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Idaho Cancer Rates at Record Levels

According to the Cancer Data Registry of Idaho there was an increase of 359 cancer cases in recent years. "This was one of the largest single-year increases in cancer incidence in the history of the Cancer Data Registry of Idaho. Cancer sites with notable increases from 1999 to 2000 were lung, melanoma (in-situ), oral cavity and pharynx cancer counts increased over 1999 levels. The number of in-situ melanoma cases is 65% higher than for any previous year. The prostate cancer incidence rate is the highest it has been since the spike in prostate cancer rates in 1990-1993 due to prostate-specific antigen screening. However, the increase in rates was limited to Health Districts, 2 [north-central], 4, 5 [south-western], and 7 [south-eastern]."¹

Registry data indicate the high cancer rates continue. "There were approximately the same numbers of cases diagnosed in 2001 as in 2000. However, there were some large differences by cancer site. Cancer sites with notable increases from 2000 to 2001 were Hodgkin's lymphoma, larynx, liver, plasma cell tumors, pancreas, and thyroid. Thyroid cancer incident cases increased 40% over 2000 levels, with increases of 50% or more in Health Districts 1, 3, and 4."² Health Districts start numerically at #1 in the north and end with # 7 in the southeast of Idaho.

The high cancer rates in Health District 1 could be attributed to emissions from DOE's eastern Washington Hanford nuclear reservation. Dr. Allen Benson's analysis, as well as the research conducted by Dr. Thomas Pigford which was commissioned by the US District Court hearing the Hanford Downwinders suit, both showed that causation for the high rate of cancer in Health District 3 (Lewiston area) can be attributed to Hanford emissions following wind patterns up the Columbia and Snake River drainage canyons.

According to the Idaho Division of Health report, "Relationship of Cancer Sites to Radiation Summarized from BEIR V 1990", nearly all of the above cancers have an "established relationship to external radiation sources." The three major sources of radiation in the northwest are Hanford, INEEL, and the Nevada Test Site.³

State health studies also indicate problems near INEEL. Idaho's Division of Health conducted a cancer survey in counties around INEEL and the agency found higher rates than national averages. The 1995 State study analyzed a 17-county area cancer incidence rates (1971 to 1992); compared it to the other 27 Idaho counties, and found statistically significant increases.

The counties near INEEL included in the state study 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 state-wide 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's parameters 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-county 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 rest of the state or the United States.

The observed number of central nervous system cancers for the six-county area around INEEL 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). 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-county 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.

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. Epidemiologists are studying the same factors as in the ongoing eastern Idaho brain cancer study. In Clark County, the agency found a 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 that breast and prostate cancers are at the top of the list of most common cancers in Idaho. ACI ranks Clark county (at the northern end of INEEL) cancer rates for breast and prostate cancers as nearly double that of all other eastern Idaho counties as well as the national rates.⁴

An extensive 1997 National Cancer Institute (NCI) study, *Estimated Exposures and Thyroid Doses Received by the American People from Iodine-131 in Fallout Following Atmospheric Nuclear Bomb Tests*, identified the Idaho counties of Blaine, Custer, Gem, Idaho, and Lemhi (also Meagher county in Montana) as receiving the highest fallout compared to the whole country. NCI reports that; "Individuals living in these five western counties were estimated to have a cumulative average dose of 12 to 16 rads."⁵ Despite these compelling reports, President Bush is going to restart nuclear bomb testing in Nevada. See article below.

For more information on this issue see EDI's January 1999 Newsletter, www.environmental-defense-institute.org

Nuclear Weapons Testing in Nevada Restart Approved in US Senate Impacts the US Northwest

US Senator Dianne Feinstein, (D-CA), in a heroic last ditch effort to delete funding for President Bush's new nuclear weapon development program, lost in a narrow partisan vote in the Republican-controlled Senate.

Edward Epstein reports in the San Francisco Chronicle 9/17/03 that the Bush administration's plans, which would reverse a decade-old policy, have become something of a crusade for the San Francisco Democrat, who has attacked the idea in unusually tough terms. She scoffs at administration contentions that it merely wants to study the concept of small nuclear weapons and not build bombs that she fears might be more tempting to use.

Feinstein said the White House was hiding its true intentions while setting off a new nuclear arms race. "Oh, it's just a study is what we hear," she told her Senate colleagues as she opened debate on her proposal. "The administration is saying we can make nuclear weapons less deadly and acceptable to use. Neither is true."

She said the administration clearly planned to

develop the weapons, reversing years of U.S. policy. "There is a very clear march on to develop these weapons - it's all sotto voce," she said, using the Italian phrase for "in a soft, secretive voice."

The U.S. Senate voted 53-41 to table Feinstein's amendment to cut \$21 million in research funds from the \$27.3 billion energy and water appropriations bill. That was the same margin of defeat Feinstein suffered last May in an earlier attempt to kill the research.

However, her idea for maintaining a specific 10-year-old ban on such weapons development is still alive because the Republican-run House has unexpectedly adopted language similar to hers. House-Senate conferees will have to agree on a common bill.

One of the categories of new nuclear weapons being developed is called "bunker busters" (officially called "earth penetrating weapons") that are "lower-yield" bombs (5 to 340 kilotons) designed to destroy underground enemy sites. The maximum estimated penetration depth of a free-falling bomb is 12 meters, yet a nuclear device of only 1 kiloton would have to penetrate 167 meters in order for the radioactive fallout to be "contained." Further, in order to eliminate chemical or biological weapons the bomb would have to hit with pinpoint accuracy, otherwise the agents would be dispersed along with the radioactive fallout.

The Union of Concerned Scientists (UCS) has extensively analyzed this "bunker buster" nuclear bomb and concluded that significant radiation will be emitted with each bomb (in testing or in a war theater) due to the shallow earth penetration. USC writes that:

- Since weapons cannot penetrate very deeply into the ground, destroying deep, hardened targets requires powerful, high-yield nuclear warheads.
- Even a small, low-yield earth-penetrating nuclear weapon will create enormous fallout. The explosion cannot be contained underground. The radioactive debris thrown into the air can drift for miles on the wind. There is no guarantee that a nuclear blast will successfully destroy chemical or biological weapons.
- A nuclear attack on a bunker that contains chemical or biological weapons could easily lead to the release and spread of those agents.

Four Attorney Generals Oppose Nuclear Waste Laws

Washington Governor Christine Gregoire and her colleagues in three other states described as “wholly unnecessary” a recent legislative proposal from the U.S. Department of Energy (DOE) that would give the agency broad latitude in deciding how to categorize and dispose of high-level nuclear waste at Hanford, INEEL, and Savannah River Site.

In a letter to the congressional leaders, Gregoire and the Attorneys General of Oregon, Idaho and South Carolina said the broad discretionary authority that would be granted by the proposed legislation would not ensure protection of human health and the environment.

“DOE’s proposal is simply another attempt to get around what Congress intended for the safe disposal of high-level radioactive waste at Hanford and other nuclear facilities around the country,” Gregoire said. “Current laws will ensure adequate cleanup at Hanford and we will oppose any effort to weaken those laws.”

Gregoire said DOE’s proposal is based on a misreading of a federal judge’s decision in July in a case challenging an internal DOE policy on nuclear-waste disposal. That decision by U.S. District Court Judge B. Lynn Winmill in Idaho invalidated a DOE order that would have given the agency broad authority to redefine high-level radioactive waste as low-level and transuranic waste, which require less stringent disposal methods.

Gregoire said Windmill’s decision merely affirmed Congress’ longstanding intent to ensure that high-level radioactive waste is safely disposed of in a geologically stable underground repository while allowing properly treated, less-radioactive waste to be disposed of elsewhere.

Washington, Idaho, Oregon and South Carolina submitted a friend of the court brief in the Idaho case, which was filed by the Natural Resources Defense Council, affected tribal nations, and others. The states also proposed to resolve waste disposal issues through mediation rather than litigation, but DOE rejected the proposal.

The DOE legislative proposal, which was presented in a letter earlier this month to U.S. House Speaker Dennis Hastert, would amend the Nuclear Waste Policy Act and other federal laws to overturn the court’s decision.

The letter from the attorneys general echoed concerns sent to DOE Aug. 12 by Washington Department of Ecology Director Tom Fitzsimmons and his counterparts in Idaho, Oregon and South Carolina. In a letter to DOE Secretary Spencer Abraham, the environmental officials said DOE already has the tools needed to treat and properly dispose of high-level radioactive waste and that amending

the law would only undermine mutual efforts to address nuclear waste issues.

There are approximately 54 million gallons of high-level radioactive waste located at the Department of Energy’s Hanford Nuclear Reservation in Eastern Washington. The waste, enough to fill a football field 150 feet deep, is stored in 177 aging underground tanks. Over one million gallons of waste have already leaked from Hanford’s tanks, contaminating the surrounding soil and groundwater, and threatening the Columbia River—the lifeblood of the Pacific Northwest.⁶

An additional one million gallons of high-level waste is currently in non-compliant tanks at the INEEL. These tanks are located above the Snake River Aquifer, the sole source drinking water aquifer for a large portion of the State of Idaho. Over the years, approximately twenty thousand gallons of this high-level waste have leaked into the soil and groundwater at INEEL.⁷ EDI considers these INEEL waste tank leakage rates to be grossly understated. DOE recently acknowledged that INEEL high-level radioactive tank waste is migrating into the aquifer, but continues to claim the waste “posed no immediate health threat.”⁸

DOE Appeals US District Court Rulings Against Its Management of Nuclear Waste

Undaunted by two separate US District Court rulings in two separate cases that found DOE is violating the law and court orders, the agency has filed appeals to the US Circuit Court of Appeals in San Francisco in a desperate attempt to avoid spending the money necessary to clean up its mess. Over five decades of mismanagement of its legacy waste from nuclear weapons and nuclear power operations continues to threaten populations living near these sites in Idaho, Washington and South Carolina.

The first appeal relates to DOE’s refusal to exhume buried radioactive waste at INEEL and ship it to a permanent geologic repository outside of Idaho. This litigation was originally initiated by the State of Idaho. Even if the state prevails in the Appeals Court, a category of transuranic waste called “low-level alpha” containing plutonium and other long-lived radioactive isotopes⁹ will remain in INEEL’s dump because the state refused, despite public outrage, to include it in the court sanctioned Consent Order.¹⁰ This is a crucial issue given that plutonium and many other hazardous and radioactive wastes are currently migrating from the INEEL dump into the aquifer and beyond the INEEL site into surrounding community’s water source. US Geological Survey reports show INEEL aquifer contamination over 20 miles south of

the INEEL site boundary.¹¹ (c) Also see EDI report on “Snake River Plain Aquifer at Risk from INEEL Pollution” April 4, 2003. <http://www.environmental-defense-institute.org/publications>

The State of Idaho’s arrogance and “good old boy” relationship with the largest employer in the state and with enormous economic leverage on politics will prove in the long-term to be catastrophic to future generations using the Snake River Aquifer.¹²

DOE’s second court appeal relates to their refusal to remove all the high-level radioactive waste from storage tanks at INEEL, Hanford, and the Savannah River Site.¹³ This litigation was originally initiated by the Natural Resources Defense Council (NRDC). The US District Court ruled that DOE was violating the Nuclear Waste Policy Act by leaving mixed hazardous and high-level radioactive waste in the tanks and not removing all the waste to a permanent geologic repository as required by the statute.

It is tragic and unconscionable that DOE is taking these additional legal actions to avoid compliance with the law and federal court rulings. The legal costs are enormous to public interest organizations like the NRDC and cash strapped states to continue to defend the public against this out-of-control federal agency. American taxpayers are funding the Department of Justice’s defense of DOE. We the taxpayer and water user get screwed from all sides!

Basically, what the Bush administration is trying to do is replicate what the Russians did and declare these areas permanent nuclear sacrifice zones for perpetuity. This is a terrible legacy to leave to future generations of Americans living in the shadow of these nuclear sites!

**Federal Lawsuit Alleges DOE Hides
INEEL Mission Change Information
from the Public**

A federal lawsuit filed September 15, 2003 in Pocatello under the Freedom of Information Act alleges that the Department of Energy (DOE) failed to provide information regarding a plan to develop commercial nuclear reactors and other federal nuclear programs at the INEEL.

The lawsuit filed by David McCoy of Idaho Falls, alleges that the withheld records will show that the DOE sidestepped federal environmental law in promoting construction of new nuclear reactors in Idaho and elsewhere. By refusing to provide information about a

mission change for the INEEL, the DOE has denied the public participation in the mission change decision and has hidden the dangers and alternatives to building nuclear reactors.

McCoy tried for over a year to obtain documents about the INEEL mission change. The mission change decision was made after 18 months of secret meetings between state and federal officials. The meetings had no public notice or media coverage until the announcement of the mission change.

The mission change violates federal environmental law because agencies are required to publicly study the alternatives and environmental impacts to decisions before taking action and committing public funds to a project.

The DOE chose to commit \$300 million of tax dollars for further nuclear development in an area bordered by Yellowstone and Craters of the Moon without any impact studies. This was accomplished by DOE mischaracterizing the mission change as an “administrative action.”

The mission change for the INEEL was made despite the DOE’s massive dumping of radioactive waste into the Snake River Aquifer and the continued failure to clean up the extensive contamination at INEEL. INEEL has received radioactive waste from the Three Mile Island accident; the Navy’s spent fuel, Rocky Flats and elsewhere. The INEEL lacks final hazardous waste permits for the high-level radioactive waste evaporators, tanks and other equipment used to process radioactive waste.

DOE is shortchanging the financial resources for environmental cleanup programs at INEEL in order to squirrel away funds to foster the development of commercial nuclear reactors. This all comes at a time of uncertainty about the safety of nuclear plants from terrorists, and issues of transportation, storage and disposal of radioactive wastes and worker safety. No new nuclear reactor has been ordered since 1978 because of these hazards. For more information visit EDI’s website: <http://www.environmental-defense-institute.org>

If Idaho Senator Larry Craig has his way, another new mission at INEEL will be building and ground testing the Prometheus Project nuclear-powered rocket engine. Leonard David reports in SPACE.com that this Jupiter Icy Moons Orbiter is the flagship mission using electric propulsion powered by a nuclear fission reactor that will showcase a slate of key technologies and promises to usher in a new era of solar system exploration.

Leonard David quotes Kristine Svinichi, Larry Craig’s Senior Policy Advisor, as saying that “much of the solar system remains impossible to adequately explore without new nuclear propulsion systems, and that is a significant limitation.”

The Prometheus Project is headed by Alan

Newhouse at NASA's Nuclear Systems Program. Newhouse acknowledges that DOE is in charge of ground testing of the nuclear propulsion part of the program. Given that INEEL is the only DOE site that historically tested these propulsion systems, it appears to be a forgone conclusion that INEEL will get the project.

INEEL's first ground testing in the 1960s was with the Aircraft Nuclear Propulsion Program. More recently in the 1990s DOE and NASA attempted to launch a nuclear rocket testing project called "Timberwind," which was later canceled due to widespread public opposition.

Independent observers believe there is a direct link between the new conventional "commercial" reactor development at INEEL and the nuclear rocket propulsion program, because the commercial reactor's main "product" will be hydrogen. As the Timberwind EIS disclosed, the nuclear rocket will require large quantities of hydrogen as a propellant because it is lighter than air thus less payload weight. Hydrogen is also extremely explosive.

EDI Challenges EPA Approval of Idaho's Authority to Enforce Hazardous Waste Laws

In September, the Environmental Defense Institute, Keep Yellowstone Nuclear Free and David McCoy filed a formal challenge on EPA Region 10 Final hazardous waste Enforcement Authorization to the State of Idaho. EPA issued the public notice, dated 7/9/03, of preliminary approval of the final authorization to the State of Idaho to revise its hazardous waste program under the Resource Conservation and Recovery Act (RCRA).

This action appears to ignore the ongoing EPA Inspector General's (EPA/IG) investigation into EDI's allegations of Idaho's mismanagement of its RCRA program. In EDI's view, EPA Region 10 is obligated to delay Idaho's permanent authorization until the EPA/IG issues its findings.

Additionally, Idaho's intent to move ahead with the closure of two high-level radioactive waste tanks at the Idaho National Engineering and Environmental Laboratory (INEEL) is specifically in violation of the recent US District Court ruling in NRDC v. Abraham.¹⁴ IDEQ Director Allred states in a letter to EDI: "Based on our

review of your submittal, the DEQ remains confident that the plan for moving forward with closure of the first two of eleven Tank Farm Facility tanks is compliant with Hazardous Waste Management Act regulations, and it represents full disclosure on the part of DOE to address the operational realities associated with closure of the mixed waste tanks."¹⁵ Actually, Idaho's closure plan is in violation of RCRA since DOE/ID has no INEEL RCRA hazardous waste Part B Permit.

Director Allred however takes the position that, "While the RCRA program has no authority to object to closure of the HLW tanks from a radiological standpoint, DOE may be unable to complete an element of the RCRA closure because of the legal requirements of the Nuclear Waste Policy Act. Accordingly, DOE's plans for closure under RCRA may require amendment to provide for a final disposition that is consistent with both RCRA and the NWPA."¹⁶

Director Allred appears to side-step his legal mandate to enforce environmental law and federal court rulings. A 1984 landmark federal court ruling against DOE's claims of exemption from RCRA with respect to mixed hazardous and radioactive waste¹⁷ should have been sufficient to change DOE's policies. DOE, however, continued to claim "sovereign immunity" until public outrage forced Congress to pass the Federal Facilities Compliance Act that stipulates that: "For each facility at which the U.S. Department of Energy (DOE) generates or stores mixed waste, [DOE is required] to prepare a plan for developing treatment capacities and technologies to treat [and dispose] mixed wastes to the standards promulgated by the U.S. Environmental Protection Agency (EPA) pursuant to Section 3004(m) of RCRA."¹⁸

For More Information on this issue see: <http://www.environmental-defense-institute.org/> publications

Bush and EPA Gut Environmental Laws

In what can only be called heroic, former EPA civil enforcement chief Eric Schaeffer who resigned because of Bush/EPA actions that gutted the Clean Air Act and allowed polluters to continue dumping waste into America's air, tells his story. Schaeffer had earlier launched enforcement actions against more than 150 companies for Clean Air Act section New Source Review violations. The Bush Administration summarily canceled these regulatory actions in August 2003.

Thanks to Schaeffer's disclosures, the public got an inside view of Bush's strong-arm tactics on EPA and other agency policy. There are many dedicated public servants in the state and federal environmental regulatory agencies that want to do the "right" thing but are prevented by management and the controlling politics from the White House or the State House.

Donovan Webster and Michael Scherer reported in *Mother Jones* (Sept/Oct 2003) that "fifteen states have filed suit to block the new EPA rule changes; a national group of state and local air-pollution officials says the rules will result in unchecked emissions increases that will degrade our air quality and endanger public health."

The Bush Administration's changes would legalize what until now were violations of the Clean Air Act, in some cases, like at DOE waste processing plants, creating a permanent exemption from rules that were supposed to have kicked in three decades ago.

New York Attorney General Eliot Spitzer has also filed a lawsuit against EPA over the new rule changes. The new EPA Administrator, former Utah Governor Michael Leavitt, is expected to continue the Bush Administration's deregulation policy established by outgoing EPA head Christie Todd Whitman.

Unfortunately, all the challenges to EPA's rule changes are focused on electric utilities and other commercial plant emissions. No attention is being brought to EPA explicit rule exemptions to DOE waste operations.

The Clean Air Act (CAA) Maximum Achievable Control Technology (MACT) developed during the Clinton Administration under Section 112 was promulgated in 1999 to fill huge gaps in the current environmental statutes/regulations that allowed hazardous air pollutants to be released into the environment and thus threatening public health and safety. The MACT standards were also intended to compensate for significant deficiencies in Resource Conservation Recovery Act (RCRA) passed in the 1970's. Prior to promulgation of the original 1999 MACT rules, a lengthy comment period showed wide support from the general public. Only the polluters, including the US Department of Energy (DOE), were

opposed to the MACT standards.

Now come the Bush Administration, representing the interest of the polluters, wanting to roll back those public health and safety interest gains of the Clinton Administration. The most obscene of these rollbacks can be found in the Clean Air Act (CAA) Rule (published in the Federal Register July 30, 2002 that **replaces** current MACT standards) which grants a blanket exemption to the entire DOE complex from compliance with the CAA/MACT regulations. "The proposed rule would not apply to site remediation activities involving the cleanup of radioactive mixed waste managed in accordance with all applicable regulations under the Atomic Energy Act and Nuclear Waste Policy Act authorities."¹⁹ The DOE is the single largest polluting entity in this country with a Superfund cleanup cost of \$212 billion.²⁰

DOE operates mixed hazardous and radioactive waste treatment plants at about six of its sites across the country. The most significant of these various operations is the conversion of mixed hazardous high-level liquid waste into a solid form acceptable for internment in a geologic repository. This liquid radioactive waste contains significant quantities of listed organic and inorganic hazardous waste that during inappropriate treatment and/or inadequate emission control equipment become volatilized hazardous air pollutants as defined in the current MACT standards. At DOE's Savannah River Site high-level waste treatment operation, excessive benzene emissions have prevented full compliance with the current MACT standards.

Another of these DOE mixed high-level radioactive waste treatment sites is the Idaho National Engineering and Environmental Laboratory near Idaho Falls, Idaho. The Environmental Defense Institute legal challenges forced the closure of the INEEL Waste Experimental Reduction Facility and the High-level Waste Calcine Facility, on both MACT and RCRA violations. Under the new proposed rule, these operations may be able to restart operations.

The Environmental Defense Institute, et al. submitted a petition to EPA's Office of Enforcement and Compliance Assurance (OECA) in 2001 that challenges EPA to take enforcement action against INEEL violations.

Additionally, and equally misguided, is the EPA's new rule to exempt RCRA and CERCLA (Superfund) actions. The EPA rule states: "Furthermore, we [EPA] believe that these existing [RCRA/CERCLA] programs are the most appropriate, comprehensive and effective regulatory approach to address air emissions resulting from site remediation activities at sites addressed using

CERCLA authority and RCRA corrective action sites and to avoid transfer from one medium to another.”²¹

This is a patently ludicrous statement because either RCRA or CERCLA provide an adequate air emission standard which is specifically why the current MACT standards were adopted to fill that regulatory gap and supplement the deficiencies of RCRA and CERCLA.

In summary, the new EPA rule is a major step backward in terms of public health and safety. One can only assume that this politically motivated environmental regulation is intended only to benefit the polluters, including the federal government’s Department of Energy operations. The public welfare is again put in hazard’s way by the Bush Administration’s change to the Clean Air Act.

End Notes:

¹ Cancer in Idaho - 2000, Annual Report of the Cancer Registry of Idaho, December 2001, page 5.

<http://www.idcancer.org>

² Cancer in Idaho - 2001, Annual Report of the Cancer Registry of Idaho, April 2003, page 5.

³ For more on this topic see EDI’s Newsletters August and November 1997.

⁴ (a) American Cancer Society, Idaho Division Bonneville Unit, M. O. Huntington, M.D. “Public Education Awareness: The Key to Cure”

(b) *The Enemy Within*, by Jay Gould with Members of the Radiation and Public Health Project, Ernest Stern-glass, Joseph Mangano, William McDonnell, 1996

(c) Idaho Division of Health, “Idaho Public Health Brain Cancer Study” April 25, 1997

(d) 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 Estimated Exposures and Thyroid Doses Received by the American People from Iodine-131 in Fallout Following Atmospheric Nuclear Bomb Tests, A Report from the National Cancer Institute, October 1997, U.S. Department of Health and Human Services, page ES 2.

⁶ August 28, 2003 Press Release “Gregoire Opposes DOE Proposal to Change Nuclear Waste Laws OLYMPIA -- Washington Attorney General

⁷ Joint Amicus Brief of Idaho, Washington, Oregon and South Carolina in NRDC vs. DOE

⁸ “High Level of Radioactive Contamination Found in Idaho Aquifer”, Santa Fe New Mexican. com September 29, 2003. This article identified

technetium-99, a waste from spent fuel reprocessing, that is migrating into the aquifer.

⁹ DOE ordered in the 1970’s that any waste containing more than 10 nanocuries per gram was classified as “transuranic” and must be separated from other radioactive waste and not dumped in shallow pits and trenches. In 1984 DOE issued an arbitrary changed the “transuranic” classification to greater than 100 nanocuries per gram. This left the transuranic waste between 10 nCi/gm and 100 nCi/gm in the category now called “low-level alpha.” DOE was clearly changing the rules to accommodate increased dumping at its waste sites.

¹⁰ Environmental Defense Institute submitted in 1993 an Amicus Brief in the litigation between the State of Idaho and Department of Energy in an attempt to advise the parties and the court that there major waste categories not included in the then draft Settlement Agreement. Both Idaho and DOE linked arms to successfully oppose inclusion of the brief.

¹¹ (a) Radiochemical and Chemical Constituents in Water from Selected Wells South of the INEEL, US Geological Survey Report 01-138, May 2001.

(b) Reevaluation of Background Iodine-129 Concentrations in Water from the Snake River Plain Aquifer, Idaho 2003, US Geological Survey Report 03-4106.

¹² Joint Memorandum of Law Opposing the Environmental Defense Institute’s Motion to Intervene as of Right or Participate as Amicus Curie, US District Court for the District of Idaho in USA vs. Cecil Andrus, CV No. 91-0054-S (HLR), filed September 7, 1993.

¹³ Defendants Notice of Appeal in NRDC et al. v. Abraham et al. Case No. 01-CV-413(BLW) July 2, 2003, US District Court for the District of Idaho.

¹⁴ Natural Resources Defense Council, et. al. v. Spencer Abraham, Case No. 01-CV-413 (BLW) United States District Court for the District of Idaho.

¹⁵ C. Stephen Allred, Director, Idaho Department of Environmental Quality, letter to Chuck Broschous and David McCoy, May 10, 2002. Also see Closure Plan for Hazardous Waste Storage Tanks at INEEL Docket # 10HW-0204, EPA ID No. ID4890008952 stating that the remaining tank liquid and sediments will be covered with grout.

¹⁶ C. Stephen Allred, Director, Idaho Department of Environmental Quality, letter to Chuck Broschous and

David McCoy, July 29, 2003, page 3, hereinafter referred to Allred letter 7/29/03.

¹⁷ C. Stephen Allred, Director, Idaho Department of Environmental Quality, letter to Chuck Broschius and David McCoy, July 29, 2003, page 3, hereinafter referred to Allred letter 7/29/03.

¹⁸ Idaho National Engineering Laboratory Draft Site Treatment Plan, U.S. Department of Energy, Idaho Operations Office, DOE/ID-10453, August 31, 1994, page 1-1.

¹⁹ See: 67 FR 49398, Section II(A)(4)(b) and also see 40 CFR 63.7882(c)(7)

²⁰ Paths to Closure, US Department of Energy, March 2000

²¹ See; 67 FR 49398, Section II(A)(4)(a)