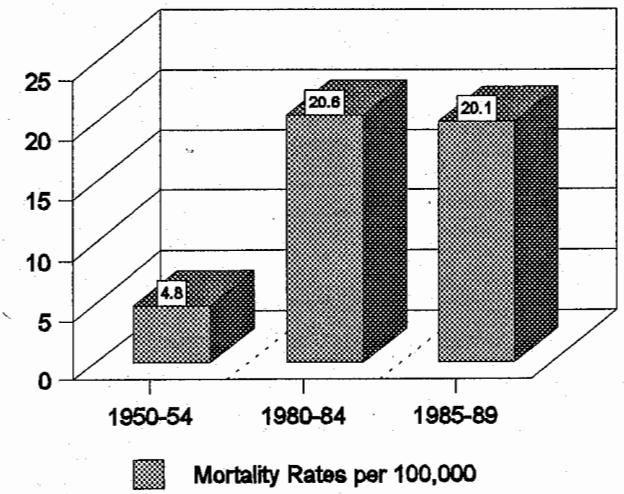

Figure 1

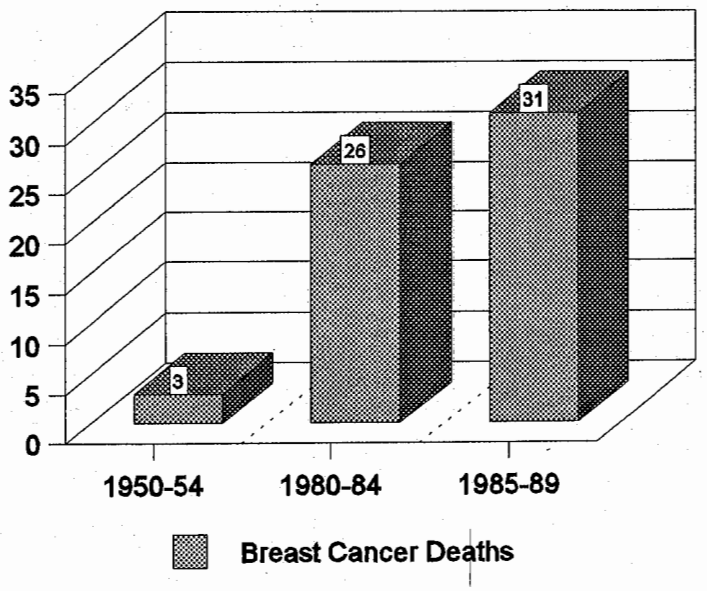

Figure 2

Breast Cancer Mortality Rates per 100,000 1950 to 1989 Within 100 Miles of INEEL *

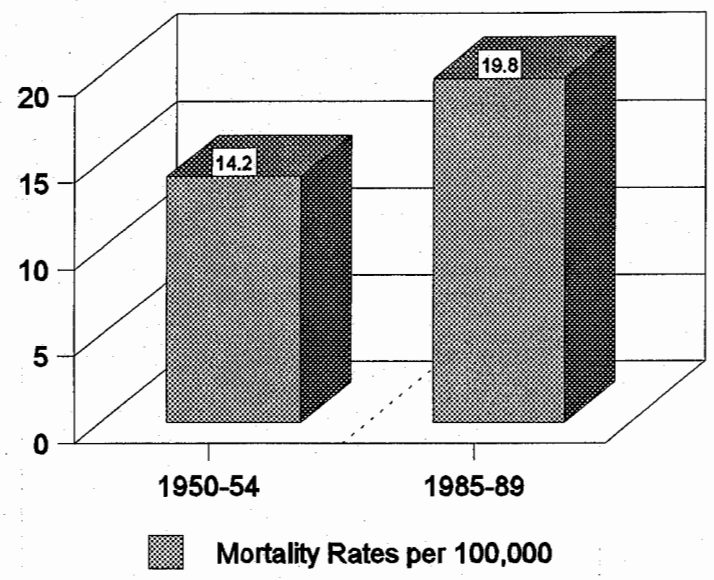

Figure 3

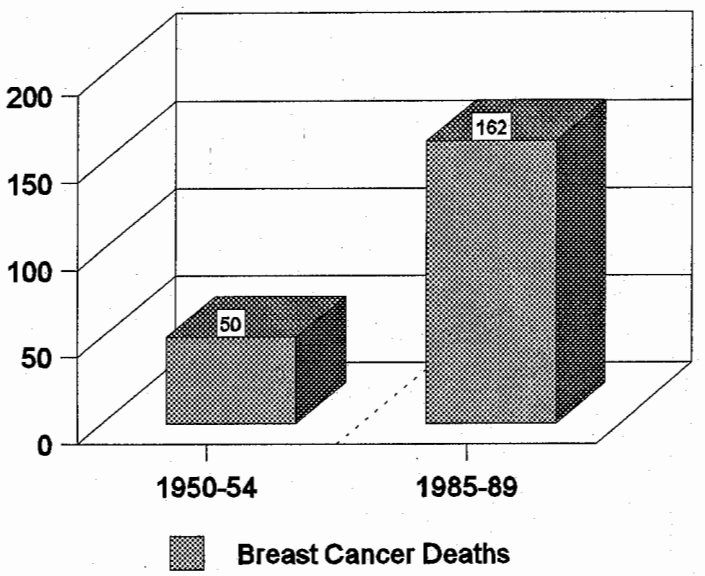

Figure 4

* *The Enemy Within*, by Jay Gould with Members of the Radiation and Public Health Project, Ernest Sternglass, Joseph Mangano, William McDonnell, 1996

Age-Adjusted Incidence Rate per 100,000 1985-94 for Central Nervous System Cancers in Bingham, Bonneville, Butte, Clark, Jefferson, and Madison Counties Surrounding INEEL*

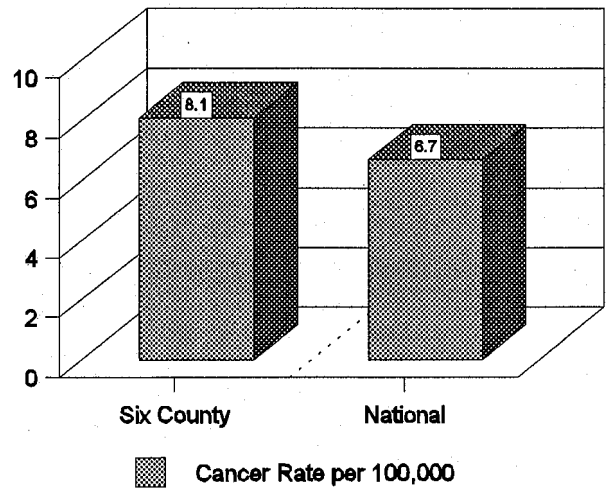

Figure 5

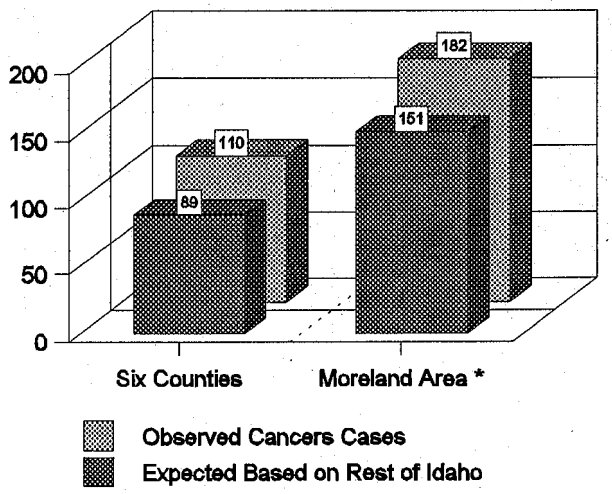

Figure 6

* Idaho Division of Health, "Idaho Public Health Brain Cancer Study" April 25, 1997

Figure 7

White female Breast Cancer Mortality Rates 1950-89
Counties Within 50 and 100 Miles of INEEL

	Age-Adjusted Mortality Rates Per 100,000			Percent Change		Number of Deaths		
	1950-54	1980-84	1985-89	1980-84/ 1950-54	1985-89/ 1950-54	1950-54	1980-84	1985-89
Gould								
50 Mile	4.8	20.6	20.1	333%	322%	3	26	31
100 Mile	14.2	22.3	19.8	57%	39%	50	161	162
Land (NCI) 50 Mile	12.6	23.5	21.1	87%	67%			123
Idaho	18.9	22.3	18.9	18%	0%	242	585	571
United States	24.4	24.9	24.6	2%	2%			

DOE Revises Test Area North Cleanup Plan

The Department of Energy's (DOE) Revised Proposed Cleanup Plan for INEEL Waste Area Group 1 - Test Area North (TAN) dated November 1998 contains a few important changes that are a result of the Environmental Defense Institute's review of the February 1998 initial plan that showed significant non-compliance with applicable statutes. The State of Idaho and Environmental Protection Agency regulators must be acknowledged for taking the steps within their regulatory authority to force DOE to revisit the initial TAN Cleanup plan.

Unfortunately, the TAN plan still fails to provide remedial solutions for other contamination sites that meet - regulatory requirements. The Plan mailed out to stakeholders offers no substantive information about the maximum contamination levels related to individual contamination sites. Consequently, the general public is effectively denied essential information upon which to make their own determination of whether the preferred alternatives were appropriate.

The Plan claims to be "the comprehensive" Superfund investigation into TAN. This is not a "comprehensive" Plan because the Aircraft Nuclear Propulsion Cask Storage Pad, the Area 10 HTRE Reactor Vessel Burial Site, and the TAN Pool have been excluded.

The Heat Transfer Reactor Experiment (HTRE) was part of the 1960's Aircraft Nuclear Propulsion - Initial Engine Test - program. The underground reactor storage unit (near the TAN Turntable) was intended as a shielded temporary storage unit to put reactors and its shield plugs between test runs. The storage unit is a ten foot tank buried vertically with the top end cut out at the ground surface. The reactor vessel and shield plug (10 feet in length) were accidentally dropped into the tank when a crane rigging failed and the vessel wedged in the tank making extraction difficult. So the HTRE reactor was simply left in the storage unit and DOE is prepared to leave it there for ever despite the fact that it violates waste disposal regulations. In addition to the highly radioactive reactor vessel (Cs-137, Co-60, Sr-90 contaminants), shield plugs of the HTRE's were filled with mercury which would also violate RCRA hazardous waste disposal regulations. According to the Remedial Investigation/ Feasibility Study (RI/FS) "Soils below and around the reactor vessel storage units have not been sampled making a estimate about the nature and extent of contamination at the site difficult." The HTRE reactor vessel is less than two feet from the surface which creates a long term hazard from exposure. The storage tank is already forty years old making containment migration problematic.

The contamination the TAN Plan addresses is mixed hazardous / radioactive low-level waste (MLLW) and is listed in DOE's own Site Treatment Plan (STP) which the Department was required to generate to comply with the Federal Facilities Compliance Act. This MLLW designation is supported by the TAN Remedial Investigation/Feasibility Study (RI/FS) sample data that clearly shows Resource Conservation Recovery Act (RCRA) Toxicity Characteristic Leaching Procedure (TCLP) extraction analysis results exceeding the regulatory limit in 40 CFR ss 268.48. Therefore RCRA Land Disposal Restrictions must be applied. Unfortunately, the State of Idaho Division of Environmental Quality (DEQ) and the Environmental Protection Agency as regulators refuse to force DOE to comply with the legal requirements of the most basic of environmental laws. The Plan proposes disposal of this MLLW in a manner that would not even comply with municipal garbage landfill requirements let alone the more stringent MLLW regulations.

DOE does commit to excavation of two soil contaminated sites. However, DOE's statement of "on-site disposal at an approved repository" offers little assurance that DOE will meet regulatory requirements. At those two sits, the agency is not specifically committing to disposal in a RCRA compliant Subtitle C MLLW dump.

The Environmental Defense Institute advocates for the construction of a RCRA Subtitle C dump away from any flood plains and off the Snake River Plain Aquifer. See EDI comments on ICPP Proposed Plan. Dumping radioactive and chemical waste in unlined shallow pits and trenches over top of the regions sole source Snake River Plain Aquifer must end. This misguided dumping practice at the INEEL Radioactive Waste Management Complex Subsurface Disposal Area has resulted in extensive contamination of the aquifer. Absent a definitive commitment to do otherwise, the proposed TAN Plan intends to repeat this dumping practice despite undeniable examples of failure of this approach. DOE has already gotten away with this illegal dumping in the Test Reactor Area Warm Waste Pond Environmental Restoration project completed in 1997. The Department is repeating this type of dumping at the Naval Reactor Facility and Argonne-West.

For a copy of the INEEL cleanup plan call DOE at 1-800- 708-2680 or Idaho Division of Environmental Quality at 1-800-232-4635. Also visit Environmental Defense Institute's website: http://users.moscow.com/carlmick/