

Environmental Defense Institute

Troy, Idaho 208-835-5407

<http://www.environmental-defense-institute.org>

Idaho National Laboratory, Hanford,

and

Nevada Test Site Radiation Exposure

Radiation Victim Stories

Revision 27

Edited by Chuck Broschious

And

Tami Thatcher

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Introduction

The Environmental Defense Institute (EDI) has over several decades collected interviews and news stories ⁽¹⁾ about individuals who have been affected by radiation exposure at or near the Department of Energy's Idaho National Laboratory (INL) previously called the Idaho National Engineering and Environmental Laboratory (INEEL) located northwest of Idaho Falls, Idaho, the Hanford nuclear reservation in eastern Washington State, and the fallout from over a thousand nuclear weapon detonations at the Nevada Test Site (NTS). ⁽²⁾ EDI hopes that sharing this small sampling of stories of men and woman harmed by radiation exposure will help put a face on the thousands of INEEL workers and Nevada Test Site “downwinders,”

EDI considers all these people victims of America's nuclear legacy regardless of whether the source was fallout from INL, Hanford, or NTS, or the exposure happened while people were employed by government contractors. At this time it is not possible for the public to differentiate between INL, Hanford, and nuclear weapons fallout from the Nevada Test Site. ⁽³⁾ The National Cancer Institute conducted a 1997 study that found that four of the five counties in the US that received the most radioactive iodine-131 from the Nevada Test Site (NTS) nuclear bomb fallout were in Idaho. ⁽⁴⁾ A special emphasis has been placed on Idahoans since their suffering is least reported. ⁽⁵⁾

In 1990, the Radiation Exposure Compensation Act (RECA) was passed to provide monetary compensation of people, including atomic veterans who contracted cancer and a number of other specified diseases as a direct result of their exposure to atmospheric nuclear testing undertaken by the United States during the Cold War. States included Arizona, Utah, and Nevada. The 1990 act provided the following remunerations:

- \$50,000 to individuals residing or working “downwind” of the Nevada Test Site
- \$75,000 for workers participating in atmospheric nuclear weapons tests
- \$100,000 for uranium miners, millers, and ore transporters

Revisions to the act were passed in 2000 and in 2002. However, subsequent attempts to amend the act to include the downwind states of Colorado, Idaho, Montana, and New Mexico have been not been brought to a vote. (See H.R. 1645 113th Congress)

The radiation victim’s stories are generally listed in alphabetical order by last name.

JoEtta Abo

Dan Popkey reports in the *Idaho Statesman* (11/7/04) on the Idaho downwinder hearing in Boise, "Strength was amply displayed Saturday [11/6/04]. Speaker after speaker told heart-rending stories of still-births, lost parents, siblings taken in the bloom of youth. One man read a poem. Others showed photographs of lost loved ones. JoEtta Abo, who suffers from thyroid cancer, gave the [National Academy of Sciences representatives] framed photographs of cloud formations in the shape of a broken heart and the face of a child. 'I ask that you make it clear that we want a government that stands for truth,' she said.

While a few let their anger and frustration out, they kept the focus on winning compensation for Idaho. They reminded the scientists and policy-makers that they represent ordinary citizens who work hard, love their families and made this place. They spoke of living simple, wholesome lives in rural Idaho, drinking raw milk, eating fresh produce, canning and freezing, gobbling the fruit they were getting paid to pick as kids. They didn't know, of course, that consumption would be linked to cancer."

Michelle Dunlop reports in the *Times-News* (11/5/04) in Paul, Idaho "If you walked into the local convenience store in Paul 10 years ago, you would spot a map hanging on the wall with pins protruding from it. The map wasn't entirely unlike those you might find in popular tourist destinations, where visitors mark their hometowns. However, this map didn't track the travels of tourists. Instead, each pin represented a household touched by cancer in the Mini-Cassia area. The map and the convenience store owners have long since departed, but the cancer remains. JoEtta Abo, of Paul, always thought it was strange how many people in the area had cancer. She recalls a friend expressing her desire to move out of Idaho: 'I've got to leave Idaho,' the friend said. 'There's too much cancer here.'

For Abo, moving out of Idaho wouldn't have mattered. Having grown up during the 1960s at the foot of Mt. Harrison in Burley, Abo may have been exposed at a young age to the nuclear fallout linked to certain cancers. On Saturday [11/6/04], Abo will testify before representatives of the National Academy of Sciences at a meeting in Boise to determine whether Idahoans will be covered under the Radiation Exposure Compensation Act. During the 1950s and 1960s, wind sprinkled radioactive iodine from Nevada Test Site bombs across Nevada, Utah, Arizona and Idaho. The fallout material landed on crops. Not only did humans consume garden vegetables laced with the iodine, but so did livestock. The radioactivity seeped into fresh cow and goat milk later consumed by humans. Iodine concentrated in the thyroids of those who drank the contaminated milk.

Today, that iodine has been linked not only to thyroid cancer, but also to a total of 19 types of cancer. The Radiation Exposure Act covers those cancers, but only for victims in certain counties of Nevada, Utah and Arizona. Idahoans are not covered under the act. 'We lived off of milk and butter and all the stuff you make off milk,' Abo said.

In 2001, after a four-year ordeal, Abo was diagnosed with thyroid cancer. She opted to have her thyroid removed. During the operation, the surgeon damaged Abo's left vocal cord. She couldn't speak for three to four months. 'I sounded like Darth Vader,' she said. Abo is angry the

government covered up the effects of fallout for so long. Had the government been honest, Abo's doctors might have known to check her thyroid for cancer earlier than they did, she said. 'How long are we going to be affected by it?' Abo asked.

Most members of Abo's immediate family have been touched with disease. Two of Abo's sisters have suffered with thyroid problems; one brother battled lung disease; and another brother and sister struggle with auto immune diseases. Abo's mother died of stomach and breast cancer; her father, she said, was never well. 'I never remember him being healthy. It's like everybody I know, if they don't have cancer they have fibromyalgia or an auto immune disease,' she said.

Compensation won't give Abo back her thyroid; it won't give her back her years of suffering; it won't restore her quality of life; and, compensation certainly won't return fallout's victims to their families and loved ones. 'For someone who has had cancer, \$50,000 isn't a lot of money,' Abo said. However, 'It's a way of saying I'm sorry, I admit we did something wrong.'

Admitting the government did something wrong 50 years ago, is one thing, she said. Making sure the government doesn't do it again, is altogether another. 'My big thing about testifying is don't do it again,' Abo said. 'Don't lie to us again.'

Abo worries particularly about the recent attention the Bush administration has paid to the reintroduction of underground nuclear testing. A moratorium on testing went into effect in 1992. However, terrorism concerns and nuclear proliferation in other countries have thrust the United States' nuclear interests back into the spotlight. Until about a month ago, Abo had never heard of downwinders. 'Just everybody I know is sick,' she said. On Saturday, she will send a message to the National Academy of Sciences and the Idaho delegation: 'Don't create another generation of downwinders.' ”

Bonnie Adamsson-Vorwaller

In an article “Downwinders persevere: More come forward as hearing draws near” by Dan Boyd *Idaho State Journal* (10/31/04) reports, “Bonnie Adamsson-Vorwaller, Paulette Edvalson's niece, didn't grow up in Mink Creek, Idaho, but she looks back at her family's history and sees a tragedy that could have been avoided. 'There's no question the fallout hit Idaho really hard,' she said. 'You want to think (the government) didn't know, but that's not true — they know.'

Adamsson-Vorwaller, who also lost her husband to cancer, is convinced the fallout from bomb tests are to blame in much of her family's plight. 'There's a one in a billion chance it wasn't the fallout,' she said. 'If it wasn't dangerous to people, the military wouldn't have been interested.'

The U.S. is supposed to be better than the rest of the world, but we bombed our own country. Edvalson, surprisingly, doesn't feel vengeful or bitter. 'I don't have any animosity toward the government,' she said. 'Sometimes (things they do) backfire and sometimes they work out great.' ”

Xan Allen

Nicholas Collias reports in the *Boise Weekly* (8/18/04), “According to fellow thyroid cancer sufferer and potential fallout victim Xan [sic] Allen of Boise, simple recognition is a huge step in the right direction, particularly in lieu of the potential reactivation of the Nevada Test Site within two years. ‘My parents trusted the U.S. government to do the right thing,’ the 64-year-old Pocatello native recalls, ‘and it didn’t. I want to do more than trust. I want to be sure the government does the right thing.’ ”

Betty Anderson

Betty Anderson believes her husband is an INEEL victim. Anderson, who worked at INEEL as a health physicist during the SL-1 reactor explosion accident and the recovery of the three SL-1 operator bodies killed in the explosion, and the later cleanup, sustained significant radiation exposure. Anderson died from thyroid cancer, and Betty believes her husband is a victim due to the radiation exposure he sustained at INEEL. Despite Betty and her son Craig Anderson's (an environmental attorney) efforts through the Freedom of Information Act (FOIA), the family has been unable to access an uncensored copy of Anderson's medical and radiation exposure records. What limited information that was sent to the family under FOIA was heavily redacted (blacked out). ⁽⁶⁾ The SL-1 explosion occurred in 1961, and no credible national security reason can be made for censoring forty-year-old worker exposure data.

Tina Andrews

Tina Andrews lived with her family near American Falls, Idaho and had her thyroid removed 20 years ago at the age of 19. She and her family lived on a small farm just west of American Falls. They kept goats that provided milk for the young family members through their pre-school years. During this period, Andrews remembers the INEEL SL-1 Reactor explosion and the Nevada Test Site fallout impacting their health.

Tim Jackson reports in the *Idaho State Journal* (11/27/98), "This is a story of the nation's Cold War nuclear weapons legacy that experts say raises more questions than it answers. But they are questions former American Falls-area farm girl Tina Andrews believes are worth asking on behalf of herself and perhaps thousands of other cancer victims. Andrews, who now lives in Lava Hot Springs, Idaho, was diagnosed with follicular carcinoma of the thyroid when she was 19. Now 40, Andrews is battling immune system-related illnesses doctors tell her are likely associated with having had her thyroid removed in 1979 to save her life. ‘I wouldn't want anyone to go through what I've gone through over the last 20 years,’ Andrews said.

What Andrews ate and drank from the time she was born in 1958 until she was 14 indicate that if significant concentrations of radioactive fallout landed on and near her parents' farm at the edge of the Wapi Lava Flow about 12 miles west of American Falls, then she fits the profile of what health physicists would call a near maximally exposed individual.

Atmospheric bomb tests in Nevada during the 1950s might have spread more radioactive iodine-131 on Custer, Gem, Lemhi and Blaine counties to the northwest of the Andrews' farm than any place in the nation. That's according to a 1997 report by the National Cancer Institute. A peer review panel later said the report contains a lot of uncertainty.

Meanwhile, Centers for Disease Control and Prevention researchers are conducting a multi-year multimillion-dollar study aimed at determining exactly how much radiation and toxic chemical exposure people received from documented releases, most of them related to nuclear weapons. The exposure occurred mainly in the 1950s and 1960s at what now is now the Idaho National Engineering and Environmental Laboratory.

Centers for Disease Control health physicist C. M. Wood is working on the INEEL Dose Reconstruction Study. He said the fact that Andrews drank large quantities of fresh milk from goats and cows raised on her family's farm would have given her young thyroid an extra large radiation dose, if the large Nevada bomb test fallout concentrations cited in the National Cancer Institute report actually fell on her farm.

Cows that ate iodine-131 fallout-tainted grass concentrated the radioactive isotope in their milk. Goats concentrate it in their milk at least 10 times more readily than cows. Andrews said she, her parents and her older brother never ate grocery store produce until she was 14. They grew all their own vegetables and fruits or bought produce from other area farmers. No other members of the family contracted cancer, but disease experts say that infants are far more vulnerable to fallout.

Iodine-131 has a radioactive decay half-life of only eight days. That's why people who eat produce and drink milk collected within hours or a few days after a fallout episode are likely to receive far more radiation than people who eat food and drink milk bought at grocery stores, Wood said. Wood calls it "certainly plausible" that Andrews could have been exposed to significant concentrations of Nevada bomb test fallout if it did land on or near her family's farm.

It's known that the kind of cancer Andrews had can be caused by high doses of radiation. It also can be caused by other environmental and genetic factors. It's more common in women than men, but occurs far less frequently in younger women than older women.

Retired INEEL health physicist John Horan agreed that Andrew's history does point to potentially high exposure if high concentrations of fallout occurred where she lived. One problem with that assumption though, Horan said, is that scientists who critiqued the National Cancer Institute's 1997 Nevada bomb test fallout report found a major uncertainty in its estimates of how much iodine-131 fell where. That's because researchers based their dose calculations for Idaho, for example, on the only three iodine-131 monitoring stations operating in the area at the time. One station was in Boise, one in Idaho Falls, and one in Missoula, Montana.

And the sticky paper method of iodine-131 sampling used in the 1950s just wasn't very accurate. The most concentrated bomb test fallout could have occurred right over the Andrews' farm but there is no way to tell, Horan said.

Andrews also wonders whether INEEL's past releases caused her cancer. During the late 1950s and early 1960s when INEEL's largest known releases occurred, Horan was involved in establishing proposals for the least hazardous times to release radiation. For every intentional INEEL release, wind had to be blowing toward the northeast. Andrews' farm was about 40 miles south of INEEL.

In the hours after a January 3, 1961, explosion at INEEL's SL-1 reactor that killed three operators, an invisible puff of radiation drifted south with the wind and swung just west of American Falls, Horan said. Even if it traveled right over the Andrews' farm, Horan said calculations by scientists indicate it contained only two to three times greater the normal background radiation when released. And it diffused constantly as it drifted.

‘This wasn't high by any sense,’ Horan said. ‘Causation for her cancer you can't come up with. It's unfortunate, but as far as the government coming up with and support for her, I can't see any basis for it.’ If the government is at fault, Andrews wants it to at least pay medical bills related to her past cancer that now total more than \$40,000.

Idaho Department of Health and Welfare Health Administrator Richard Schultz agreed with Horan that with a limited amount of information on past radiation doses from federal nuclear sites, that's not possible at least for now. Hundreds of other people around the nation have made similar allegations and called for similar compensation during the past few decades.

Some bomb test downwinders in Nevada and southern Utah were compensated by the government in the 1970s for health problems attributed to fallout from those tests.

After reports this year of hundreds of people suffering an array of health effects that some blame on exposure to radiation and chemicals from federal nuclear sites around the nation, Capitol Hill lawmakers introduced legislation to further study the possible connection. This might lead to further compensation if victims are found and causes can be identified, Schultz said. Whether researchers can ever determine if Andrews' cancer came from fallout is very uncertain. ‘Given what we know today, she certainly fits the characteristics of a high risk individual,’ Schultz said. ‘That's the problem with this: There doesn't seem to be any answers.’ ”

Duane S. Allen

The following is a summary of over a dozen telephone and face to face conversations I had from 1992 to 1999 with Duane. Allen worked at Rocky Flats (1986 to 1978) in the plutonium (Pu) trigger manufacturing plant. When he worked at Rocky Flats, they would take Pu pucks and kick them down the hallway to see the blue sparks fly. It was "safe" for the first day after the puck was made and before the Pu started to oxidize which causes exposure hazard.

Allen then moved to Idaho to work at INEEL Idaho Chemical Processing Plant (ICPP) currently called the Idaho Nuclear Technology Center, between 1978 and 1994. During most of these years Allan was President of the local chapter of Oil Chemical and Atomic Workers (OCAW) Union, now called PACE, and head of ICPP Safety Team. In recent years, Allen is representative for the Laborers' International Union of North America in Colorado Springs that covers Rocky

Flats workers. Allen's INEEL badge number (issued in 1978) was 40,559. He claims there were more than 70,000 workers because badges are issued successively (ascending numbers). Centers for Disease Control/ National Institute for Occupational Safety and Health (NIOSH) puts the number of security badges at 104,475 though they have limited information on only about 70,000.

Allen said he got 3 rad/yr (rad, sometimes called "R" or rem which is adjusted by a radiation quality factor are a means of qualifying the amount or radiation an individual received) for ten years at Rocky Flats (30 rad), and 6 rad/yr for 16 years at INEEL (96 rad) for a total of 126 rad. This appears to conflict with what NIOSH claims is the INEEL maximum individual cumulative dose of 79 rem. Allen claims that DOE exposure records for him show a 300 mrem (millirem = one thousandth of one rem) total work exposure. He believes he got that much in a week in addition to the internal plutonium he is still carrying around from Rocky Flats.

Allen's comments at a 7/19/96 meeting in Idaho Falls noted a 1987 DOE policy change related to worker whole body exposure records. Prior to 1987, annual worker exposure was kept on a calendar year. On January 1, the workers exposure was 0. This drastically understated workers exposures. Post 1987, workers annual exposure is kept on a rolling 12 months (with tracking of life time burden), so that if the worker got a major exposure on January 12 that exceeded the permissible annual limit, then he/she would be reassigned. Allen also noted that badge readings are not recorded below some administrative limit which eliminates considerable exposure accumulation over time.

INEEL was handling highly radioactive fuel samples at ICPP by hand (no remote handling in early years). Workers would take fuel from hot cell and put in canisters just using rubber gloves. INEEL labs were not accurately doing dosimetry and even falsified doses. Allen cited specific records that were changed. As the OCAW representative, Allen formally requested a worker's records that he knew the exposure of from another source (they used a separate badge to record exposure and kept it). The lab was moving the decimal point on the worker exposure records. Allen's Freedom of Information Act (FOIA) request for his own exposure records contained four blacked-out pages and did not offer the information on his exposure he requested.

Lots of workers got big radiation exposure hits according the Allen. He cited an air tunnel at ICPP where construction workers removed heavily contaminated concrete on the floor. They had no protection gear. He found two containers of cigarette butts which meant they took smoke breaks in highly contaminated area without knowing the risk or having health physics (HP) supervision.

To check on management's tracking of "at risk" worker exposures, Allen sent in badges into the hot cells where they were working to see what doses they were getting but they were caught by management. Eddie Chew had some connection with that and Allen was going to confront him on it. Chew was apparently in charge of the RESL lab where the badges were read. The workers had no confidence in the accuracy of the dosimetry record keeping.

Allen was sent down into four ICPP waste tanks in cells under CPP-601 that receive all process waste from reactor fuel dissolution. There had been several "criticality" accidents in these tanks

and management wanted to know about their integrity status. Tank monitors said no liquid — but there was 8 inches of liquid in the bottom, resulting in Allen getting a 6 month dose. He was pulled out but not before reaching the bottom of the tank. Later management sent laborers in to run new service lines. The workers quickly got lifetime doses and were laid off. They dropped a \$4 million robot to suck out liquid in the bottom of the high-level waste tanks. Cooling pipes every 18 inches on the tank floor required manual lifting of the robot between pipe runs. The robot got jammed and was abandoned in the tank.

ROVER spent nuclear fuel (SNF) reprocessing at ICPP burned off the graphite of the 95% highly enriched uranium (HEU) fuel but the centrifuge plugged up along with back flush columns. Graphite fuel burning (to remove the graphite that surrounded the uranium fuel) plugged up all the process lines and emission systems that were never cleaned out. Allen shut down cell cleanup because management would not give workers full protective gear and DOE wanted 4 hr shifts. Allen wanted full protective gear (cooled air lines and 15 min shifts), and he finally got it. Graphite powder was everywhere, and even got through joints in protective suits and would not wash off. ICPP tried for two months to flush out the lines, but they remained plugged. This is much like the old Calcliner high-level waste incinerator plugged up lines that were abandoned and replaced by the New Waste Calcliner Facility.

DOE just walked away from the ROVER Cell, leaving Uranium in the process lines, and strip tanks. Allen's wife refused to work on the ROVER decontamination and decommissioning (D&D) because it was too radioactively dangerous.

Allen said the ZPPR reactor had a fire at ANL-W [now the Material and Fuel Complex at INL] which apparently has not been reported in the unusual occurrence reports.

Allen said Naval Reactor Facility (NRF) at INEEL history, from day one, of dumping extremely hot spent fuel (SNF) parts in the unlined burial-ground “soil vaults,” probably has discontinued the practice and are likely storing the waste in rail cars. But he confirmed the characterization of what Theron Bradley (manager of NRF) said about fuel elements steel parts being cut off or unbolted and removed as waste (also structurals in the assembly) were previously removed and sent to the RWMC for burial. Bradley also said control rods do not come to NRF and that used ones are sent elsewhere (i.e. Hanford or SRS).

NRF Expanded Core Facility (ECF) cuts up all fuel assemblies. ROVER spent nuclear fuel (SNF) reprocessing at ICPP burned off the graphite of the 95% highly enriched uranium (HEU) fuel (but the centrifuge plugged up along with back flush columns) and tests for uranium and other fission content. Fuel is then put into canisters and shipped to ICPP for security reason so no one can see shape of elements. The ECF spent nuclear fuel (SNF) storage pools leak. The forty or fifty-year-old pool has a paint sealer that is all eroded off. Current Nuclear Regulatory Commission standards require a stainless steel liner with leak detection systems. NRF can't isolate pools so can't do maintenance. NRF tried to grout around the outside of the ECF because the pools were leaking 76,000 gal per week which means about 16,000 gal per day may eventually leak into the Snake River Aquifer. After ECF grouting, water is leaking into corridor around the canal and to sumps that pump out to evaporation for disposal. Corridor is 6-8 feet

wide with piping etc. ECF pools are still leaking through the bottom of the pools to the ground. Contamination of the groundwater resulted from these and other NRF discharges.

One ECF accident occurred when a SNF cask's bottom door did not positioned flat on the floor (misalignment with alignment posts) so that when the fuel was transferred it generated a 25R/hr beam under the cask prompting the evacuation of the ECF. NRF says no worker exposures sustained in this accident, but the union disagrees.

DOE announced in 1993 new "As Low As Reasonably Achievable" (ALARA) policy that takes internal exposure and includes it into a whole body exposure, that had previously been separate. Exposure is now averaged over 50-year period rather than 12-month so a high single exposure is reduced by 1/50th. Eight-hour worker exposure record taken as 15-minute sampler is averaged over whole year and would not show 15-minute exposure of worker, instead is now averaged over a whole year. Life style is not factored into exposure. Shift work also is not considered. Workers call it "body-banking."

Also, new DOE policy does not include a respirator as required protective equipment. Employees cannot request a respirator any more. This confirmed what this author, during a tour saw at Hanford's Plutonium Finishing Plant where we were shown photos of workers involved in D&D the building and they were wearing double anti-contamination suits gloves and boots but **no respirator**. When I questioned the practice (especially due to the biggest risk, plutonium inhalation, as an alpha emitter) the DOE representative said it would be too hot in the summer. In other words, DOE was too cheap to provide cooled air lines to the workers.

Allen claims that the ICPP 1980's falsification of exposures at the analytical lab was started by three health physics staffers who dug into exposures but management discharged them. Because of the exposures, INEEL built the remote analytical lab so that workers would not be handling the samples.

Allen said that americium is flushed out of plutonium processing at ICPP then condensed into small bottle top sized units and sold to medical users as tracers. When transferring to lead containers a worker got a 1-year exposure in a one-minute operation.

Allen spoke of hazardous materials dumped on Arctic radar Dew Line (35,000 drums abandoned) will require \$30 million cleanup, mostly because of the PCB's. Also undocumented buried waste at ICPP post 1970's under the middle of CPP-603, about 50 acres was covered up.

An ICPP "D" Cell incident that attempted to flush out one vessel originally thought to contain 30 liters of uranium that was not critically safe. Tests showed 120 g/L. 126 g/L would generate a criticality . Management would not order poisons to prevent a criticality. Thirteen levels of managers could not make the decision to poison (possibly boron?) and workers were forced to sit and wait. Management never made the decision and never recorded incident as an unusual occurrence.

Allen thinks an ICPP worker should receive a minimum of 5-years of hazardous-material training because of the facility-specific idiosyncrasy of each plant. Each facility has its own

unique hazards. Loran Robertson kept a log on the ICPP but later burned it. Allen has no faith in CDC/NIOSH worker studies. He thinks the only hope is a worker class action suit.

Allen had evidence that worker exposure records were intentionally altered during Tom Gassell and John Horan's employment at RESL. He left 82 worker records at OCAW office and told NIOSH's Dave Utterback about the information. When he lost the election for OCAW president, he lost access to those records and does not know what happened to them.

Experienced workers are leaving. The ones left have less than 5-yr experience. He believes it is real dangerous having inexperienced operators running the plant. Allen remembered an ICPP process upset five years ago (1990?), where he watched 30-year vets sweating and exclaiming "OH SHIT!"

Allen and other workers believe chemical exposure is as big a worker hazard as radiation. Hydrofluoric acid (used in stainless and zirconium clad SNF dissolution) when diluted is very unstable because it is a "bone seeker" and in 4-5 hours can be absorbed into body. It was one of the more serious chemical exposures. CPP-601-637 Hydrogen fluoride tanks could not be flushed out prior to D&D in 1991. When they cut up the tanks the ICPP street turned orange. Hydrogen fluoride is more reactive when diluted and the tanks had the material caked on sides. Duane would not allow his (OCAW) union workers to cut up tanks without air suits. So management got construction workers to cut up and haul the tanks to RWMC. Construction workers were not protected and got serious eye and lung exposures. Fluoride spilled on road as orange residue. When they tried to wash it off, it ate up the asphalt and workers shoes.

Allen is concerned about NIOSH's intent to destroy hard copy dosimetry records once converted to computer database as was reported at a CDC meeting in Idaho Falls. Allan does not trust the NIOSH people doing the data entries, and wants to keep the original records as backup in case someone wants to check and verify the accuracy of the new electronic database.

Exposure records deliberately do not follow worker between DOE sites, and these are the only worker records not currently linked. Yet all the other work records are linked (ie. Social Security records, etc.).

Allen talked about Hanford's "Americium Man" — a glove box explosion — where americium was being cleaned out of a plutonium process system. The glass imbedded in the guy's body and he could not go home because he would contaminate his family so he had to stay out at the site.

Allen talked about his leg exposure that was the result of being dropped into a high-level waste tank following a criticality accident. Management wanted to survey the tank for damage. Neutrons don't travel far so the highest contamination was on tank floor. His exposure badges were at chest height, so don't pick it up exposure. He has brown scaly tissue on left leg and constant bandages on right leg because radiation destroyed surface tissue exposing blood vessels that are easily broken and cause bleeding. This is a chronic condition he has had since the tank incident.

According to Allen, Eddie Chew and John Horan (INEEL health physicists) at the time, "followed book" which has nothing to do with reality of management demands on workers. Allen claims Chew and Horan were never around and never saw exposures. In two or three work days at the ICPP Allen knows he received more than a year's dose, which proves to him inadequate worker dosimetry.

Allen remembers sand bagging the ICPP during a Big Lost River Flood and believes that since water is a nuclear fuel moderator, the underground fuel storage is vulnerable to a criticality. He also thinks the sludge in the bottom of the high-level waste tanks at ICPP is more hazardous than that at Hanford because of the focus on Navy highly enriched fuel reprocessed at ICPP.

Jennifer (Allen) Stone email notes: "I saw that Chuck Broschius had spoken with my dad, Duane Allen, several times over the years. I thought you might like to know that he passed away on 9/7/08. Thank you for the information you provided and your condolences. I am very proud of what my dad did. He was very quiet and never asked for any recognition. Honestly, I know very little about his history. To answer your question, we believe that he died from COPD (chronic obstructive pulmonary disease)." Jennifer (Allen) Stone, 9/16/08.

Lonnie Babbitt

Dan Popkey reports in the *Idaho Statesman* (11/7/04) on the Idaho downwinder hearing in Boise, "Dianna Babbitt testified about the death of her husband, Lonnie, who died from brain cancer in 1984, as Babbitt's daughters Crystal Banning and Corina Arnell hold family photographs. Representatives from the National Academy of Sciences listened to testimony from Idaho downwinders, their families and experts on Saturday at Boise State [11/6/04]."

Rosemary, Margaret, and Teresa Bergin

Bellevue, Idaho resident Teresa Bergin, who lost her 19-year-old daughter Rosemary to cancer knows she and her family are downwinders. Jennifer Sandmann reports in the *Times News* (9/7/04) that Rosemary Bergin, "died in 1979 at just 19 from ovarian cancer. Three years later, her younger sister Margaret developed a benign ovarian tumor, an experience she would face two more times. Today's news about the extent of fallout Idaho actually received has reopened a mother's wounds. 'That's what upsets me so, the fact that we weren't cautioned about such things,' Teresa Bergin said. The mother of six was devastated by the loss of Rosemary and the threat that the same type of disease had struck again in her daughter Margaret, who survived. 'We were a very healthy family and tried to eat right. We bought milk for a reputable local farmer while we were raising our family. The people took fine care of their cows, and it was marvelous milk.' Bergin said."

Charles M. Boaz

The following Boaz section is quoted from a May 1981 *Idaho Sun* story titled "Widow Awarded \$100,000" and written by Steve Jennings.

“Nuclear advocates, within government and industry, consistently soft-pedal the dangers of the fission process. A public relations pamphlet, ‘Nuclear Power Plant Safety’ produced by DOE (then ERDA) in September of 1976, states, ‘The U.S. has experienced approximately 2,000 reactor-years of military and commercial reactor operations without a single accident that injured a member of the general public.’ Yet while copies of that pamphlet were on the press, Charles M. Boaz, an Idaho welder once employed at INEEL, was three months in his grave, dead from radiation-induced cancer.

Boaz was not the only radiation death up to that time. However, his case was notable for two reasons: it was the first one in which a nuclear worker was awarded damages by a jury of his peers for a radiation-induced cancer; and it was similar to that of many other workers in the nuclear industry who may die painful but unpublicized deaths.

Mr. Boaz worked as a welder at INEEL from 1954 to 1958. His lawyers, Glenn Coughlan and Joseph Coughlan of Boise, chose two incidents to pursue in litigation. The events listed below are from the plaintiff's (Boaz) trial brief.

In 1954 at the Idaho Chemical Processing Plant (ICPP), Boaz went into a sump, which pumped spilled radioactive water, in order to retrieve a welding cable. After he had been there about 15 minutes, he observed a sign stating ‘Limit 3 Minutes.’ Although no records survive documenting the radiation dose he received, one is left with the conclusion it was 5 times the permissible limit. The entrance to the sump was not properly roped and marked according to regulations.

On another occasion at the ICPP in 1958, new waste storage tanks were being added. Boaz was tying in additional stainless steel pipe to pipes which ran between the existing tanks. He was informed it would be a "cold" job (one involving no radiation) since this particular pipe had supposedly never been used. But while working on the job for four to six hours, he and other workers called a health physics man to test a liquid flowing from the pipe which proved to be radioactive at the rate of five rem per hour. (Rem, standing for "roentgen equivalent man," is a measure of the effect of ionizing radiation on the body). Boaz received 20 to 30 rem, which was four to six times the yearly permissible dose. The liquid was on his trousers in direct contact with his skin. He was not wearing a radiation film badge so no record survived of his exposure.

This was not an isolated incident. Melvin Asay, a pipe-fitter at ICPP during the time of Boaz's employment, in sworn testimony submitted in a deposition that welders and pipe fitters regularly encountered serious contamination. The pipes they worked on were always supposed to be flushed free of radioactive waste, but it was not unusual for waste to spill from a cut pipe. When it did, contractor personnel would evacuate workers from the area, clean the spill, and allow workers to return to a supposedly safe work site. Asay reported this happened as often as once a month.

Phillips Petroleum, the defendant and then principal contractor at ICPP, based its defense, in part, upon Boaz's radiation film badge records. They stated Boaz received only 1312 millirem of exposure between 1954 and 1959, well within the established federal limits of 5000 millirem per year. This defense proved inadequate on several counts.

First of all, the 1312 mrem figure did not include the 20 to 30 rem Boaz received in the pipe-cutting incident. Supposedly on a 'cold' job, he didn't wear a film badge. At that time in the 1950's supervisors at the ICPP would tell workers only as much information as required to complete a given job. The dangers of radiation were minimized. As Boaz said in his deposition to the court, taken before his death, 'Of course, these people [his supervisors] don't tell you what they are doing, no more than they have to...'

Secondly, film badges provide only an imperfect means of estimating total body exposure. Denzel Jenson, a health physics professional then employed at ICPP, testified that the 'dosimetry badge only registers radiation incident upon it. It does not register what the individual's exposure is.' He went on to add that '...even today [1975] we still operated on 300 millirem per week (maximum) exposure as an administrative control.'

Available at the time, but not issued to workers as a matter of course, were audible dosimeters which sound off when radiation is encountered. In the nuclear hierarchy, supervisors and engineers, not welders and pipe-fitters, carried dosimeters. Film badges record only an after-the-fact estimate of the degree of exposure.

Third and finally, a defense based upon supposed compliance with federal guidelines was inadequate because the guidelines themselves may be inadequate. This point was made convincingly by the plaintiff's lawyers in a brief to the court: 'Nowhere in any of the said standards is it stated that exposure of human beings to ionizing radiation within thestandards will not result in personal injury of damage to ...exposed persons.'

If an exposure of five rem annually is a safe level, why is it that the maximum permissible dose for the general public is 0.5 rem per year, ten times lower than for the workers in the nuclear industry? One is led, inevitably, to the conclusion that the standards are for the convenience of the industry, not for workers' safety.

Dr. John Gofman, one of the leading authorities on the health effects of ionizing radiation, testified on behalf of Mrs. Boaz. He was associated with the Lawrence Livermore Weapons Laboratory in California from 1954 to 1969. He has published 150 scientific articles on heart disease and on the biological hazards of radiation. Dr. Gofman stated that since there is no known safe dose of radiation, the threshold theory upon which exposure guidelines are based is just that, a theory, not a fact. He held that anything above the natural background level of radiation is harmful. He presented the results of his physical examination of Mr. Boaz, stating that 18 years was a typical latency period for radiation-induced-cancer. In Gofman's opinion, Boaz's cancer was in fact, radiation-induced. His testimony was so damaging to the defendant's case that Phillips' lawyers made only a half-hearted attempt at cross-examination.

Charles Boaz died while the case was in litigation. His widow, Rosina, was awarded \$100,000 damages. He had been ill and unable to work regularly for many years. Cancer of the lymph system was diagnosed in 1971. Cancer, a growing American way of death, is always difficult to come to terms with, but it was doubly so in this case. Boaz was an active man used to working hard at his trade all his adult life. The pain and enforced inactivity caused by his radiation-induced-cancer, and the hopelessness of medical treatment which offered no cure, left him

embittered. Anger over the indifference shown by the nuclear industry to the safety of workers led him and his wife to seek damages from his former employer through the legal system in 1975.

The court's decision was not appealed by Phillips. The company, indemnified by the Atomic Energy Commission, certainly had the resources to do so. But the judgment was "only" \$100,000. Taking the case to the appeal level would cause it to be reported, that is, generally available to lawyers around the country in case books. If it were reported, the case would establish a powerful legal precedent for future judgments. As it stands, the only means of discovering the particulars is to sift through the legal documents on file at the Federal District Court in Boise, and talk to the lawyers who handled the case. The trial transcript exists only in stenographic record and would cost an estimated \$7,000 to transcribe.

The potential exists for a flood of new lawsuits. Radiation-induced-cancers require 15 to 20 years to develop symptoms. Workers employed in the nuclear industry during the 1950's, a time of relatively lax safety standards, may soon be knocking on the federal government's door seeking damages. The facts of the Boaz case deserve to be reported widely so others who may have had similar work experiences become aware of the damages due them if their lives are prematurely ended by radiation-induced cancer, one of the unwanted side-effects of our nuclear age.”

Darrell Brock

Darrell Brock knows he and the residents of the Boise area were exposed to radioactive fallout. Dan Popkey reports in the *Idaho Statesman* (8/29/04) that “Darrell Brock of Meridian does not have cancer, but he's not surprised by the victims' experience. With a Ph.D. in public health, Brock was director of Idaho's public health lab for 20 years. Sometime in the late 1950s, when the lab was on the fourth floor of the Capitol, Brock recalls a report of a radioactive dust cloud hanging over Boise. The lab's chemist, Eldon McConnell, took a Geiger counter to the window ledge. ‘We tried it with two Geiger counters and they both pegged,’ Brock said. They called the U.S. Public Health Service in Las Vegas and were asked for a water sample. They took water from a pond at Julia Davis Park. When they phoned for results, they were told the sample was lost. ‘It's anecdotal evidence,’ Brock said, ‘but I think it's valid. I don't think there's any doubt we did get a dose of radiation.’ ”

Valerie Brown

In a (8/19/04) letter to Dr. Al-Nabusi at the National Academy of Sciences, Valerie Brown states, “I am a native of Pocatello, Idaho. I was born in 1951 and spent my first 17 years in Pocatello (I now live in Portland, Oregon). My family also took dozens of vacations in southeastern Idaho and central Idaho during that period. In 1975, when I was 24, I was diagnosed with thyroid cancer. I had most of my thyroid removed and have been on maintenance hormone since then. I have also had a host of other health problems, including uterine fibroids and several benign tumors elsewhere. My mother has chronic leukocytic leukemia. My younger sister had invasive ductile carcinoma of the breast. I have a first cousin who also grew up in Pocatello who had

uterine cancer when she was in her late teens or early 20s. My father, who died in February of this year, probably had prostate cancer.

I am also a science writer specializing in environmental health, and I have been amassing information for several years about the possible triggers of my thyroid cancer. Since ionizing radiation is the only known cause of thyroid cancer, I think it extremely likely that radiation from some human-created source is responsible for it; and my family looks like a cancer cluster to me. I understand that current epidemiological methods cannot answer the question very precisely. I have tried to figure out how much radiation I may have been exposed to from the Nevada tests by listing individual tests and their plume tracks and correlating them with my location at the time, but this is very imprecise. Last time I checked, Pocatello was just outside the boundary drawn on the National Cancer Institute map of Idaho exposures, but if it is possible to discount claims of exposure based on the imprecision of our scientific tools, it is also possible to argue the reverse for the same reason. In other words, I do not believe that anyone could establish conclusively that Pocatello never received radiation sufficient to trigger cancers in its population.

My life has been profoundly shaped by my early cancer. No one told me anything about it when I was diagnosed. It was more than 20 years later that I learned of the almost certain radiation exposures I experienced as a child and teenager. In addition, there is a deep and enraging injustice in the history of the government's treatment of the state of Idaho and, indeed, the Intermountain West in general (not to mention the Pacific Northwest). To know that few officials worried about radiation plumes that traveled directly north from Nevada to fall on Idaho is to know that one's life and one's family are dispensable.

I urge you to do the right thing and include Idahoans in the group of people eligible for compensation, and I mean meaningful, not token, compensation, for these exposures. This would be an act of environmental justice. People should have the right to know what their governments are doing to them, and which of them have been chosen as sacrificial lambs.” [\(7\)](#)

Kathleen O'Neil reports in the *Post Register* (9/2/04) that “Like a slow-motion explosion, what started quietly in Washington, D.C., as a research review has turned into an emotional discussion across Idaho. At the center of the controversy is whether the federal government will allow people exposed to radiation as a result of nuclear tests in Nevada to qualify for compensation if it could have caused their cancers. ‘I didn't think people in Idaho were ever going to connect cancers to the Nevada tests and make a political issue of it,’ said Valerie Brown, a former Pocatello resident who developed thyroid cancer in 1975 at age 24. ‘It isn't a big issue if you're not affected, but once you get cancer, everything changes.’ Brown and others across Idaho are writing letters about their cancers to the National Academies of Science's Board on Radiation Effects Research, which is currently compiling evidence on cancer rates and how much radioactivity fell in various areas.” [\(8\)](#)

Jeannie Burhart

Jeannie Burhart grew up on a farm near Twin Falls, Idaho until 1975, with no family history of cancer and she got stomach cancer at age 17. She's had her spleen and part of her pancreas removed in addition to other related surgery. Now living in Fresno, California, Jeannie's cancer

may be one that does not reflect in Idaho Cancer Registry data along with many victims that have moved out of the state. She was diagnosed with a problem here, but sent to Oregon for specialized treatment due to the severity of her gastrointestinal cancer.

In a *Times-News* letter to the editor (10/3/04) Jeannie writes, “Here's evidence that Nevada bomb test fallout induced cancers in Idahoans: **me**. I've battled a rare cancer, leiomyosarcoma, from age 17 years. I've undergone nine surgeries to remove affected organs, including cancer wrapped around my heart. Raised on a Twin Falls farm, I did the right things to NOT get cancer: 1. Born with strong genes. My family tree is devoid of cancer, even today. Not coincidentally, all the cancer-free relatives never lived in Idaho; 2. Worked and played outdoors — breathed what we trusted was pristine air...except for selected days when Washington D.C. targeted Idaho, via prevailing winds, to host radioactive fallout, 3. Guzzled gallons of milk and ate our own wholesome, carefully-grown beef and vegetables; 4. Never smoked anything.

We all unwittingly played in tainted snow and breathed loaded air without opportunity for choice. Our family had no idea that our milk and beef also bore the seeds of future cancers. My parents would have never let that happen to me, but we Idahoans were denied that knowledge, that choice. What we ate and drank was 'junk food' of a whole new genre. I'd have been wiser to dine on Cheetos and Twinkies and wash that down with a beer! Healthier in the long run.

Radiation Exposure Compensation Act's \$50,000 "compassion" payments per cancer victim were paid in states whose legislators stood up for them. Idaho's politicians were silent. Why would Sen. Craig now further delay our inclusion in RECA by insisting more studies are needed to verify that Idahoans are legitimate victims? Does Craig honestly believe the fallout slammed on the brakes at Idaho's borders, then careened toward the other states? Why would a rare cancer strike me as a teen, when I come from a family where neither side has cancer? What political gain could there be in abandoning Idaho's victims? Do politicians not believe victims will live long enough to vote their disapproval?

That \$50,000 compensation will only begin to pay for just one of my surgeries which are a certainty in my future. Insurance companies shut me out thanks to this cancer, so I bear the entire cost. If politicians had to row my or other victims' boats, I have to believe they'd summon their compassion and allow it to override politically-motivated action — or lack thereof.”

Rebecca Boone reports in the *Salt Lake Tribune* (11/7/04) “Jeannie Burhart sent a written statement and a videotaped statement to be played for the scientists. Burhart was diagnosed with a rare stomach cancer while still in high school, and in the years since doctors have removed parts of her stomach, liver and spleen in an effort to fight the disease. Burhart continues to have surgery an average of every four years, she said.

‘I am out of spare parts, and I know someday this cancer will take me down,’ she said. ‘Please don't just hear us. Please take us all to heart.’ Idaho's congressional delegation and Gov. Dirk Kempthorne attended the meeting to hear resident's concerns. U.S. Senator Larry Craig said the matter was particularly important to him. ‘I can tell you my interest is personal,’ Craig said. ‘I was a child 7 to 10 years of age growing up in Washington County with my sister, drinking raw cows' milk.’

But some residents took the lawmakers to task for allegedly being slow to step in. ‘We have to look behind the warm smiles and thanking them for coming,’ said Peter Rickards, a podiatrist from Twin Falls. ‘This is the tip of the iceberg in Idaho.’ Lin Hintze, a commissioner in Custer County, said delegates needed to help eastern Idaho residents get better insurance coverage for treatment and testing of radiation-related illnesses. Hintze brought with him a list of more than 100 people who have had cancer in his area. He told the panel he came up with the list off the top of his head, and there were likely many more.

The Board on Radiation Effects Research has already held similar meetings in Utah and Arizona. The board's report to Congress is expected to be released in March.” (See also Boise Weekly 11/18/04)

Clair W. Burket

Clair Burket moved his wife and four-year-old daughter Mary to Idaho Falls in 1958 to work on the Aircraft Nuclear Propulsion Project (ANP) at INEEL's Test Area North. General Electric was the operating contractor for both the ANP and later took over as the SL-1 Reactor accident recovery operation contractor at the Auxiliary Reactor Area in May 1961. When the SL-1 blew up in January 1961, Burket, along with other ANP workers, were called down to the SL-1 site to extract the three dead bodies and clean up the contamination. Photos from the James Dennis trial clearly show workers at the SL-1 wearing ANP coveralls.

Clair Burket sustained a massive brain hemorrhage, in May 1963, at the age of 33 and his family believes his premature death in 1995 was the result of exposure to radiation at the site. **Mary Burket** (Clair's daughter) attributes her thyroid problems to exposure as an infant to iodine-131 releases from the site. Mary's attempts through Freedom of Information Act requests to access all of her father's dosimetry records related to the SL-1 operation have thus far been denied on the grounds that DOE claims not to have any of Burket's exposure records. DOE has only provided dosimetry from Burket's badge that he wore when working in the auditor's office but not the badge worn during work at the SL-1. Even though the National Institute for Occupational Health and Safety (NIOSH) is doing an INEEL worker mortality study, the agency is uncooperative in assisting in Mary's quest for her father's records. DOE has, however, sent Mary Burket her father's cumulative exposure records which list on-site non-penetrating at 13 mrem, penetrating at 390 mrem, shallow at 520 mrem, and deep at 390 mrem.

According to NIOSH, the SL-1 cleanup resulted in the highest number of exposures in the history of the site. Extensive body banking (rotating workers after receiving maximum exposure limits) was used at the SL-1. This is apparently why Burket, an auditor in GE's accounting department was recruited to work at the SL-1, along with the other men in Burket's department. Combustion Engineering operated the SL-1 at the time of the accident (January 3, 1961) and continued until May 1961 when GE took over. It is possible that Combustion Engineering personnel had received their maximum lifetime dose and could no longer work on the reactor. [\(9\)](#)

John A. Byrnes

Byrnes, a U.S. Army, Specialist-5, was one of three INEEL SL-1 reactor explosion fatalities. He was 27 years old at the time of the accident. He was from Utica, New York, a certified reactor operator since February 26, 1960, married and living in Idaho Falls. *SL-1 Recovery Operations* report notes that three men were killed in the accident. The first man removed from the reactor had radiation readings at his head of 400 rad/hr and the reactor floor where the men were found had readings of 500 rad/hr. ⁽¹⁰⁾

Richard C. Legg, U.S. Army Specialist 1C and **Richard L. McKinney** U.S. Army Specialist 4 C were the other two SL-1 operators killed in the reactor explosion.

Michael Cawley

Michael Cawley, permanently disabled from his exposures at INEEL, was initially denied workman's compensation benefits. This decision was overturned 12 years later by the Idaho Supreme Court. Dr. James Grady M.D. of the Boulder Medical Clinic stated the following in a court deposition; "I personally feel Mr. Cawley has significant interstitial lung disease, most likely resulting from his exposure back when he worked at the atomic energy site in the 1960's, due to significant exposures he had at that time to radiation and beryllium. It may very well be that the latter, i.e. beryllium, was his major problem. The major issue [for Cawley] at this time is to determine whether this disease is progressive, which berylliosis can be, and whether he should have any treatment."

William Berry M.D. also submitted comparable diagnosis for Cawley who worked at the Test Reactor Area Instrument shop for 18 years before changing jobs to the National Bureau of Standards in Boulder CO. Cawley wrote "The only difference between the Bureau of Standards and the [INEEL] Atomic Energy Site; we worked on exactly the same equipment, lathe mills, machine shop tools; the methodology was the same. The material was quite different at the Atomic Energy Site [at INEEL]. We machined radioactive contaminated material. The air at times was contaminated. We also worked on beryllium, which is very harmful to the lungs." See: Michael P. Cawley Claimant, vs. Idaho Nuclear Corp. Employer, and Insurance Company of North America, Defendants, heard by ID Supreme Court, December 29, 1989, No. 17514. The eventual workman's comp settlement was believed to be ~\$209,000 .

Cawley reports that the following fellow workers also have cancer and other serious health problems; **Bill Borrowan, Lyle Chamberlain, Frank Shelley, Buck Hilbert, Al Burton, Jim Rakitson, J. Taylor Parker and Bruce Barton.**

Sharon Chandler

Michelle Dunlap reports in the *Times News* (11/5/04) "Sharon Chandler stands near the home in Buhl, Idaho where she grew up in the 1950s. Chandler has had to take a thyroid replacement pill every day since she lost half of her thyroid during radiation treatment for cancer in 1992."

Paul Cooper

“Ten years ago, Paul F. Cooper of Emmett, Idaho checked into the Veterans Administration Hospital in Salt Lake City suffering from leukemia.” Joseph Bauman writes in “Downwinders: America's Nuclear Sacrificial Lambs” article in *High Country News*.

“Before he died, he charged that his disease resulted from military maneuvers. He and thousands of other soldiers had been marched near a number of ‘Ground Zeros’ just minutes after open-air atomic bomb tests at the Nevada Test Site. The goal was to observe the effects on so-called ‘nuclear warriors.’

With his claims began, belatedly, a great national furor over fallout from atmospheric testes that had been carried out in the United States between 1951 and 1962. For 10 years, this debate over federal carelessness and coverups ripped across the West, as alleged victims used the courts to try to place blame and collect compensation.

Their claims were backed by common sense: Cancer rates were abnormally high in the heavily Mormon, rural southwester part of Utah close in the path of prevailing winds from the test site. Such cancer rates were expected to be low because observant Mormons do not smoke, or drink alcohol or beverages containing caffeine. Moreover, rural southwestern Utah has none of the industry or auto-caused air pollution common in urban areas.

In addition, abundant evidence had been uncovered over the years that the U.S. Government has been more interested in keeping residents calm than in protecting them from the tests. And when trouble struck, as it did to a group of sheep-men who were herding their massive flocks near the test site during an atomic test, The Atomic Energy Commission was not forthcoming. Evidence that came to light years later proved to the satisfaction of a federal district judge that officials engaged in a cover-up, hiding documents and convincing scientists to conceal the damage done to animals.

First, on April 20, 1987, the U.S. Tenth Circuit Court of Appeals in Denver overturned a 1984 ruling by U.S. Judge Bruce S. Jenkins in Salt Lake City. Jenkins had awarded compensation to people he ruled had contracted cancer as a result of fallout.

The appeals court panel did not quarrel with Jenkins' finding that the government negligence caused the cancer. Instead, it overturned him on the federal government's immunity from a lawsuit. It said the government was immune because the nuclear testing was done in the conduct of national policy.” (*High Country News*, July 6, 1987, Vol. 19 No. 13)

Leslie Batt-Corbet

Leslie Batt-Corbet was allergic to cow's milk as child. Dan Popkey reports in *The Idaho Statesman* (8/29/04) that “Her parents fed her goat's milk instead. What they didn't know was that iodine-131 in goat's milk is concentrated at 10 to 20 times the already dangerous rate in cow's milk. Iodine-131 can cause thyroid cancer. Leslie's thyroid problems started when she was

12 or 13. She began a lifetime course of synthetic thyroid hormones. A month after she graduated from Caldwell High School, she had her cancerous thyroid gland removed.

In 1997, 24 years later, Leslie's dad, Phil, was governor. That's when a National Cancer Institute study put four Idaho counties atop the iodine-131 fallout list: Custer at No. 2, Gem at No. 3, Blaine at No. 4 and Lemhi at No. 5. Idaho's 44 counties averaged a dose nearly as high as the 10 Utah counties where cancer victims are eligible for \$50,000 in compensation under federal law. Idaho's exposure was nearly twice that of the six covered Nevada counties and nearly four times as high as the five eligible Arizona counties.

Batt demanded compensation for Idahoans in August 1997 but left office 17 months later without pressing the case. 'If you're gonna blame politicians, you ought to blame me, too, because I didn't focus on it,' he said. Now 49, Leslie Batt-Corbet isn't interested in the \$50,000. 'But I would like to hear the government say, for once, 'Yeah, we did that and we're sorry.' ”

Wannetta Cook

Wannetta Cooke said at the Boise 11/6/04 NAS hearing, “Idahoans should receive the same compensation as people in other states.” She looked over at Kempthorne and Craig, who sat in shirt-sleeves on folding chairs, and Crapo and Otter, who sat in the stands nearby. “I hope they're listening today,” she said. “It looks like they are.” (*Spokesman Review* 11/7/04)

Diane Christensen-Corbin

Rebecca Boone reports in the *Salt Lake Tribune* article “Idaho downwinders ask for compensation” (11/7/04) “Bob Corbin, of Boise, Idaho, holds onto the wheel chair of his wife Diane Christensen-Corbin, a cancer survivor, as they listen to questions from audience members during a downwinders meeting at Boise State University on November 6, 2004.”

George and Sharon Cox

George Cox and his high school sweetheart and wife, Sharon, grew up in Gem County. Dan Popkey reports in the *Idaho Statesman* (8/29/04) that “They went to Idaho State University, had two kids and moved to Boise, where Sharon worked as a dental hygienist. George taught English and coached basketball and track at Boise High School from 1970 to 2000. In the early years, Sharon was George's scorekeeper. He was gone a lot, but when George came home past dinner time, ‘She'd hand me a sandwich and I'd take our son to the “Y” to play basketball. She juggled it all.’

Sharon rarely missed one of George's games, but she put Denise's volleyball and Michael's hoops first. Michael played four years at Centennial, and Sharon never missed a game, even after she had a golf ball-sized tumor removed and had to wear a surgical mask to the gym. Even when she had to drive from Seattle, dissing doctor's orders, after chemotherapy for lymphoma.

‘She would drive 20 miles to see the last three minutes of my game, just to support me,’ said George. Sharon died 10 years ago at 49. George got married last month to a woman who lost her

husband to cancer. Photos of their late spouses hang in their home. ‘Do I miss her?’ said George, weeping over the phone. ‘Oh, yeah. I feel like I was cheated.’ ”

Michael Crapo

Idaho US Senator Mike Crapo has his own and family experience to show being downwinders. Karen Doran Steele reports in the *Spokesman Review* (9/19/04) that at public meeting in Emmett, Idaho, Crapo attended, "Sen. Mike Crapo R-Idaho met with 250 people in Emmett on Sept. 11. When asked whether they had cancer or knew neighbors with the disease, nearly all their hands shot up, he said. ‘It was very emotional,’ Crapo said. ‘People were talking about what it was like when atmospheric nuclear weapons testing was going on — how they saw a powdery film on the grass in the mornings in the fields, and the concerns about their health that they have now. The Idaho downwinders’ experiences struck a personal chord. ‘I’ve had prostate cancer. My brother died of leukemia, and a sister had cancer. We were all born and raised in Idaho,’ Crapo said."

La Vieve and Paul Crane

Paul Crane, a farmer in Rupert, Idaho died of colon cancer and his wife La Vieve also has cancer. Charles Etlinger reports in the *Idaho Statesman* (1/15/89) “He’d [Paul] never been sick in his life, said his widow, La Vieve, who herself was found with low-grade cancer in 1981 when she had a hysterectomy. Many of her neighbors have been struck by the disease, quite a few fatally in the past 10 years in what has been dubbed Cancer Ridge.”

Bobbi Cross

Adam Rush reports in the *Idaho Press-Tribune* (11/5/05), “Scientists suspect that iodine-131 from nuclear weapons testing in Nevada during the 1950s drifted into Idaho on winds, and concentrated in cow milk after settling on grass the cows ate. Gem County and three others in Idaho had among the highest concentrations of radioactive contamination in the nation. Several Idaho residents from counties in the Treasure Valley were raised on farms and drank raw milk.

Among them is Bobbi Cross, of Caldwell. Cross, her sister and her father had cancer. Her mother had her thyroid removed after it became precancerous. The family farmed in New Plymouth and Cross, now 61, said they drank raw milk. She said she is concerned about her cancer returning and how much it would cost to treat it. ‘I helped take care of a gal about my age who was dying this last summer of cancer,’ Cross said. ‘Toward the end, she could not afford to have the care that she needed.’

Although the state wasn’t initially included in the Radiation Exposure Compensation Act, Idaho’s congressional delegation has moved to make Idahoans eligible. If that happens, victims or their families could receive financial compensation. Cross said that money could help terminal cancer patients who are in the last stages manage pain and die with dignity. ‘For so many people, health insurance is so high,’ she said. ‘For cancer patients, it’s extremely high.’ ”

Michelle Colledge

My name is Michelle Colledge. I have or had aggressive multiple sclerosis. The question mark is due to the experimental treatment I received at Johns Hopkins. For humanitarian reasons I was given an HiCy and as of today I'm still in remission after a bone marrow stem cell transplant. Ultimately we wiped out my existing immune system and used my stem cells to regrow a new one. That is the only reason I am still here to contact you. I lived in Richland, WA from 1998-2001. After a great deal of research I have determined that during that time the leaking canisters increased the amount of nuclear waste being dumped underground threefold. The DOE knew about the risks associated with it and at that time did not notify the public of the increasing issue. We know that negligence has been proven and now multiple sclerosis has been proven to have a cause—ionizing radiation. The course of my multiple sclerosis was so aggressive and so abnormal that I rejected all FDA approved methods and then had only a last resort option of either a bone marrow transplant or the HiCy treatment. I had reached the point that I had received the maximum allotment of Novantrone [sic] (which combined with plasma apheresis) and I was staring down quadriplegia and death.

My story isn't a tragedy due to the love of my husband and his unwillingness to give me up. We'd only been married nine months when MS hit and since then he's been the one to stand in the gap, sacrificing living for my care. Knowing that the government knew (why else would they provide lifetime care to any member of the military that was around ionizing radiation and developed MS within 7 years of discharge) and didn't notify the public or contain the problem (in 1991 they were told about the leakage issue ((former employee memo)) I would like compensation for the life they stole from me. Stanford and four other independent research groups have concluded that multiple sclerosis and ionizing radiation exposure are linked. I know that I'm lucky, my husband covered me on his insurance and so I've had the best medical care available, each year covered cost approx. \$550,000...personal injury and loss of the quality life aside I have lost my ability to financially contribute to my family and also to physically contribute in the way of care for my daughter. I'm angry not only for my own loss of potential but also for the rest of the MS cluster in that area. We are fatigued, in chronic pain, and ultimately the ghosts of who we once were. MS is one of the worst diseases a person can have—you lose who you are as a person (left front temporal lobe damage), the ability to sleep, to eat, to eliminate waste, to plan, to remember, to enjoy all aspects of life because you have a rapist at your door. A rapist that can't be stopped and that slowly steals functionality and happiness. When I was diagnosed my doctor cried. As one doctor put it—"Don't get married, don't have children, and begin to plan for an early admission to a nursing home. You are now a financial liability to anyone that cares for you." However there is always hope. If my government determined that I should be sacrificed I feel that I should at least be compensated. Others like me should be able to get the medical care they need. MS medications that just slow the disease down cost \$20,000/month. Chronic illness and all the things that come with it raise the medical costs exponentially. They have given me a lifetime of pain. I am on pain medication due to the spinal lesions that occurred, sleep medication because the pain keeps me awake, muscle relaxers due to the spastic issues, and anti-depression, anti-anxiety medication because my brain chemistry has been altered to a point that it cannot regulate itself. I need help and am willing to spend the next twenty years in a legal battle if need be. Our government should not be allowed to poison us and leave us to die slowly. I have information on my condition and the documents needed to prove probable cause.

Leslie Dean

The “Panel backs downwinders” news story in the Feb. 22 edition of *The Times-News* brought to mind an experience with fallout in Twin Falls. I cannot believe that Blaine County received significant fallout while Twin Falls, Jerome, Minidoka, Lincoln and Gooding did not. Draw a line from Yucca Flats to Sun Valley. It is pretty hard to miss the southern counties!

I can attest to the fact that substantial radiation occurred in the vicinity of Twin Falls shortly after a 1950s test of a nuclear device in Nevada. I vividly recall a situation, which leads me to state unequivocally that Twin Falls vicinity did receive substantial radiation from at least one Nevada nuclear blast. The significance of radiation was not as well understood at that time and, hence, exact dates were not recorded. One of the Nevada nuclear tests that was set off was followed in Twin Falls by a rain shower. **I took my scintillator, a sensitive radiation detection system, out into my yard on Falls Avenue West after the shower passed and the reading simply went "off the scale," indicating a very large amount of radiation.** At the time, this did not occasion alarm and we simply went on with our normal activities. In retrospect, we all should have been very concerned.

The fact remains that the Twin Falls area did receive a very substantial quantity of radiation fallout, and if counties to the north of the Magic Valley are to be included as “downwinders,” it defies all logic to exclude other more southerly counties.

I cannot prove my claim of detecting heavy radiation in Twin, but I have personal knowledge of measured radiation far in excess of normal. It seems most likely that heavy radiation fallout has impacted a wider area than just Blaine, Gem, Custer and Lemhi counties. It may not be possible to positively identify the many health-related problems as being due to radiation, but Twin Falls, at the very least, did receive a very heavy fallout from at least one Nevada test blast. (*Times News* 3/4/05; “Fallout didn't pass over southern Idaho”)

James Dennis

The author interviewed Jean Dennis at her home in Virginia, the widow of James Dennis, who was a member of the INEEL SL-1 involuntary Army demolition crew brought in by General Electric under contract with Atomic Energy Commission (AEC) to dismantle the reactor after it blew up in January 1991. The 38 eight by ten inch photographs taken by the AEC and submitted as evidence in Dennis' litigation against General Electric, shows Dennis right beside the damaged reactor core placing the explosive charges on the support beams that held up the 80 ton concrete and lead operating room floor above the reactor vessel. The photos also show the two huge clouds of debris that went into the air when the two separate charges went off, covering Dennis, his partner Arthur Limeruk, and spreading the residual contaminates over a large area. Dennis died of a rare blood cancer called Waldenstrom micro-globulin anemia (blood and bone marrow cancer), which his medical documents confirm was caused by exposure to 50 rem/hr for nine hours and ten minutes at the SL-1 site. [\(11\)](#)

SL-1 Recovery Operations report notes radiation levels on the reactor floor ranged from 500 to 1,000 rad/hr immediately above where Dennis and Limeruk later were working. This report also notes that the dosimetry badges worn by the workers only went up to 1,000 mrad.¹ Dennis' documents further challenge the government's acknowledged exposure of whole body at 2135 mrem, and skin at 3845 mrem² as grossly understated. Dennis claimed he received internal exposure because of the contamination in his nose. GE's health physics technicians however made no attempt to swab out his nose to remove the contamination or provide chelates to flush out the contaminants.

Dr. Charles Miller M.D., hematologist and oncologist, chief of Medical Services at Letterman Army Medical Center and Dennis' internal physician, supports the allegation that Dennis' cancer was caused by exposure to radiation.³ Dennis was also forced by the Army to conduct exercises in the ground zero area of two Nevada Test Site nuclear blasts, March 22 and 23, 1955. Dennis unsuccessfully tried to convince the Army, the AEC, and GE personnel that he had already received more than a life burden from his exposure to nuclear bomb tests. Dennis' supervisor at Fort Belvoir, VA (Renehart) told him "he would be fired for violation of orders" and "he would have no grievance rights." [Dennis @ 11] As a twenty-one-year combat veteran of three wars, his retirement was put in jeopardy by refusing to follow his orders. According the Dennis' deposition, GE health physics personnel would not disclose the radiation levels at the SL-1 nor provide the backup work necessary to minimize the time required to place the explosive charges. Dennis cites no less than 19 worker exposure violations committed by GE on Dennis and Limerick.

The government refused to grant Dennis any compensation for his radiation exposure injuries that caused his early death. The US Justice Department defended General Electric's and John Horan, an INEEL health physics technician, who was an expert witness brought in by the Atomic Energy Commission to refute Dennis' claims to radiation induced injuries. Horan was also in charge of the Health Physics Department at the site and in charge of worker monitoring of the SL-1 cleanup workers. Ironically, John Horan later died of a brain tumor in the late 1990's.

Mary Dickson

Mary Dickson reports in the *Idaho Statesmen* (8/30/04) about her own downwinder status. "I carry a map of the United States in my wallet. It's from the National Cancer Institute's 1997, 15-year study of fallout from nuclear weapons testing in Nevada. The map shows county-by-county estimates of fallout doses across the country. Idaho, Utah, Montana and parts of Colorado are almost completely red, signifying the highest levels of fallout. The Midwest is one large stain of red, as well.

I carry the map as a way of bearing witness and as a warning to remain vigilant. As part of the 'War on Terror,' we are seeing preparations that could lead to a new round of nuclear testing, along with hollow assurances that it will be safe. I don't need reminders of what fallout did to people living in those areas of red on the NCI map. There is another map I carry, one that is

¹ IDO-19301, SL-1 Recovery Operations, Combustion Engineering, June 30, 1961, p.32, 38.

² James Dennis citing AEC/SL-1,CAB.

³ James Dennis Affidavit, March 27, 1962, p.17.

drawn by the scars on my body. At age 29, I was diagnosed with thyroid cancer. I've counted 45 people in my childhood neighborhood in Salt Lake City who became sick or died. We lived under the clouds of atomic testing. So did residents of Idaho and cities across America where millions of people lived. We'll never know how many of us got cancer or other illnesses from fallout exposure. According to the NCI study, as many as 212,000 cases of thyroid cancer alone likely are related to testing. Sadly, the vast majority of downwinders in this country don't realize they are downwinders.

Dr. Lynn Anspaugh who worked on dose calculations for the NCI told a committee of the National Academies of Sciences in Salt Lake City [in July] that 'it would be wonderful if we could compensate everyone affected by fallout, but that would mean compensating everyone who lived in the United States during the 1950's.' He suggested compensating people in those areas of the nation that got hit hardest, which would include northern Utah and many parts of Idaho.

At the hearing, downwinders like me called on the committee to expand federal compensation as a matter of accountability and justice. Now, downwinders and government leaders in Idaho, which received some of the nation's highest levels of exposure, are rightfully demanding additional hearings. The issue is gathering steam as more people understand that radiation did not respect arbitrary lines on a map. The winds carried it across the country, where it rained out at random. That's how it got to Idaho, the Midwest and New York. As Americans learn the full extent and consequences of four decades of nuclear testing, they must demand not only justice, but that the mistakes of the past not be repeated. There is no question that our government lied to us when it assured us that 'there is no danger.'

That's why I take no comfort from current assurance that should nuclear testing be necessary, it will be underground and pose no danger. I remember 'underground' tests like the notorious 1970 Baneberry that spewed radioactive debris 10,000 feet into the skies, where it was tracked as far as Canada. I'm outraged at this administration's willingness to abandon the hard-won ban on nuclear testing. As a good friend of mine said, 'nuclear testing has nothing to do with the war on terror, it is terror itself.' If we learned anything from being the unwitting subjects of atomic testing, it is that we all live downwind."

Jo Ann Doerr

Jo Ann Doerr in a 2/23/08 email to EDI states, "I live in Mackay, Idaho. I worked on the [INL] site for 17 years. I no longer work there as I was injured and forced to leave my job in 2006. I was a laborer at TRA [Test Reactor Area, now the ATR Complex] working in the reactor building for the Advanced Test Reactor, and then a Waste handler for all site operations. But mostly I worked at INTEC (CPP) and I now have a diagnosis for CML Chronic Myelogenous Leukemia. I was turned down for workman's comp. This week I was told that it is a 50/50% chance that my CML came from working with radiation and hazard carcinogens like benzene for one, was work related. They told my attorney that the tie goes to the employer.

I know more stories from the INL! I'm looking for help with documenting my claim. I'm talking to Dr. Peter Rickards; my Doctor is Dr. Banu Symington, in Twin Falls. I would like also to get in touch with Duane Allen. My attorney is Lance Nalder in Idaho Falls; He is willing to go to the

Idaho Industrial Commission. Cancer is starting to run rampant at INTEC now; but also all other types including hairy celled leukemia. That, they say is not caused by exposure of any kind. One woman union equipment operator, died last week with cancer everywhere at age 47.”

In 2013, NIOSH proposed that Chronic Lymphocytic Leukemia (CLL) be considered as a radiogenic cancer under the Energy Employees Occupational Illness Compensation Program Act of 2000.

Nikki Doll

In an open letter to neighbors in Idaho Custer and Lemhi counties, Nikki Doll writes in the *Challis Messenger* (9/8/04) that, “The U.S. Government intentionally did bomb testing in the late 1940s through the early 1960s and planned the tests for weather currents that would send the fallout to the least populated areas, or downwind. Custer County has the second highest rad count in the contiguous United States at 15.7 rad. Gem, Blaine, and Lemhi counties rank third, fourth and fifth in the nation. There are people in our counties who have a very increased risk of cancer or other disease due to the high radiation count. People in Utah, Arizona and Nevada get compensated for diagnosis of a downwinder cancer through the Radiation Exposure Compensation Act (RECA). Idahoans affected by this radiation should also receive recognition from the government. Please take a few minutes to share your story so there is a record for Custer and Lemhi counties. We all know many people who have suffered and are suffering. Do this for the current and future residents of our counties and state.”

Fred W. Dykes

Fred Dykes, as an INEEL worker, reports in a letter to the editor (*Idaho State Journal* 9/27/04) that “After reading the article in the *Idaho State Journal* concerning Valerie Brown and others, and thyroid cancer, I believe it would be less than honest not to relate my experience while employed at the [INEEL] ‘Site.’ In the early days at the site, routine urine analysis samples were required of all employees whose work involved dealing with radioactivity. On one occasion I provided the sample of urine. Several days later I was asked to provide another sample. Sometime later I was asked for another sample. Since no explanation was offered, I asked my supervisor, Dr. James Rein, what was going on. He investigated and found out that my urine contained a radioisotope not present at the site. The most likely source was from the Nevada test site, although worldwide fallout could possibly be responsible. My parents who lived on Cottage Avenue north of Pocatello always grew a large garden, and my family enjoyed the fruits of their labor. Radioactive fallout upon the garden was probably the source of my contamination. Talk among site employees at the time was that smears of some automobiles in Idaho Falls yielded positive results for radiation. One of our sons was born in 1965, with birth defects.”

June Eiguren and Sheri Mohr

June Eiguren, who lived in Gem County, is a breast cancer survivor who lost her husband to liver and colon cancer in 1978. She taught her four children to take responsibility for their mistakes and said, “I expect no less from my government.”

Sheri Mohr grew up in Valley County, feeding her cats from the teats of the family's cows. She has long wondered what she did to cause her cancer. "After today," she said, "I realize it probably wasn't me or us. It was done to us." (*Idaho Statesman* 11/7/04)

Paulette Edvalson

Mink Creek, nestled at the northernmost end of the Wasatch Range in Franklin County, Idaho, is home to only a few hundred people. Dan Boyd reports in the *Idaho State Journal* 10/31/04, "Growing up in Mink Creek, Paulette Edvalson knew most of them. Now, Edvalson also knows the jaw-dropping occurrence of cancer in Mink Creek, most of it caused, she believes, by the fallout from nuclear bomb testing in the 1950s.

'There is somebody in every family that lived in Mink Creek during those two decades (the 1950s and 60s) that got cancer,' she said. Edvalson, who now lives in Boise, milked cows and hauled hay on her family dairy farm throughout her childhood and adolescence. As the years went by, a strange trend began to emerge.

Edvalson's father contracted prostate cancer and her mother developed breast cancer. Then two of her sisters were also diagnosed with the disease. While Edvalson hasn't been diagnosed with cancer herself, pre-cancerous symptoms and a lingering uneasiness led her to have a hysterectomy performed several years ago. 'I was astounded because of all the people we knew from Mink Creek that died, 98 percent died of some kind of cancer, most of them in their 50s or 60s,' she said.

Bonnie Adamsson-Vorwaller, Edvalson's niece, didn't grow up in Mink Creek, but she looks back at her family's history and sees a tragedy that could have been avoided. 'There's no question the fallout hit Idaho really hard,' she said. 'You want to think (the government) didn't know, but that's not true — they know.'

Adamsson-Vorwaller, who also lost her husband to cancer, is convinced the fallout from bomb tests are to blame in much of her family's plight. 'There's a one in a billion chance it wasn't the fallout,' she said. 'If it wasn't dangerous to people, the military wouldn't have been interested.'

The U.S. is supposed to be better than the rest of the world, but we bombed our own country. Edvalson, surprisingly, doesn't feel vengeful or bitter. 'I don't have any animosity toward the government,' she said. 'Sometimes (things they do) backfire and sometimes they work out great.' "

Pearl Ford

Pearl Ford, one of Emmett, Idaho's ailing residents is profoundly uneasy about a Bush administration proposal to resume nuclear testing in Nevada by 2007 for a new generation of nuclear weapons. Karen Dorn Steele reports in the *Spokesman Review* (10/24/04) " 'They've killed more people with fallout than we lost at the twin towers in New York on 9/11,' said Pearl

Ford, who lost her mother, father, brother and husband to cancer within the past five years. ‘We don't want them to do it again.’ ”

Marjorie Amos Freeman

Marge Freeman writes in a letter to the Downwinders, “It is way past the time that these people are fairly dealt with. I grew up in Moscow, Idaho. We were exposed to the infamous Green Runs. Two years ago, a benign 3 cm tumor was found on my right thyroid. It was removed along with my right thyroid and now I am taking thyroid medication, as I will be required to do for the rest of my life. The tumor was on the back of my thyroid and was only discovered during a chest x-ray for a bad cold. Many other people might have these hidden tumors as well I would imagine. My oldest brother has had his thyroid removed because of tumors. My 20 year old son was recently diagnosed with a hyper-active thyroid. I do not know if studies support any genetic problems with thyroid. I had a miscarriage 24 years ago. My mother and sister have also had miscarriages. Do you know of any programs designed to help downwinders who grew up in Northern Idaho?” [\(12\)](#)

Karen Dorn Steele, reports September 19, 2004 in the *Spokesman Review*, “Two years ago, a doctor discovered a 3 centimeter benign tumor on Marjorie Amos Freeman's thyroid gland. Freeman, who grew up in Moscow, Idaho, underwent surgery and must take thyroid replacement medicine for the rest of her life. Her 61-year-old brother also had to have his thyroid removed, she said. These problems are only now beginning to show up in her friends and family, said Freeman, 59, an eighth-grade teacher in Meridian, Idaho. 'We were exposed to the fallout from Nevada, and also to Hanford's radiation clouds. We are unhappy that the government used us as test subjects,' she said. To Freeman, the money isn't the most important goal. A government acknowledgment that it put people at risk during nuclear weapons testing is what most downwinders want, she said. ‘I want a big-time apology. Compensation is very secondary. I just want them to admit they did something that was wrong, and they won't ever, ever do it again,’ Freeman said.”

George Freund, Linda Thompson, and Marea Kettler

Linda Thompson, of Pocatello, attributes her thyroid cancer to fallout that drifted from atomic bomb tests done in Nevada during the 1950s. Linda Thompson sat down in the middle of the aisle next to the house plants, too worn out to move. She felt tired and depressed and knew something was wrong. Going to Fred Meyer wasn't supposed to be this formidable.

Several hundred miles to the southeast of Pocatello, **Marea Kettler** was developing a funny lump on the side of her neck and found her right eye twitching unnaturally. What happens when scientists find two different truths? And what happens when a group of 50-year-old Idahoans stand in the middle of the two groups, in the eye of a political, cultural and scientific vortex?

It appears a generation that grew up watching “The Ed Sullivan Show,” listening to Elvis Presley and basking in the post-World War II economic boom unknowingly carried a festering secret within themselves for about 30 years.

To a growing number, there's no doubt about what really happened. To others, however, the mysteries of the world can't be so easily explained. Thompson was born in Los Angeles in 1949 and one of her early memories is riding a Union Pacific train back to her mother's hometown of Blackfoot in 1953 after her parents divorced.

Her grandmother had a five-acre farm outside of Blackfoot and Thompson quickly acclimated to life in Idaho, including spending time on the farm and regularly drinking fresh cow's milk. "I was a child," she said. "And I thought I was safe as could be."

Thompson moved to Pocatello in 1974 and had seven children. Life was good, until she started feeling mysteriously ill. She felt tired and depressed, and was actually put on Prozac by one doctor.

Kettler grew up as Marea Papaeliou in Pocatello, a first-generation American with parents who had emigrated from Greece. She attended Jefferson Elementary, Irving Middle School and Pocatello High, and then left the Gate City for Oregon in 1971. "I always thought that living in Idaho was pretty clean," she said. "When all this came out I started wondering, but I couldn't prove it."

Like many others, Kettler looks back at her childhood and can't help but marvel at the long-lost innocence. "I played on this one farm with my friends from church and we would ride horses and walk through the fields," she said. "My sister and brother didn't hang out on the farm like I did." Finding out what really happened 30 years after the fact isn't an easy task.

In this detective story, there's no quick fix and no easy answers. Even those who are convinced they are right willingly acknowledge there's a chance they're wrong. Much like the argument between the petri dish and the holy host, there's one lingering problem: No matter how you boil it down, it's just about impossible to convince the other side with absolute irrefutable proof. Thompson lay on the table, heart pounding, as nurses stuck long needles into her neck over and over again. The nurses couldn't hit their target and Thompson felt like a pincushion.

It was March 1996, but to her, it must have felt like the end of the world. It had all happened so soon, Thompson was more stunned than distraught. She received the call from a nurse while at work after weeks of testing to try to get to the bottom of her strange bouts of exhaustion and mood swings. The news wasn't good. "We thought I was going to die," she said.

As for Kettler, she's still picking up the pieces. "You caught me on a good day," she said while describing her "character building" year from her Denver home. A cheery woman with a robust sense of humor, Kettler's story also involves its share of personal demons and depression.

It also involves an incision she calls a "dissection" that went down the front of her neck, around her ear and down to her shoulder and reminds of her ordeal on a daily basis. What unites the two women, and shattered many layers of the lives they had built, is thyroid cancer. When a series of 90 above-ground nuclear bomb tests were performed in the barren Nevada desert in the 1950s, radioactive nuclear fallout rose up into the air. That much is certain.

The implications of that fallout, the effects felt by a generation of Gem State natives from Payette to Preston, are a stickier issue. But Saturday, about 40 years after the bombs, Idaho residents will get the chance they've been seeking for years.

A National Cancer Institute study released in 1997 identified four Idaho counties — Gem, Blaine, Custer and Lemhi, among the five hardest hit counties nationally in terms of doses of radioactive iodine.

Since winds from the Nevada Test Site (where the bomb tests were conducted) typically carried the radioactive nuclear fallout, specifically the element iodine-131, to the north and east, specific counties in Utah, Arizona and Nevada are eligible for compensation. But not Idaho.

After receiving around 450 messages from afflicted Idahoans, the National Academy of Sciences Board on Radiation Effects Research announced they would hold a public meeting in Boise on November 6, 2004 to hear oral testimony.

But despite a public outpouring in Bannock County and across the state, Idahoans still aren't eligible for the \$50,000 given under the guidelines of the Radiation Exposure Compensation Act. To some, that's just fine.

George Freund

George Freund is also a thyroid cancer survivor, but one who thinks the Nevada bomb tests are being unfairly singled out in a witch hunt for culpability. Freund, an MIT graduate and vice president of Coalition 21, a group of about 100 that supports science and technology, said he won't ask for compensation and isn't willing to place the blame on radiation fallout from bomb testing.

“It's not easy, I don't dwell on it,” said Freund of the cancer. “But I'm not going to (fall victim) to scare tactics.” Along with another retired Eastern Idaho scientist, Phillip Anderson, Freund is fighting in the name of science to combat the claims of downwinders.

Anderson and Freund say it's impossible to pinpoint the definite cause of most cancer cases and the statistics detailing Idaho cancer rates are untrustworthy due to the small sample size.

“It's virtually impossible to attribute,” Anderson said. “You can't prove it was not (caused by nuclear fallout) or you can't prove it was.”

“There's no good physical evidence of why an Idaho county should be high,” Freund added. “If Gem County or Blaine County was high, why wasn't Bannock County?” The two gray-haired scientists adamantly maintain antibiotics indirectly cause more cancer cases than nuclear fallout by keeping people alive longer and increasing their risk of obtaining the disease.

Yet to Peter Rickards, an outgoing Twin Falls podiatrist who spearheaded the charge to get representatives from the national Board on Radiation Effects Research to come to Idaho, such talk ignores an overwhelming preponderance of evidence. Rickards said much of the valuable evidence that shows dramatic spikes in iodine-131 levels during testing cycles are being hidden

or blatantly excluded from studies. “We're just seeing the tip of the iceberg here,” he said. In his mind, the public forum is long overdue. “I think it's extremely important,” he said. “We need all parts of the state there at the very least for Idaho politicians to see this. This is the best opportunity I've seen in more than 15 years.”

What Rickards sees as justice, however, Freund and Anderson see as a scapegoat. “The superstitious phenomenon that permeates the general public is not derived from science,” said Anderson, executive director of the Pocatello-based Idaho Academy of Science. “It's really easy for people to claim a cause for a malady.”

The downwind explanation, they say, makes for a convenient and dramatic answer. “It's like when you eat something and then get sick,” Anderson said. “Right then in your mind you remember the last thing you threw up even if it wasn't what caused you to get sick.”

“(This is especially true) when there's monetary values involved.” Still taking supplemental capsules to offset the damage done by cancer, Thompson's eyes flicker with anger when she hears excuses and denials. Thompson is positive in her mind the cancer was caused by the Nevada bomb tests and will live under the shadow of the experience for the rest of her life. “If affected me, my husband and my children,” she said. “I worry about ovarian cancer. I'll always be constantly worried.”

Surprisingly honest in relating her story, Marea Kettler laughs frequently and doesn't claim to know exactly how she contracted thyroid cancer. But then again, it doesn't stop her from wondering, either.

When the lump on the side of her neck was finally diagnosed as thyroid cancer and just fatty issue, she was shocked. “I asked the doctor ‘Did you get the slides mixed up?’ ” she said. “They did the biopsy in December to remove the thyroid. They said it should look like chicken, but it looked like liver.”

Despite her cheery disposition, Kettler admits she suffered from depression and emotional issues after the diagnosis and throughout her recuperation from a February 2004 surgery that found 13 of her 33 lymph nodes to be cancerous.

Now she's waiting and hoping to see if any of the cancer comes back. As Idahoans and others who have contracted the disease can tell you, thyroid cancer is difficult to diagnose and manifests itself in myriad ways. It is also known to be caused only by radiation. Several weeks ago, the Journal profiled the case of one woman, Valerie Brown, who grew up in Pocatello and contracted thyroid cancer while in her 20s.

Since then, numerous current and former Southeastern Idaho residents have come forward with stories similar in vein, if different in detail. But as more and more downwinders come forward with stories of cancerous ordeals the message is apparently being heard. What happens in the future, on the other hand, remains uncertain.

Even if parts of Idaho are ushered into the federal compensation program, it appears unlikely that Eastern Idaho counties would be included in the mix.

Paulette Edvalson

The story of Mink Creek. Mink Creek, nestled at the northernmost end of the Wasatch Range in Franklin County, is home to only a few hundred people. Growing up in Mink Creek, Paulette Edvalson knew most of them.

Now, Edvalson also knows the jaw-dropping occurrence of cancer in Mink Creek, most of it caused, she believes, by the fallout from nuclear bomb testing in the 1950s. "There is somebody in every family that lived in Mink Creek during those two decades (the 1950s and 60s) that got cancer," she said.

Edvalson, who now lives in Boise, milked cows and hauled hay on her family dairy farm throughout her childhood and adolescence. As the years went by, a strange trend began to emerge. Edvalson's father contracted prostate cancer and her mother developed breast cancer.

Then two of her sisters were also diagnosed with the disease. While Edvalson hasn't been diagnosed with cancer herself, pre-cancerous symptoms and a lingering uneasiness led her to have a hysterectomy performed several years ago. "I was astounded because of all the people we knew from Mink Creek that died, 98 percent died of some kind of cancer, most of them in their 50s or 60s," she said.

Bonnie Adamsson-Vorwaller, Edvalson's niece, didn't grow up in Mink Creek, but she looks back at her family's history and sees a tragedy that could have been avoided. "There's no question the fallout hit Idaho really hard," she said. "You want to think (the government) didn't know, but that's not true — they know."

Adamsson-Vorwaller, who also lost her husband to cancer, is convinced the fallout from bomb tests is to blame in much of her family's plight. "There's a one in a billion chance it wasn't the fallout," she said. "If it wasn't dangerous to people, the military wouldn't have been interested."

"The U.S. is supposed to be better than the rest of the world, but we bombed our own country." Edvalson, surprisingly, doesn't feel vengeful or bitter. "I don't have any animosity toward the government," she said. "Sometimes (things they do) backfire and sometimes they work out great." (Excerpts from "Downwinders persevere: More come forward as hearing draws near" (10/31/04) by Dan Boyd, Journal Writer for the *Idaho State Journal*).

Francie Gifford and Chuck Goslin

Francie Gifford, her brother Chuck Goslin, and sister Christine Welch-Galvan, and neighbor Sheri Gorman who all grew up in Emmett, Idaho believe their family cancers are a result of radioactive fallout. Scott Logan reports in *KBCI 2 Boise* (8/26/04) that "Francie Gifford's last wish was to die in the house she knew as a child growing up in Emmett. But when her family brought the 50-year-old terminal cancer patient home from Kentucky in 1998, they never

suspected the primary lung cancer that was killing her may have been caused by fallout from above-ground nuclear bomb tests in Nevada during the 1950s and 60s.

Francie's brother Chuck Goslin believes she got the cancer by drinking radioactive raw milk as a child. Francie died at home in October 1998. 'I'm convinced there is a direct connection,' Goslin told *Idaho 2 News*. 'There are so many questions and the deeper we dig, the more we need to know. I'm angry.'

In 1997, the National Cancer Institute identified Gem County as one of the places in the United States receiving the highest doses of iodine-131, a radioactive material in the fallout that blanketed pastures, possibly poisoning cows that ate contaminated grass and adding the iodine in their milk.

Custer, Lemhi and Blaine Counties were also included in the report. But many people didn't link their cancer to the fallout until a series of articles in Gem County's Messenger Index recently raised awareness. 'I've always felt that in Emmett Valley, almost everybody I know, their family has been touched by cancer. There have been deaths and it's been horrendous,' said 47-year-old Christine Welch-Galvan, who grew up in Emmett and drank raw milk all the time as a young girl.

Christine grew up in Emmett. Her family has been ravaged by cancer. Her mother died from cancer in the 1970s, one sister had a cancerous tumor removed as a child and another sister was diagnosed with breast cancer which has now metastasized to her bones and liver. Christine herself has been battling non-Hodgkins lymphoma and is cancer free for now. She believes the radioactive fallout is to blame, but neither Christine nor her sisters qualify for federal compensation because Idaho is not covered by the Radiation Exposure Compensation Act known as RECA, passed by Congress in 1990.

Only Nevada, Arizona and Utah are presently covered by the legislation, which can provide up to \$50,000 for cancer claims.

'The one thing that does make me angry, that does upset me is that there are counties and states covered under this act that had way less exposure than what we had,' Christine said.

Now, many of the Gem County downwinders are calling for public hearings in Idaho to have the state included in RECA, which covers different types of cancer. One of those leading the drive is Sheri Garmon who was raised in Emmett and is now diagnosed with terminal cancer. 'I'm not worried about me dying,' she told *Idaho 2 News* from her home in Vancouver, WA.

'I'm lucky to have faith in God. I do worry about the people I have to leave behind.' Sheri, and other downwinders who talked to *Idaho 2 News*, were critical of Idaho's congressional delegation, saying they were not pushing hard enough to have Idaho included in the federal program."

Christine Welch Galvan and Barbie Welch DeSalvo

Barbie Welch DeSalvo and her sister Christine Welch Galvan believe their cancers were caused by radioactive fallout. Gerry Melendez and Dan Popkey report in the *Idaho Statesman* (8/22/04), “Christine Welch Galvan, who grew up in Emmett, Idaho drinking fresh milk, developed cancer. So did her late mother and her terminally ill sister, Barbi. The women attribute their cancer to nuclear fallout from nuclear tests at the Nevada Test Site in the 1950s and 1960s. The government has paid about \$360 million to compensate downwinders, but not those in Idaho, despite higher radioactive exposure in some counties compared with eligible counties in other states. A government review will make recommendations to Congress next year on possibly expanding the plan to Idaho. ‘It’s the fact that this was done to so many people,’ said Galvan, joined by her daughter Nicole, right. ‘I’ve lost a mother, I’m losing a sister.’

The Welch sisters got together in Texas late last month for what may be the last time. Barbi, left, and Christine, far right, have been diagnosed with cancer. The other sisters are Kathleen, right of Barbi, and Cindy.

Barbi and Christine Welch and their seven siblings grew up in Gem County drinking fresh milk. The family shuttled to the dairy every other day for wide-mouth glass jugs, cream on top. The farmer threw in a free chicken for buying four gallons at once.

Now, the sisters have cancer. And they think the milk-dosed with cancer-causing radioactive iodine from nuclear-bomb tests — have something to do with it. ‘My mind leaps to the fact I was there, I was exposed, and now I have cancer,’ said Barbi Welch DeSalvo, 49. Now living in Texas, she lost both breasts to cancer in 1993. In 1994, her hyperactive thyroid gland was intentionally destroyed; she now takes synthetic thyroid.

In January, 2004, Barbi was diagnosed with lung, liver and bone cancer. At the same time, her sister, Christine Welch Galvan, 47, of Meridian, was diagnosed with non-Hodgkin's lymphoma. The government would have paid the sisters \$50,000 for their trouble had they lived in one of 21 counties in Utah, Nevada and Arizona.

The Welch sisters are among thousands of Idahoans who received higher doses of radioactive iodine-131 than many beneficiaries in those 21 counties. But they can't get any money, or the apology Congress gave victims and families.

Christine Welch Galvan and her sister are growing back the hair they lost during chemotherapy. Both wonder whether their mother, Dolores, who died of breast, bone and liver cancer, may have been another victim. ‘I’ve lost a mother, I’m losing a sister and there are no guarantees for me,’ said Galvan. ‘What I want is to get the information out and get people compensated.’ ”

Don Garmon

Emmitt, Idaho life-long resident Don Garmon died January 24, 2005 of liver cancer. Don was the father of Sheri Garmon (below) whose “Uncle George, who lived a mile and a half away, had cancer of the bile duct. Aunt Betty was riddled with cancer of the lungs, liver and other organs.

And it wasn't just family. On every visit home, it seemed, she heard of another former schoolmate or neighbor with leukemia or thyroid cancer or brain tumors.” “Fallout: In tiny Emmett, Idaho, a band of citizens are speaking up. And insisting that the government listen.” (Article by Lynn Rosellini, in *Readers Digest*, May 2005, page 99.)

Karen Dorn Steele reports in *The Spokesman-Review* October 24, 2004 “After atomic bomb tests rained dangerous radioactive fallout on Idaho in the 1950s, Don Garman's ‘Valley of Plenty’ became a valley of death. Garman, 87, said he and his Gem County neighbors used to rush to a bluff to glimpse the eerie glow in the sky when the nuclear bombs were detonated hundreds of miles south in Nevada. The dairy farmer said nobody warned them that the white dust that drifted onto their fields after the blasts and clung to their hands and windows was a time bomb. ‘It looked like frost. Nobody ever told us there was any danger,’ said Garman, who has liver cancer.

Some children in the Intermountain West died soon after the fallout of acute leukemia, the first of the radiation-sensitive cancers to strike. A half-century later, the people of south-central Idaho are still developing illnesses that may have been triggered by radioactive isotopes in the 100 open-air nuclear bomb tests on U.S. soil from 1951 to 1962. And they are angry. Angry at not being included in a government program that has made \$50,000 ‘compassion payments’ to some fallout victims with cancer in Nevada, Arizona and Utah. So far, the program has paid out \$775 million.”

Sheri Garman

Sheri Gorman believes that drinking their family farm milk resulted in her cancer. Janet Monti reports in *Idaho Press Tribune* (9/3/04) that: “In December, 2003, Sheri Garman heard words from her doctor she'll never forget. ‘When breast cancer metastasizes, life expectancy is 18 to 24 months. If it metastasizes in an organ like the liver [which is where she has it] or the lung, it is less.’ I would say these words are pretty close to verbatim. You don't forget something like that. I'm now a 52-year old living on my retirement. The retirement doesn't have to last forever, my forever is short.’

Sheri Garman is a downwinder. Like hundred who grew up on Idaho farms in the 1950s, from the earliest age, she drank milk from the family cows. Her father, Don, milked 30 cows daily, giving the cream of each day's milk to his family. During the hot summers before refrigeration, milk cans were placed in the canal to keep the milk cool until the milk truck picked it up each morning. In honor of the family farm, both daughters have a brass, milk can. Milk that came from the cow went 'right to the table.' Sheri's mother, Millie, thought she was giving her daughters the best. Why wouldn't you think it was safe to drink milk that came from the family cows, which grazed on your own land and ate alfalfa and grain you grew and harvested yourself?

Now, the Garman family looks at life differently. They no longer see things through rose colored glasses. They no longer view the government they thought would protect them as flawless. They question the officials who are now charged with making things right and wonder what and when responses will come. Along with many other Gem County families from the 1950s and '60s, the Garmans are victims of their own government. Nuclear testing in Nevada during those decades

caused radioactive fallout, some traveling on wind currents to Idaho-Gem County, as well as four other Idaho counties: Blaine, Custer, Lemhi and Idaho. Children, especially small children, were impacted the most by drinking the tainted milk produced by the cows that consumed the grass that caught the fallout called iodine-131 that was released by government testing in Nevada. These children were at a higher risk for developing a variety of cancers as they aged (about 13 types of cancer). Most of these people are now in their 40s, 50s and even 60s. All these victims are called downwinders.

Although Idaho was the state hit hardest by the fallout, it is not among those states that now qualify for federal funds. If those from other states get compensation, Idahoans should be eligible as well, said Sheri's father Don. There were times back then he remembers when the grass and fields looked like they were covered in frost. 'I wondered what happened.' But life demanded his attention, so it became a distant memory. Pride in work well done is evident in his every word. Sorrow that his youngest daughter now suffers from cancer he couldn't predict prompted a quiet, 'It breaks my heart.'

Sheri plans to spend the rest of her days (however long that may be) demanding recognition for Idahoans, asking others to support her pursuit of getting Idaho on a list to receive financial compensation. Getting the Idaho Congressional delegation and Idaho governor involved is vital. Since those innocent days of helping care for, feed and water the baby calves, Sheri has come to know the effects of being a downwinder, personally. She first battled thyroid cancer, diagnosed in 1991. Her thyroid has been removed. Then, in 2000, she was diagnosed with breast cancer. A breast was removed. Just a year ago, it was discovered that the breast cancer metastasized [spread] into her liver and bone. She is terminal.

She has a strong spirit, a strong will and strong faith. She believes she'll beat the odds and will survive four more years. Why? 'I think it's the human spirit. We are very brave and think we can beat it. But we can't let our strength make us blind to the facts.' And she is discovering more and more about people, friends, former neighbors in Emmett who are fighting their own cancer battles. When a report on the relationship between cancer, the testing in the 50s and 60s and Gem County residents was released in 1997, Garmon gave information to the Idaho congressmen Senators Larry Craig and Dirk Kempthorne.” ⁽¹³⁾

Christine Welch Galvan and Barbie Welch DeSalvo

Barbie Welch DeSalvo and her sister Christine Welch Galvan believe their cancers were caused by radioactive fallout. Gerry Melendez and Dan Popkey report in the *Idaho Statesman* (8/22/04), “Christine Welch Galvan, who grew up in Emmett, Idaho drinking fresh milk, developed cancer. So did her late mother and her terminally ill sister, Barbi. The women attribute their cancer to nuclear fallout from nuclear tests at the Nevada Test Site in the 1950s and 1960s. The government has paid about \$360 million to compensate downwinders, but not those in Idaho, despite higher radioactive exposure in some counties compared with eligible counties in other states. A government review will make recommendations to Congress next year on possibly expanding the plan to Idaho. ‘It's the fact that this was done to so many people,’ said Galvan, joined by her daughter Nicole, right. ‘I've lost a mother, I'm losing a sister.’

The Welch sisters got together in Texas late last month for what may be the last time. Barbi, left, and Christine, far right, have been diagnosed with cancer. The other sisters are Kathleen, right of Barbi, and Cindy.

Barbi and Christine Welch and their seven siblings grew up in Gem County drinking fresh milk. The family shuttled to the dairy every other day for wide-mouth glass jugs, cream on top. The farmer threw in a free chicken for buying four gallons at once.

Now, the sisters have cancer. And they think the milk -dosed with cancer-causing radioactive iodine from nuclear-bomb tests -has something to do with it. 'My mind leaps to the fact I was there, I was exposed, and now I have cancer,' said Barbi Welch DeSalvo, 49. Now living in Texas, she lost both breasts to cancer in 1993. In 1994, her hyperactive thyroid gland was intentionally destroyed; she now takes synthetic thyroid.

In January, 2004, Barbi was diagnosed with lung, liver and bone cancer. At the same time, her sister, Christine Welch Galvan, 47, of Meridian, was diagnosed with non-Hodgkin's lymphoma. The government would have paid the sisters \$50,000 for their trouble had they lived in one of 21 counties in Utah, Nevada and Arizona.

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Christine Welch Galvan and her sister are growing back the hair they lost during chemotherapy. Both wonder whether their mother, Dolores, who died of breast, bone and liver cancer, may have been another victim. 'I've lost a mother, I'm losing a sister and there are no guarantees for me,' said Galvan. 'What I want is to get the information out and get people compensated.' "

KBCI -2 Boise reports (11/7/04) "Nearly 72 people were scheduled to give oral testimony on Saturday [11/6/04 NAS hearing]. Many of Idaho's downwinders could not agree more, including Gem County native and cancer victim Christine Welch-Galvan. In her testimony, Galvan said, 'It is my hope that by sharing our stories with the [NAS] board, they will realize that an injustice has been done and take steps to right this wrong.'"

Kenneth Grover

An example of unmonitored subcontract workers is Kenneth Grover who worked as a night security guard at INEEL between 1956 and 1959. The author interviewed Grover's daughter who clearly remembers that her father was irradiated during an accident at the INEEL site. As a result of his exposure and induced radiation sickness, he was forced to take a three-month medical leave from work. Kenneth Grover died a few years later after suffering from cancer and heart disease. The Grovers lived in Montevue, Idaho, just east of the site. Three of Grover's children have thyroid dysfunction problems and one daughter has periodic hair loss, both are symptoms of radiation exposure. ⁽¹⁴⁾

Niels Nokkentved reported in the *Times News* (5/26/89); "From 1957 to 1963, scientists at the INEEL knowingly released into the atmosphere large amounts of radioactive gas linked to thyroid cancer according to government documents. The radioactive releases resulted from an experimental project to refine nuclear materials for the military. Almost 6 million curies of radioactivity was released, including an estimated 2,800 curies of iodine-131, according to government documents. By comparison, the 1979 nuclear accident at Three Mile Island near Harrisburg, Penn., released about 15 curies of radioactivity. INEEL officials intentionally released radioactive clouds when winds would blow them toward the northeast, toward Mud Lake, Terreton and Montevieu and away from Idaho Falls and other more-populated areas to the east or the south, said John Horan, retired head of health physics at INEEL."

Don Hill, Kay May, and Burdette DaBell

Corey Taule reports in the Idaho Falls *Post Register* (10/31/07) "March 20, 1958 National Reactor Testing Station [Now called Idaho National Laboratory] At 3:40 p.m., the radiation alarm sounded in "J Cell" at the Idaho Chemical Processing Plant. Seconds later, alarms followed near the "U," "S" and "Q" cells.

The problem, however, had originated in the "L Cell," the result of an operation so secret the men involved could not speak its name. Chemical operator **Don Hill**, a 28-year-old Idaho Falls native, quickly diagnosed the problem. So did his friend and fellow operator **Kay May**. As May jumped into a telephone booth to call the plant's health physicists, Hill left the group of men seeking safe ground and returned to his station. He closed a valve, stopping the flow of waste to permanent underground storage tanks. Fifteen minutes after the alarms sent men scurrying, on-site health physicists reported "that radioactivity was airborne and the principle activity constituent was iodine.

A few hours later, Jean May got a call from her husband, Kay. He wouldn't be home that night, a disappointment because a birthday party was planned for her mother. Kay said he'd been involved in an incident but told her not to worry. Jean hung up the phone, wondering: 'Is he still in one piece?'

National Reactor Testing Station Contractor Phillips Petroleum, in an internal memo, confirmed that 'all personnel working in the Process Building during the incident were involved in the incident merely by being present in the area. This included personnel from Operations, Health Physics, and Maintenance.'

'Eleven men,' the memo continued, 'were directly involved, including May and Hill.' All had been exposed to radioactive iodine, Phillips Petroleum determined, a problem because the thyroid cannot distinguish between it and cold iodine. It collects it all.

Accidents at the site, while unusual, were not unheard of. Workers were involved in dangerous tasks, and safety, while emphasized, was not guaranteed. But this brief exposure would turn out to be radically different than others, not due to injuries or even death, but because of what the men were doing that day, the federal government's systematic efforts to keep that information from the public and the attempts to silence Hill.

Government officials destroyed medical records and buried an Office of Inspector General's report verifying Hill's claims about the incident. They accused Hill of lying; threatened him and denied him part of his retirement.

And lastly, they stonewalled a United States senator's efforts to understand why, after all these years, officials would go to such great lengths to suppress the facts about an accident that impacted a small band of men attempting to make the country safer during the height of the Cold War.

The March 20, 1958, incident became known as the 'RaLa Accident.' RaLa, shorthand for radioactive lanthanum-140, had been produced at the Oak Ridge National Laboratory in Tennessee but was moved to the Idaho lab in the early 1950s.

Hill and his assistant, **Burdette DaBell**, remember that when the radio-lanthanum came out of the Chem Plant in shipping casks, it was quickly loaded into unmarked security trucks with a gunner sitting inside. The material, they say, was headed for Los Alamos National Laboratory in New Mexico.

We knew that it was going to Los Alamos and we knew it was going to be a trigger for the bomb," DaBell recalled. That contradicts the Department of Energy's long-standing position that the site wasn't involved in weapons production. DOE spokesman Brad Bugger, in an e-mail, said the material was used at another agency facility to evaluate the implosion process of a nuclear weapon, not for a bomb trigger.

The lab's philosophy during that time was described in Susan M. Stacy's 1999 book, 'Proving the Principle, a History of the Idaho National Engineering and Environmental Laboratory 1949-1999.'

'The (site's) philosophy was that that NRTS was not engaged in weapons production and should operate as a model for civilian and peaceful operations,' Stacy wrote. Years later, Idaho Sen. Larry Craig would write this in a letter to Energy Secretary Samuel Bodman: 'Because of the sensitive nature of that work, many details of the accident were kept quiet, including radiation-exposure records of the workers involved. These efforts were so successful that Mr. Hill was even accused of lying about his involvement in the RaLa Incident, and it was many years later, with the insistent help of my office, that Mr. Hill finally learned about the level of radiation to which he had been exposed. There are still details about the RaLa Incident that remain shrouded in secrecy.'

The men exposed in the RaLa Accident underwent a battery of tests, including thyroid exams. Specialists were brought in from the Oak Ridge National Laboratory in Tennessee, where the RaLa process began in 1943 before being transferred to the Idaho lab "because of inordinately high iodine releases," former Post Register reporter Rocky Barker wrote in 1996.

Urine samples were collected for 30 days. Five men, Hill, May, Paul Maeser, J.B. Huff and A.W. Holmes, were given stable iodine drops for a week. One nurse, Hill recalled, requested that he

and May not come to her office together because they set off her sensitive radiation scintillation detector. DOE records collected by Hill show that he and May received the highest doses of radioactive iodine on March 20, 1958.

A month later, doctors wrote, 'It is believed that no appreciable physiological injury occurred to any individual. However, certain measurements indicate that iodine-131 exposure to thyroids of certain individuals employed by Phillips Petroleum Company at ICPP did occur.'

Hill and May were transferred to nonradioactive work. Upon inquiry, Hill, a man hand-picked for this secret and vital Cold War project, was told his job prospects were limited to mowing lawns and shoveling walks. Hill decided to enter the engineering program at Brigham Young University. He filed a leave of absence report to protect his eight years of work tenure, and at the end of his termination physical exam asked the on-site doctor about his RaLa exposure.

'You didn't get anything,' Hill recalls being told. In 2006, Hill wrote to Craig: 'I knew that we both knew this wasn't correct but it didn't dawn on me at that time that this was the beginning of the RaLa Accident Cover-up Conspiracy.'

Part two

Early photographs of Hill show a sturdy man with thick black hair and a perpetual smile. Active in Boy Scouts and his church, Hill took great pride in his many runs down a Colorado River that was wild and free before man's need for electricity changed it.

Two incidents in this young man's life foreshadowed what was to come. One involved integrity, a word that would come to mean much to Hill, and the other, faith, which guided him through many disappointments.

Just married and broke, a young Hill asked the local bank for a loan to purchase a gift for his wife. The bank president, Mr. Wilsey, told Hill that he knew his father and grandfather and that they were honest men. He'd loan the money, the president said, but if Hill did anything to dishonor their memory, Wilsey would personally kick his butt around the block. Mr. Wilsey always spoke to me if he saw me in the bank after that experience and he never did have to exercise me around the block," Hill recalled later. Also around this time, Hill experienced something even more profound. An active Mormon, Hill decided that he wanted to receive a blessing from his stake patriarch, a man named Aubry O. Andolen. Andolen addressed several topics in his blessing, and Hill can no longer recall them all. But one particular blessing was to resonate through the years.

'You will be protected in your work,' Hill was told. Hill earned his degree in 1964 and returned to what is now Idaho National Laboratory. In a 1995 document he wrote at the request of then-U.S. Sen. Dirk Kempthorne, Hill said when he mentioned the word 'RaLa,' 'the welcome mat quickly disappeared.' (That 1995 document later would be verified by an Office of Inspector General investigator.)

Kempthorne was the first Idaho politician from whom Hill sought help in his effort to discover lost medical records and regain the eight years of tenure being denied him by DOE officials: three years with the American Cyanide Co. and five with Phillips Petroleum, prior to and

following the RaLa Accident.

Hill's 1964 return was abbreviated. He learned that his eight years tenure prior to leaving would not be reinstated. After 18 months on the job, he left for the private sector. But in 1967, lured by an offer from the Atomic Energy Commission, Hill returned. Hill reported his previous work history and listed the RaLa Accident on his exposure record. A few days later, he wrote in the 1995 report, a superior accused him of falsifying his record. The man threw his report down on the desk. 'What is this s***?' he asked. Hill had to be wrong, his superior insisted, because there was nothing on his official record about an exposure at the Chem Plant.

Others exposed in the RaLa Accident, however, were doing fine. DaBell said he was tested for a year and the incident was never mentioned again. Maeser, a health physicist on duty that day, said he didn't ask questions and had no problems. May transferred to Argonne West, patented an invention that made DOE millions and later returned to the Chem Plant.

But when May requested his medical records, he began to understand Hill's frustration. 'They kind of said, "No use talking about it,"' Jean May recalls. 'And when he asked for his records, they were gone.' Hill worked in the private sector, including a stint in Saudi Arabia, from 1974 until 1987, when he accepted a job at the Yucca Mountain Project in Nevada. When his employer, EG&G Energy Measurements Division, obtained his exposure records from the Idaho National Engineering Laboratory, they came back empty.

Hill drifted back to DOE-Idaho, and there things began to break. Democratic Sen. John Glenn, acting on a request from anti-nuclear groups that had been turned down in their efforts to obtain personal exposure records from the site, had instigated a Government Accountability Office investigation into accidents at the site. Hill spent a day with the investigators, detailing the RaLa Accident and his efforts to pry loose medical and radiation exposure records. Some old records began to turn up.

But in November 1992, Hill wrote that while getting a flu shot at an on-site facility, a nurse told him that his medical file had disappeared. Copies of the records eventually surfaced, but they contained only scant information about Hill's iodine exposure in 1958.

Tired of what he called the continual bureaucratic run-around over his medical records and tenure, Hill turned to politicians. Gov. Phil Batt heard him out, as did Dixie Richardson, a local office manager for Sen. Kempthorne.

Hill wanted to know the extent of his exposure in 1958. And he wanted those eight years added to his retirement. But because he left his job voluntarily following the RaLa Accident, Hill was told, his eight years of tenure were gone. Another key occurrence had taken place: the DOE called in Inspector General Investigator J. David Berrett to examine Hill's claims that he was cheated out of eight years tenure and that government officials had destroyed medical records and harassed him through the years.

Berrett filed his report in July 1993. Hill asked for a copy through a Freedom of Information Request in March 1994. In November 1994, he received a one-page "abstract" signed not by

Berrett but his supervisor. Berrett, now employed by the Department of Defense in Utah, cannot speak about the case. His full report and case notes, despite Hill's and Craig's efforts to obtain them, have not seen the light of day.

Hill retired and placed his hopes in Kempthorne's hands. His old friend, Kay May, sent Kempthorne a notarized letter saying he verified the account of events Hill outlined in his Jan. 9, 1995, document.

But in November 1995, an old claim resurfaced. DOE officials informed Kempthorne the RaLa Accident could not have occurred. There was nothing, after all, in Hill's file to indicate that he had been radiated on that day. Kempthorne dropped the matter.

Part three

Hill next turned to Craig. There he found a champion. Craig's correspondence with several DOE officials is remarkable for two things: Craig's passionate and sometimes heated advocacy for Hill and the federal agency's cavalier treatment of Idaho's senior senator.

After receiving a 'sanitized' version of Berrett's report on the Hill case, Craig wrote the investigator directly Nov. 5, 2001. His letter contained several pertinent questions: 'Was there ever an explanation by DOE or their contractors regarding their unwillingness to admit to the existence of RaLa accident records?'

'The Abstract Report of your investigations (which is attached) was signed by Paul M. Misso, Assistant Inspector General for Investigations. Was this report actually your report, or had it been modified in any way?' 'During your investigations, do you remember learning any information about why Mr. Hill's medical records disappeared?'

No response.

In April 2003, Craig wrote Berrett again. Inspector General Gregory Friedman responded July 7, 2003, with one page of rehash. A more heated Craig wrote Friedman on Aug. 20. Craig asked for Berrett's full report and case notes. He wondered why administrators and not the investigator himself replied to his questions. Finally, Craig asked the question Hill had been turning over in his mind for years: 'Why, after all these years, does there still remains (sic) opposition to learning the whole truth about the RaLa accident?'

Jean May also was wondering about the truth. Her husband, Kay, had fallen ill late in life. Following the RaLa Accident, site doctors told May that his thyroid was fine. He'd gotten no more of a dose than had he gone into a hospital for iodine treatment, government doctors told May. A Veterans Administration doctor told him differently 30 years later. Medicine, Jean May said, was prescribed for his thyroid problems.

Meanwhile, Craig continued to probe. Friedman's reply to Craig's Aug. 20 letter, nearly two months later, avoided the senator's question and directed him to a federal compensation program that Craig had helped implement. But Hill hadn't gotten sick as a result of his exposure and therefore didn't qualify. The very next day, Oct. 9, 2003, Craig began his letter to Friedman and other DOE and OIG officials with this: 'This communication is directed to Mr. Sanford Parnes, Mr. Gregory H. Friedman, Mr. C. Rick Jones and all other individuals at the DOE and DOE-OIG who continue to attempt to hide the truth in the 1958 RaLa conspiracy cover-up. ... We do not

understand why this cover-up has continued and has been perpetuated all these years. Who is being protected and why?’

Later in the letter, Craig stated: ‘It was Agent Berrett who discovered the documents that recorded accurate thyroid scan records from the accident had been officially ordered destroyed. We have copies of this order.’ Craig ended with this: ‘It is so disappointing (but not too surprising after all this time) to discover the gross lack of integrity in one of our prime government agencies.’

Bruce Church, a former DOE employee who helped set up a database of records in Nevada, took special notice of the case after being contacted by Hill and examining what documentation Hill could provide. After tutoring Hill in public records research, Church e-mailed a lawyer he consulted on occasion: ‘The accident was covered up for many years until a GAO investigation brought it to light. DOE claimed all records were lost but some were uncovered by accident by an individual. Exposure records were destroyed and medical records taken. As a result of all the cover-up parameters, Don Hill lost tenure and retirement.’

The lawyer couldn't take Hill's case. His firm represented DOE. Meanwhile, Craig hosted a meeting in his Idaho Falls office that included Hill, Berrett and Craig Anderson, a Salt Lake City lawyer originally from Idaho Falls. Anderson was trying to obtain information about his father, a former site worker who died of cancer.

Neither Craig's staffers nor the senator say they can comment about the Hill case or what happened in the Idaho Falls office that day. ‘We treat all of our casework with confidentiality, so it is our office policy not to discuss cases with anyone except the person we are working on behalf of — no exceptions,’ Craig spokesman Dan Whiting wrote in an Oct. 11 e-mail.

But Anderson, who sat through the Aug. 26, 2004, meeting, said Berrett confirmed that Hill's version of events was accurate. Anderson also remembers conversations about DOE officials attempting to throw up bureaucratic roadblocks to keep Berrett from the meeting.

On Dec. 12, 2006, Craig fired his final arrow for Hill in a letter to Secretary of Energy Samuel Bodman. He rehashed the RaLa Accident and Hill's struggle to find his medical records and attain his full retirement: ‘As a result, Mr. Hill's retirement income has been considerably less than what it should have been. He has also lived for nearly 50 years with uncertainty about his exposure and was commonly stymied and even harassed because of his efforts to learn the truth.’
Bodman never responded.

Maeser, 81, lives in Idaho Falls and is doing fine. He has no complaints about how the DOE treated him. Burdette DaBell, 76, lives in Swan Valley and also is in good health. DaBell doesn't understand why his name doesn't show up on any of the RaLa documents. And he still worries about developing thyroid cancer.

Kay May died of appendix cancer in 2001. A program that compensates exposed DOE workers didn't help May's widow pay the medical bills. Jean May said the government posthumously determined there was a 45-percent chance that her husband's job caused his cancer. Fifty percent is required for compensation.

All three men received full retirement benefits.

Jean May tried to contact other men involved in the RaLa Accident. Many have died. Their wives knew no more than she. Hill, 80, lives in Idaho Falls and remains in good health. The iodine exposure did him no harm. But decades of bureaucratic run-around and Craig's decision to throw in the towel left him angry and confused.

Hill never wanted to hurt the industry he devoted his life to. He simply wants his full retirement and a national lab with enough integrity to acknowledge its warts.

Things have improved.

In 2006, a particularly helpful DOE employee helped Hill attain a bundle of records related to the incident, not complete, but more than he'd ever hoped to get. Still, the questions nag him. Why has this gigantic federal agency, with its long reach and deep pockets, continued to deny him? And as Craig asked in 2003, who is being protected and why?

But Hill also knows the government will likely win in the end. The RaLa Accident survivors are aging and if the government holds out long enough, there won't be anyone left to ask questions.

(Post Register reporter Corey Taule can be reached at 542-6754.)

Lloyd Hankins

Adam Rush reports in the *Idaho Press-Tribune* (11/05/04), "Janet Hankins, of Nampa, Idaho, will testify in Boise on Saturday [11/6/04]. Hankins was born and raised in Seattle. Her husband, however, was raised on the Glendaray Dairy outside Emmett, Idaho off the Black Canyon Highway. Janet Hankins said her husband, Lloyd Hankins, drank at least three glasses of raw milk each day. He died on May 12, 2002, at the age of 60, after being diagnosed with colon cancer seven months earlier. 'He died about three weeks after his birthday,' Janet Hankins said.

"The National Academy of Sciences is looking into whether Idaho should be included in a federal compensation program for those affected by the fallout, often called 'downwinders.' Saturday's hearing is designed to help the investigation. Although the state wasn't initially included in the Radiation Exposure Compensation Act, Idaho's congressional delegation has moved to make Idahoans eligible. If that happens, victims or their families could receive financial compensation. During the Cold War in the 1950s and early 1960s, the U.S. government conducted about 100 nuclear weapons tests in the atmosphere at a test site in Nevada. The radioactive substances released by these tests are known as fallout. Particles were carried thousands of miles away from the test site by winds. As a result, people living in the United States at the time of the testing were exposed to varying levels of radiation. Among the numerous radioactive substances released in fallout, scientists have been particularly concerned about one radioactive form of iodine-called iodine-131, also called I-131. Iodine-131 collects in the thyroid gland. People exposed to Iodine-131, especially during childhood, may have an increased risk of thyroid disease, including thyroid cancer. Experts say thyroid cancer is uncommon and is usually curable. Typically, it is a slow-growing cancer that is highly treatable."

Gaylen Hansen

Gaylen Hansen spent 27 years welding at INEEL and believes he and his co-workers were exposed to dangerous health threatening levels of radiation and other carcinogens. Tim Jackson reported in the *Idaho State Journal* (7/16/99) that “Hansen and several other long-time INEEL employees during the past year helped the DOE disease researchers map out the kinds of hazardous substances people at INEEL have worked around since the site opened in 1949. Based on [CDC/NIOSH] interviews with former employees, including Hansen, and 1,000 questionnaires former employees filled out, researchers have found some INEEL workers were exposed to significant levels of: beryllium, external and internal radiation, lead, welding fumes and gases, and solvents. Recent studies have found a correlation between lung cancer and the external ionizing radiation that workers at DOE sites sometimes are exposed to on the job, [NIOSH] institute researcher Dave Utterback said.”

Gertrude Hanson

Gertie," as most people called her, knew her cancer and her Coeur d'Alene, Idaho community cancers were caused by radiation exposure from both Hanford and the Nevada Test Site. She organized a community action group called Citizens Against Nuclear War and Extermination (CANWE) in the 1980's and was a member of CDC's INEEL Health Effects Advisory Committee until the cancer claimed her life in the late 1990's. Gertie's enormous contribution is remembered because she always brought any discussion about radiation exposure down from the abstract academic “data” to the basic human suffering level.

Jerry Harris

Betsy Z. Russell reports in the *Spokesman Review* November 7, 2004, "'I'd like to express my disgust with the governor and Idaho's congressional representatives,' said Jerry Harris, who was born in Emmett, Idaho in 1941 and now lives in Oregon. Harris, whose wife, son and sister got cancer, said those officials should have included Idahoans in the payments and the government should 'admit the wrongdoing. I remember when I was young, seeing the frosty stuff on the grass, the strange clouds entering the valley,' Harris said. That dust that fell on the area's fields, crops and cars during the bomb tests was radioactive fallout, but no one was warned. 'Had the testing been performed by a private company, people would be in jail and lawsuits would be flying,' Harris said. 'We need to tell the story so that this travesty will not be repeated. '"

Robert Head

Robert Head believes his and Rosemary Bergin's cancers are a result of nuclear fallout. Jennifer Sandmann reports in the *Times News* 9/7/04, “Robert Head, 43, had dismissed discussions of the possible link between fallout and cancer as just rumors until now. Today he wonders if growing up in isolated Blaine County makes him a ‘downwinder,’ even though Nevada is due south. ‘I think it's good that it's actually coming out, if that's the case,’ he said.

He and a schoolmate Rosemary Bergin were astonished to find each other undergoing cancer treatments in Boise when they were teens. She died in 1979 at just 19 from ovarian cancer. Three years later, her younger sister Margaret developed a benign ovarian tumor, an experience she would face two more times. Today's news about the extent of fallout Idaho actually received has reopened a mother's wounds.

‘That's what upsets me so, the fact that we weren't cautioned about such things,’ Teresa Bergin said. The mother of six was devastated by the loss of Rosemary and the threat that the same type of disease had struck again in her daughter Margaret, who survived. Milk-fallout link known early. The government had plenty of information to issue warnings about the path of the nuclear fallout clouds and public health risks when it detonated bombs in the 1950s and 1960s, says cancer survivor J. Truman of Malad, who heads an advocacy group called the Downwinders. Truman came across a study in the 1963 journal of *Health Physics* that shows the government ignored scientific recommendations to reduce public exposure.

The urging came from four University of Utah professors, who set to work immediately 42 years ago after Geiger counters on the student science outing went berserk. The U of U class under the supervision of Robert C. Pendleton had watched a dusty cloud approach. When it arrived, radiation levels rose to about 100 times higher than the area's normal background levels. The cloud was moving in from the Nevada Test Site about 65 miles north of Las Vegas after the Sedan shot, a 100-kiloton test bomb detonated at a depth of 635 feet underground.

The bomb packed the explosive force of 100,000 tons of TNT in comparison to the atomic bomb dropped 17 years earlier on Hiroshima that had an explosive force of 20 kilotons. Following Sedan, the government released four more test shots during July 1962, each less than 20 kilotons. The accidental discovery of elevated radiation levels sent professors Pendleton, Mays, Lloyd and Brooks into action. They began sampling milk and screening human thyroid glands for radioactive iodine, well aware that milk consumption was a high-risk pathway for human radioactive iodine exposure. Fallout dusts pastures, cows or goats graze, and the iodine becomes concentrated in the milk — in goats even more so than in cows.

On Monday, July 16, 1962, the professors notified the Utah State Department of Health of their results and suggested that contaminated milk be routed to cheese, powdered milk or condensed milk to reduce the public's exposure by allowing radioactivity time to decay before the milk product was consumed. It wasn't until the beginning of August 1962 that state health officials recommended milk producers take specific precautions, including transferring cows from contaminated pastures for stored feed and diverting contaminated milk to processing plants to allow the radioactivity to decay. But by that time the researchers estimated 80 percent of the potential radioactive iodine in the milk supply had been consumed.

Public health warnings ignored. Truman was raised in southern Utah and was among the 700 children under age 2 the researchers estimated were exposed to a dose of radioactive iodine of 84 rad — the amount of absorbed radiation — from test shot Harry fired May 19, 1953. By comparison, background radiation exposes the thyroid to about 0.1 rad a year. ‘Literally the first memory I have is sitting on my father's knee watching the A-bomb go off,’ Truman said.

The 1962 study urged the federal government to take measures to limit the unsuspecting public to exposure. Researchers called for the government to report the explosion time, weapon size and its projected trajectory to health departments and research organizations across the country so that corrective action could be effective. They even recommended better milk monitoring programs and powdered or canned milk for infants and pregnant women until radioactivity in milk had returned to acceptable levels. And rather than detonate during the summer, they recommended tests for late autumn or winter to prevent heavy contamination of crops.

They also suggested testing be moved offshore to the Pacific Islands, but bomb testing there wound up causing other offensive breaches in government ethics. In response to its safety recommendations, the report quotes the Federal Radiation Council saying that it ‘does not recommend such actions under present circumstances.’ The researchers countered, ‘For Utah, “present circumstances,” include an increasing number of nuclear test explosions of increasing size, and a good prospect for numerous repetitions of the consumption levels under study.’ ”

Teri Hein

Teri Hein writes in her book *Atomic Farm Girl, Growing up Right in the Wrong Place* 2003, (First Mariner Books edition 2003, Houghton Mifflin Co., ISBN 0-618-3041-7) about her and her family members major health problems resulting from Hanford radioactive emissions. Also see Bob Howdy, PhD. book review in *Spokesman Review* 2/18/05.

Tona Henderson

Tona Henderson believes the cancers in her family are a result of radioactive fallout. Kathleen O’Neil reports in the *Post Register* (9/2/04) that: “Emmett residents, a town in Gem County, have started sending in a form letter written by Tona Henderson, a bakery owner whose extended family has had about 32 cases of cancer. ‘We’d like to ask them what are they going to do for us instead of to us,’ she said. Currently, only residents with certain kinds of cancers who lived in 21 counties in southern Utah, Nevada and Arizona during the Cold War testing qualify under the Radiation Exposure Compensation Act, which was last amended in 1999.

Not included are four Idaho counties — Blaine, Gem, Custer and Lemhi — that received some of the highest levels of iodine-131, one of the radioactive elements released by the tests, according to a 1997 National Cancer Institute study. Iodine-131 typically causes cancer by falling on grass, which is eaten by cows and goats, which then produce radioactive milk. Children and women who drank the fresh milk were the most at risk of developing thyroid cancer, but other types of cancers also have been linked to radioactive exposures. What’s almost impossible to determine is just how many cancers were caused by the above-ground and underground nuclear weapons tests at the Nevada Test Site, 65 miles northwest of Las Vegas, which released the majority of its radiation in the ‘50s and ‘60s. Instead, researchers are relying on registries to see whether certain cancers occur more frequently than expected based on the national average. The Cancer Data Registry of Idaho does not show increased rates of thyroid cancer from 1971, when it began collecting data to 1998, although Custer and Lemhi counties rank first and fourth for rates of thyroid cancer.”

Lin Hintze

At the NAS hearing in Boise November 6, 2004, Lin Hintze, a commissioner in Custer County, Idaho said NAS delegates needed to help eastern Idaho residents get better insurance coverage for treatment and testing of radiation-related illnesses. Hintze brought with him a list of more than 100 people who have had cancer in his area. He told the NAS panel he came up with the list off the top of his head, and there were likely many more downwinders not on his list. (*Lewiston Morning Tribune*, 11/7/04)

Ilene Hoisington

Dan Popkey reports in the *Idaho Statesman* (11/7/04) on the Idaho downwinder hearing in Boise, "Our downwinders arrived at Boise State in wheelchairs, leaning on canes and pushing walkers at the National Academy of Sciences hearing. They wore hats to cover heads balded by chemotherapy.

Ilene Hoisington was among the 75 people from across the state who asked the NAS to recommend that the 1990 Radiation Exposure Compensation Act be expanded to Idaho. She held an electronic device to her throat, which amplifies her voice because she lost her larynx to cancer. Hoisington, 71, of Twin Falls, has buried two sons because of cancer and is now watching her sister, withered to 80 pounds, die of lung cancer.

Hoisington is grateful to be alive. She still works and bowls twice a week. 'There are people worse off than me,' Hoisington told the NAS Board on Radiation Effects Research. 'I feel thankful I'm able to do what I do. But it has been a rough old row to hoe.'

On the strength of science and anecdotal testimony, Congress passed the Radiation Exposure Compensation Act in 1990 and expanded it in 2000. Lawmakers acted, said the House Judiciary Committee in 2000, 'because of the personal testimonies of the hundreds of victims themselves.' Saturday's testimony, combined with more than 500 written comments received from Idaho since this summer, is doing the trick. Sen. Larry Craig, who like his three colleagues stayed for the entire seven-hour hearing, did not press Idaho's case when the law was expanded in 2000. Saturday, he seemed a convert, telling Gary Riggs — who grew up in Emmett — during the lunch break that he has ambitious plans. Four Idaho counties Gem, Custer, Blaine and Lemhi — have gotten most of the attention. But Craig told Riggs he wants to look at RECA covering more than the four counties that were among the top five in the nation for exposure to radioactive iodine-131. 'I've never believed it was just Gem, Custer, Lemhi and Blaine,' Craig said. 'I believe it's much broader than that. This study, when it's completed, will give us a great deal of strength.' "

Carolyn Hondo

Carolyn Hondo and her neighbors believe their health problems are caused by INEEL and the Nevada Test Site fallout on their communities. Sheila Ison with the Idaho Department of Health and Welfare sent a letter to Hondo (3/12/91) confirming the "cancer types reported in the Cancer Ridge Area" where Hondo lives that were "verified by the Idaho Tumor Registry." Ison's letter

notes cancers found there with “established relationship to external radiation sources at Cancer Ridge at: Bone Marrow (1); Colon (3); Thyroid (1); Liver (1); Breast (2); Lung (1); Kidney (1); Ovarian (2); Uterine (2); Cervical (1); Pancreas (3); Prostrate (1); melanoma (1); Multiple Lymph (1); Cecum (1).” That is a total of 22 cancers within a very small neighborhood around Rupert Idaho.

The Associated Press reports in the *Daily News/Idahonian* (2/18/89), “From the dining room window of his house, Richard Hanson can see seven farm homes wet in snow-covered wind-swept fields. In recent years, all have been struck by cancer. And so have all too many other neighbors in the farm area north-east of Rupert that Hanson calls ‘Cancer Ridge.’ Fifteen miles west, the sparsely settled rural road by which Ethel Kadel lives is lined with homes hit by cancer. All of a sudden it just seems like the neighbors were dropping all around us. Working independently, Hanson and Kadel have compiled maps listing what seems to them worrisome numbers of cases of cancer in their neighborhoods. ‘Quite a few right in the neighborhood, aren't they?’ said Tom Peabody, 85, whose late wife, Virginia, is No. 2 on Hanson's map. ‘It hits you kind of funny.’ But Hanson said if homes with cancer cases near him were ‘put in a city block of Boise, you would have mass hysteria.’ Hanson can count cancer victims in at least 32 homes of the 180 in a 36-square-mile area. But he said he knows only 20 -30 percent of the inhabitants, and many others have moved away. The percentage will only go up as somebody does a more detailed study. In fact he is adding more cases as a result of conversations with neighbors he introduced to a Statesman reporter. During the reporter's recent visit, Kadel, 62, also added a case while conversing with neighbors in western Minidoka County, plus one just over the Jerome County line. By Kadel's count, 14 residents of approximately 35 nearby farm homes have contracted cancer. Most of the victims in both areas contracted cancer in the past 10 years. The cluster victims generally have lived in the county for decades.”

John Horan

John Horan spent his professional career as a health physicist at the INEEL. Declassified internal Atomic Energy Commission documents show Horan forced the delay of many INEEL radioactive releases until the winds changed direction to the northeast away from major populated areas. He died of a brain tumor in the late 1990's.

Sarah Hughes

Sarah Hughes (now using her maiden name), formerly Sarah Wolfe (her former married name), resident of Idaho believes her thyroid cancer was caused from radioactive fallout. Sarah grew up on farm near Hagerman, Idaho. She was diagnosed with thyroid cancer in 1994 that was removed in 1995 in Portland, OR. Other diagnosed health problems include bronchial asthma and bronchitis. When Sarah questioned her local cancer doctors in Twin Falls, they said there was not enough evidence to classify her as a “downwinder.” Hughes moved to Imnaha Oregon in 2002, where her current doctors recognized, just from her medical records, that she was in fact a “downwinder.” She believes everything must be done to raise public awareness about this outbreak of ongoing and multiplying cancer and the people that are suffering with it. ⁽¹⁵⁾

Nicholas Collias reports in the *Boise Weekly* (8/18/04) that, “Sixty-year-old Sarah Hughes now of Wendell, Idaho, isn't a nuclear ‘downwinder’ in the overt Nevada or Utah versions of the word. Living well over 600 miles north of the infamous Nevada nuclear testing grounds, she never had to watch an atomic explosion from her front porch, never wiped radioactive ash from car windows or witnessed her neighbors falling prey to leukemia. Indeed, Hughes’ Buhl, Idaho upbringing was downright idyllic. ‘We had some cows, raised crops and a gorgeous garden’ she recalls. ‘I rolled around in the grass, ate fresh meat and vegetables, spring water and milk. We never stopped for a second to think about radiation.’

Unfortunately, Hughes perfectly fits the prototype of an Idaho fallout victim. Her rural upbringing, her childhood during the Nevada Test Site's atmospheric heyday of 1951 to 1962 and her fondness for fresh, unprocessed milk made her an ideal target for exposure to the radioactive byproduct iodine-131. Ten years ago, her doctors discovered a metastasized tumor in her thyroid gland, the organ that most bears the brunt of I-131. The cancer has since spread to her lungs, kidneys and spleen. After consulting numerous doctors, Sarah came to believe, like an increasing amount of Idaho cancer victims, that fallout from Nevada is to blame for her condition and that governmental compensation is a step toward redressing the wrong.

Evidence supporting claims like Hughes' has exploded in the last decade. In 1997, the National Cancer Institute released a study concluding that rural counties in Idaho and Montana had the highest exposure rates to I-131 to be found anywhere in the nation. The reasons for these high numbers have been well documented, and are not mere coincidence, according to Snake River Alliance Executive Director Jeremy Maxand. ‘[Nuclear technicians] would wait until the wind was blowing north toward Idaho to detonate these devices,’ he explains, ‘because they wanted to ensure that there weren't plumes of radiation heading toward urban centers. Once in the sky, the I-131 (whose half-life is a mere eight days) would follow weather patterns north to farmlands, settle on grass, be eaten by cows and goats and contaminate their milk. In Ada County, the radiation levels were slight, due to the age of our shelved milk. But in rural areas like Gem, Blaine, Custer and Lemhi Counties, an inhabitant could easily be exposed to several hundred times the normal or background levels of radiation. In children and women, the effects on thyroid glands were more concentrated, leading to many modern-day cancer patients who may be fallout victims without realizing it.’

In 1990, the U.S. Department of Justice created the Radiation Exposure Compensation Program for uranium miners, nuclear employees and downwinders affected by fallout. A select group of 21 Utah, Nevada and Arizona counties were given the chance to plead their cases, but even then, according to Preston J. Truman, Utah fallout victim and head of the nuclear activist organization Downwinders, ‘It was very clear that there were more affected areas than just us. But if you open that door beyond just a few cowboys, Indians and Mormons, then all kind of questions pop up about what kind of damage [nukes] did to this country as a whole.’ Truman and many others have long called for expansion of the current compensation program to include several previously left out diseases and, in his words, [inhabitants of] any location that matches the fallout level in the counties that already are covered. The radiation levels inflicted upon Idaho's Gem and Custer Counties, for instance, are 1.5 times higher than even the highest covered counties during the two decade span. Women, small children and heavy milk drinkers in those locations could reach upwards of 100 rad. Normal background radiation, by comparison, is .01

rad per year. Were Truman's plans for expansion realized, all of Utah, Idaho and Montana would be eligible for compensation. The National Academy of Science, who conveys radiation fallout research to Washington, D.C., lawmakers is preparing a report about that expansion for early 2005, and held several public meetings in Utah during July of this year to gather fallout stories and comments. None were held in Idaho, although requests were made both by the Alliance and Truman who was kicked out of one such meeting for arguing Idaho's case. He reports that he has corresponded with more than 100 potential Idaho downwinders so far, but warns that victims need to come together and make their case soon. If Idahoans are going to be excluded as not being worthy enough downwinders, that is a huge problem.

In July of this year, Idaho's four congressional delegates sent a group letter to the N.A.S. Board of Radiation Effects Research, asking for Idaho cancer cases to be reviewed in upcoming discussions about the expansion of compensation. The letter did not request a public meeting specific to Idaho's downwinders to take place before the upcoming August 31 deadline for public comment. According to congressman Butch Otter's Communications Director Mark Warbis, though, such a request has been made, as well as a request for a postponement of the public comment deadline.

Neither request will apparently be heeded. Dr. Isaf Al-Nabulsi, radiation effect study director for the N.A.S. board, assured BW on Monday, August 16, that no plans exist at this point to hold a public meeting either in Idaho or Montana by the deadline. The only exception she allowed, however unlikely, would be an urgent meeting requested by Congress specifically to address Idaho. The committee, she stated, wants instead to concentrate on writing its report, but 'will consider all information they receive, from Idaho and all other states. She also recalled receiving over 30 e-mails from Idaho downwinders, and encourages concerned Idahoans to contact her directly with any requests or stories concerning I-131 exposure.

Hughes, like downwinders in Utah and Nevada, characterizes the drive toward compensation in terms of governmental acknowledgment and apology rather than just money. This conclusion is backed up by the relatively unimpressive monetary settlements procured by downwinders in other states usually to the tune of \$50,000, barely a drop in most medical bill buckets. But according to fellow thyroid cancer sufferer and potential fallout victim Xan Allen [sic] of Boise, simple recognition is a huge step in the right direction, particularly in lieu of the potential reactivation of the Nevada Test Site within two years. 'My parents trusted the U.S. government to do the right thing, the 64-year-old Pocatello native recalls, and it didn't. I want to do more than trust. I want to be sure the government does the right thing. In Hughes' words, 'They can't make it right, but they can make it better.' To calculate your risk of I-131 exposure, go to www.cancer.gov/i131 County by county radiation levels are also available."

Marilyn Hunter

"Marilyn Hunter of Rexburg, Idaho says nuclear fallout may be to blame for her children and husband's battles with cancer, and she's not the only upper valley resident curious about the connection," Sarah Cummings reports in the Rexburg, Idaho Standard Journal 5/16/05.

"The Hunters lived on the Rexburg Bench in the 1950s and 1960s when nuclear fallout from testing in Nevada was blown across the United States. They drank fresh milk from an area dairy where the cows dined on alfalfa possibly tainted with iodine-131, which the National Cancer Institute reports has been linked to cases of thyroid cancer. The Hunters had no family history of cancer, but two of Marilyn's four kids and her husband have battled a variety of cancers, including thyroid and pancreatic cancer.

'I feel my family has been affected,' Marilyn says. 'There's just no other explanation.' Residents of Arizona, New Mexico and Utah with similar accounts have qualified for thousands of dollars in compensation, but the Hunter family isn't eligible under the Radiation Exposure Compensation Act."

Elinor Jacobson

In a letter to the Idaho Statesman (9/17/04) Elinor Jacobson writes, "Some time ago (I neglected to record the date), I wrote a letter to *The Statesman* about radioactive ash that was on the top of our 1955 Mercury station wagon. This must have happened sometime before 1960. It makes me wonder how much radioactivity Boiseans were exposed to. The amount of ash on the car was considerable, which means that there was probably a like amount on the grass in our yard where our children played. In those days, we bought milk from Triangle Dairy, whose cows probably did not feed on fresh grass for the most part. However, our oldest daughter developed breast cancer before she was 35, and I can't help but wonder if the radioactive fallout might not have had a part in its development. It would be interesting to get the exact readouts for Boise and Ada County, not just for the more rural counties."

Grace Jenkins

Grace Jenkins, 56, grew up near New Plymouth and now lives in Eagle. Dan Popkey reports in the *Idaho Statesman* (8/29/04) that "A secretary, she survived thyroid cancer in 1986. In 2002, she was treated for breast cancer with six chemo and 33 radiation treatments at Saint Al's. Now, she looks in the obituaries for friends. 'You see the same people,' Jenkins said. 'I've seen the obits of three of the people who were either in chemo or radiation at the same time I was.' Jenkins cries as she tries to explain how cancer has changed her. 'The cancer makes you feel just kind of worn out. You lose that bounce-back. I always had that all my life. I don't have it any more.'"

Clint Jensen

Clint Jensen, long-time INEEL employee, believes his health problems are a direct result of work related exposures he received at the site. Sandy Miller reports in the *Twin Falls Times News* (11/30/02) that INEEL worker for some twenty years, Clint's vision is blurry, he often feels dizzy and sometimes his right side goes numb. He sleeps with oxygen at night just in case his sleep apnea stops his breathing. Then there are the anonymous, threatening phone calls and the time his mailbox blew up in the middle of the night. Some of his co-workers have shunned him. He says his supervisors want him to resign from the place where has worked for more than 20 years. Still, 51-year-old Clint Jensen isn't giving up.

‘They didn't kill me,’ Jensen said, ‘That's the only thing I'm thankful for.’ Thanks to the Government Accountability Project, and many years of litigation, he won a settlement with INEEL contractor Bechtel for \$25,000 and restoration of 270 hours of personal leave.” See www.whistleblower.org

Ethel Kadel

Ethel Kadel lives near Rupert, Idaho and believes the cancers in her community (they call "Cancer Ridge") are caused by INEEL radioactive releases. The Associated Press reports (2/18/89) “Fifteen miles west, the sparsely settled rural road by which Ethal Kadel lives is lined with homes hit by cancer. ‘All of a sudden it just seems like the neighbors were dropping all around us,’ she said. By Kadel's count, 14 residents of approximately 35 nearby farm homes have contracted cancer. ‘Right now, it seems like the rush is over.’ she said in an interview at her farm home by flat fields where crop stubble poked up through the snow. Kadel suspects ‘the rush’ is not noticed by local physicians because the patients tend to be treated by different doctors and at different hospitals. Most of the victims in both areas contracted cancer in the past 10 years. The cluster victims generally have lived in the county for decades.” ⁽¹⁶⁾

Marea Kettler

Dan Boyd reports in the *Idaho State Journal* (10/31/04), “Several hundred miles to the southeast of Pocatello, Marea Kettler was developing a funny lump on the side of her neck and found her right eye twitching unnaturally. What happens when scientists find two different truths? And what happens when a group of 50-year-old Idahoans stand in the middle of the two groups, in the eye of a political, cultural and scientific vortex?”

To a growing number, there's no doubt about what really happened. To others, however, the mysteries of the world can't be so easily explained. Like many others, Kettler looks back at her childhood and can't help but marvel at the long-lost innocence.

Kettler grew up as Marea Papaeliou in Pocatello, a first-generation American with parents who had immigrated from Greece. She attended Jefferson Elementary, Irving Middle School and Pocatello High, then left the Gate City for Oregon in 1971.

‘I always thought that living in Idaho was pretty clean,’ she said. ‘When all this came out I started wondering, but I couldn't prove it. I played on this one farm with my friends from church and we would ride horses and walk through the fields,’ she said. ‘My sister and brother didn't hang out on the farm like I did.’

Finding out what really happened 30 years after the fact isn't an easy task. In this detective story, there's no quick fix and no easy answers. Even those who are convinced they are right willingly acknowledge there's a chance they're wrong. Much like the argument between the petrie dish and the holy host, there's one lingering problem: No matter how you boil it down, it's just about impossible to convince the other side with absolute irrefutable proof.

Like many others, Kettler looks back at her childhood and can't help but marvel at the long-lost innocence. 'I played on this one farm with my friends from church and we would ride horses and walk through the fields,' she said. 'My sister and brother didn't hang out on the farm like I did.'

As for Kettler, she's still picking up the pieces. 'You caught me on a good day,' she said while describing her 'character building' year from her Denver home. A cheery woman with a robust sense of humor, Kettler's story also involves its share of personal demons and depression.

It also involves an incision she calls a 'dissection' that went down the front of her neck, around her ear and down to her shoulder and reminds of her ordeal on a daily basis.

Surprisingly honest in relating her story, Marea Kettler laughs frequently and doesn't claim to know exactly how she contracted thyroid cancer. But then again, it doesn't stop her from wondering, either. When the lump on the side of her neck was finally diagnosed as thyroid cancer and just fatty issue, she was shocked. 'I asked the doctor, did you get the slides mixed up?' she said. 'They did the biopsy in December to remove the thyroid. They said it should look like chicken, but it looked like liver.'

Despite her cheery disposition, Kettler admits she suffered from depression and emotional issues after the diagnosis and throughout her recuperation from a February 2004 surgery that found 13 of her 33 lymph nodes to be cancerous. Now she's waiting and hoping to see if any of the cancer comes back. As Idahoans and others who have contracted the disease can tell you, thyroid cancer is difficult to diagnose and manifests itself in myriad ways. It is also known to be caused only by radiation.

Several weeks ago, the Journal profiled the case of one woman, Valerie Brown, who grew up in Pocatello and contracted thyroid cancer while in her 20s. Since then, numerous current and former Southeastern Idaho residents have come forward with stories similar in vein, if different in detail. But as more and more downwinders come forward with stories of cancerous ordeals the message is apparently being heard. What happens in the future, on the other hand, remains uncertain. Even if parts of Idaho are ushered into the federal compensation program, it appears unlikely that Eastern Idaho counties would be included in the mix."

Bonnie Kirk

Bonnie Kirk lost her right breast to cancer in 1994. Dan Popkey reports in the *Idaho Statesman* (8/29/04) that "Born in Weiser [Idaho] in 1934, she also lived near 36th and Taft streets in Boise, where the family raised livestock on about 10 acres. Her father, Robert Fee, was brand inspector in Gem County, where he bought most of the family's hay for the cows and the goats. 'We all drank goat's milk,' said Kirk. 'It's good.' Her father Robert Fee died of lung and liver cancer at 68. His wife, Leona, was killed by breast cancer at 75. When Kirk learned of the connection between milk and cancer, 'I thought, my gosh, that hits home.' "

Katie Klein

Dan Popkey reports in the Idaho Statesman (11/7/04) “Saturday was Katie Klein's 26th birthday. She is the daughter of Sheri Garmon, the former Emmett woman who played a key role in reviving the RECA debate in Idaho and bringing the NAS to Boise.

‘Cancer affects more than my mom,’ Klein said. ‘It affects our family, her friends, her employer and me, her only child. And I have to wonder if this is the last birthday I will have with my mother. I have to wonder if my mother will be able to attend my graduation, wedding, or be able to see the day our Idaho senators support and include Idaho victims.’ ”

KBCI -2 Boise reports (11/7/04) “Nearly 72 people were scheduled to give oral testimony on Saturday [11/6/04 NAS hearing]. Among the speakers, Sheri Garman's daughter Katie Klein spoke about the effect the fallout has had on her own life. ‘I have to wonder if today on my birthday...if this is the last birthday I'll have with my mom.’ said Klein. ‘I have to wonder if my mom will be able to attend by graduation, wedding.’ ”

Mark and Shirley Kunzler

Mark Kunzler and his daughter Shirley Kunzler live near Rupert, Idaho within an area called “Cancer Ridge” in Minidoka County. Mark has cancer and Shirley has Hodgkins Disease. The Kunzler's believe that their health problems and the extremely high concentrations of cancers in their immediate neighborhood are caused by radioactive emissions from INEEL and the Nevada Test Site.⁽¹⁷⁾

Bret Kuntz

Bret Kuntz (resident of Weiser, Id) takes Levothroid (225 mg.) every day due to his non-functioning thyroid and he has concerns of future cancer and other health problems that he believes resulted from radioactive fallout as a downwinder. Kuntz was born at that time that most folk thought that Hanford nuclear releases were “the real big threat to Weiser in 1953.”

Bret Kuntz writes, “I was born December 2, 1953 in Weiser, Idaho (Washington County). I suffer with Thyroid Disease. I live with fear daily of being diagnosed with a form of cancer knowing that the condition was caused directly by radioactive iodine-131 released from the Hanford and Nevada Nuclear sites. Other diseases as well may develop due to a non-functioning thyroid gland. The medicine I am required to take for the rest of my life will cause health and monetary complications. I have suffered and will continue with poor health and am responsible for medical expenses that I should have never incurred. My income is limited and it has proven to be a hardship on my income for the medical expenses and medication due to the disease I have that the Hanford and Nevada Nuclear sites are responsible for.

I am proud to be a fourth generation Idahoan; I love and have always supported my state and my country. I try the best I can under these conditions, and sometimes it is very hard to work and support my family as well as ‘My Idaho and America.’ I find it hard to comprehend or believe

that my country could allow this to happen to myself and other citizens. After reading the Idaho Statesman article by Dan Popkey August 22, 2004 in reference to failed Idaho Citizens due to radiation exposure. I believe our elected government officials won't assist downwinders in our hour of need. I am hurt, angered and dissolution. I guess I too, will die in the defense of my fellow Americans. I hope all the nuclear testing on me was worth it to someone.” [\(18\)](#)

Shannon Latta

Latta grew up in Burley, ID and now lives in Boise and her whole family has thyroid disease problems.

Richard C. Legg

Legg was one of three INEEL SL-1 reactor explosion fatalities. He was 26 years old at the time of the accident, a U.S. Navy construction electrician-1, from Roscommon, Michigan married and living in Idaho Falls. Despite the massive radiation exposure (up to 1,000 rad/hr) the three SL-1 victims sustained, the National Institute for Occupational Safety and Health (NIOSH) worker epidemiological study is not including these men in their study because they claim their death was caused by the steam explosion resulting from the reactor excursion (another word for reactor meltdown) and not from radiation exposure. [\(19\)](#)

Tom Linville and Bob Linville

Karen Dorn Steele reports in *The Spokesman-Review* October 24, 2004, “Boise attorney Tom Linville, 53, talks about the cancers that have devastated his family. He was born in 1951 in Boise, but when he was an infant his family move to nearby Gooding County — listed in Richard Miller's atlas among the 20 counties in the United States most impacted by fallout. It ranks 10th for strontium-90, which takes 38 years to lose half its radioactivity. It is still present in the soil. Linville's mother got breast cancer at 30, and cancer has struck three of the four Linville siblings. The only one who didn't get it is the youngest brother, Dick, who was lactose-intolerant as a child and drank a milk substitute, Linville said. The rest of the kids guzzled 10 gallons a week from a local dairy, he recalled.

Linville's only sister, 45-year-old Rebecca Oblatz, was a member of the Stanford University swim team when she was struck with thyroid cancer in 1978, her freshman year. A second tumor was removed the next year. Born in Boise and now a resident of Portland, she was diagnosed with melanoma in February 2004. ‘The Stanford doctors asked me if I'd ever been exposed to radiation. I said no. We had no clue then that Idaho had been hit with fallout,’ Oblatz said.

“Brother Bob Linville, 52, of Seward, Alaska, is gravely ill with aplastic anemia, a rare disease that soared in Russia after the 1986 Chernobyl reactor accident. He is at the Fred Hutchinson Cancer Research Center in Seattle this month to prepare for a bone marrow transplant. Linville's own cancer battle started in 2001. ‘I thought I had diabetes; I had night sweats and got tired walking up the stairs. I was 50,’ he said. His doctor found a grapefruit-sized tumor in his belly, and diagnosed non-Hodgkins lymphoma, a cancer of the lymphatic system. ‘It was a huge shock,’ he said.

After 25 years building a corporate law practice, Tom Linville quit work. He lost 50 pounds in chemotherapy. More tumors grew in his liver, spleen, bone marrow and lower right lung. A cancer medicine shrank the tumors for a while, but he relapsed in August 2002 with a new growth under his jaw. Doctors peeled his face back and removed the salivary gland tumor. At Fred Hutchinson, radiation was beamed at his face to prevent a recurrence. Last year, another tumor appeared in his groin. Doctors advised a bone marrow transplant, but Linville was extremely reluctant.

‘It’s very final. It can work, or it can kill you,’ he said. Instead, he sought out an experimental program at the University of Virginia at Charlottesville. An \$80,000 vaccine customized by a drug company to fight his latest tumor has worked so far. Linville was the third sibling to get sick. ‘We said, wait a minute — did we live next to Love Canal? What is this plague on our family?’ he asked. Connecting the dots. Many of the doctors who treated the Linvilles had asked if they’d ever been exposed to radiation. But until this year, when the fallout stories from Gem County hit the local newspapers, they hadn’t made that connection. ‘We were at a family reunion at our Idaho cabin in August.’ I said, ‘This is it.’ We never connected the dots until the last two months,’ Linville said. Linville went to the [10/04] meeting in Emmett. He witnessed a huge show of hands when people were asked whether they had cancer themselves or knew of relatives with the disease. ‘Ninety-seven percent of the people at the meeting raised their hands. That was shocking,’ he said. Linville wants Craig, Idaho’s senior senator who sits on powerful appropriations committees, to include all Idahoans exposed to fallout in the national compensation plan. ‘This area was hit hard, and I still don’t see how our politicians swept it under the rug. There’s a generation of innocent people who were affected,’ Linville said.

There’s no conclusive science linking fallout to many non-thyroid cancers downwind, but the [11/6/04] NAS hearing in Boise will allow Idaho citizens to be heard, said Mike Tracy, Craig’s spokesman. Although independent researchers like Richard Miller note a strong association between the high-fallout counties and cancer rates, the government still hasn’t studied the link between fallout and cancer across the country. ‘The delegation wanted Idahoans to have the opportunity to give their input because they’ve asked for it,’ Tracy said. The NAS panel will release its report on the fallout compensation program in March 2005. If Congress decides to expand it, it should be done equitably, Miller said. ‘They should base this on science. Any county that got more fallout than Nye County, Nevada, where the bombs were detonated — including the Idaho counties — should be considered. We have hot spots all over the country,’ he said.” [\(20\)](#)

Marilyn Leuzinger

James Brooke reported August 13, 1997 in the *New York Times* titled Cancer Rate in Idaho Counties Tied to 1950s Nuclear Testing. “While health clinics in towns around here do not report any stampede by residents to have their thyroids checked, the news seems to have ratcheted up skepticism about faraway Washington’s care in handling all things nuclear. For decades, local concern has been trained on the Idaho National Engineering Laboratory, a federal nuclear research center about 60 miles south west of here, near Atomic City.

‘I always thought that nuclear stuff was causing all the high rates of cancer around here,’ said Marilyn Leuzinger, who had her thyroid removed in 1951, when she was 14. A native of nearby Clayton, Idaho, she recalled: ‘The doctor said it was real rare. Now that I think about it, three others had theirs removed about the same time.’ ”

William Lewis

William Lewis knows he and his neighbors are downwinders and is suspicious of government assurances of safety. KBCI-TV reports (9/12/04) that, “This is a good beginning, but the beginning should have started a long time ago. The city fathers of Emmett Idaho were part of the government and surely must have known something,” said William Lewis, a long-time resident of Emmett. “A lot of early detection could have happened. A lot of lives could have been saved.”

Lennis Mabee

Lennis Mabee is talking to community downwinder meetings about her son, who had a cancerous testicle removed when he was 7 months old. “I am angry not because of the cancer,” she said, “but because we were lied to and not informed.” (Spokesman 10/24/04)

Jackie Matson

This story on Jackie Matson was written by James Brooke, August 13, 1997 in the *New York Times* titled “Cancer Rate in Idaho Counties Tied to 1950s Nuclear Testing.”

“Living in this wilderness outpost, bounded by the Salmon River and the Lost River Range, Jackie Matson always thought she was a world away from big-city carcinogens. Then in early August, the federal government reported that Challis, in a remote swath of eastern Idaho, was in the center of the region most contaminated by radioactive iodine from nuclear tests in the 1950s, when military researchers exploded about 90 bombs above a desert in Nevada, 550 miles to the south.

‘It angers me that we never knew about it, we were never informed,’ said Mrs. Matson, a 61-year-old registered nurse. ‘I have seen too many cancer patients who didn’t have a history of cancer in the family.’

During a pause in the conversation, she fingered the horizontal cut a surgeon made 20 years ago in her throat to remove her diseased thyroid. There is no indication that fallout caused her thyroid problem, which was not confirmed as cancer.

And in the most exposed Idaho counties, the statistics are confusing: Studies of these counties show fatal cancers at a below the state average, but when considering fatal and nonfatal cancers together, they are higher than the state average. Statewide, Idaho’s death toll from all cancers is lower than the national rate. And scientists caution that because of Idaho’s small population, such statistics are easily distorted.

Still, in the report by the National Cancer Institute, the government said rain and high-altitude winds brought more radioactive iodine to eastern Idaho and western Montana than to Nevada. And the uncertainty about whether people in the area were at significant risk underscores the struggle to understand, and cope with, the long-term ramifications of the government's decision to explode nuclear bombs above ground in the Far West.

In the small towns along the East Fork of the Salmon River, people are taking a second look at the medical histories of friends and family as a result of lung cancer institute's report. In particular, they are concerned about cancer of the thyroid, which readily absorbs the radioactive iodine in fallout.

The amount of radiation absorbed from fallout is measured in rad. One rad is roughly the equivalent of the amount of radiation absorbed by the thyroid of a person who has had 10 X-rays of the neck. After 15 years of study, the institute reported that of the 23 counties where the average thyroid doses were 9 rad or more, 5 were in Idaho, and 14 were in Montana.

Idaho accounts for four of the nation's five counties where thyroid doses to people ranged from 13 to 16 rad average. Some children may have received 100 rad. People who grew up on farms in the 1950s, like Mrs. Matson, are particularly at risk because iodine concentrates in the milk of cows. The radioactivity of iodine breaks down quickly in milk stored on supermarket shelves. But farm children in the 1950s often drink milk within hours of milking. 'We had a cow all the time,' recalled Mrs. Matson, who grew up on a ranch in Leadore, in neighboring Lemhi county. 'We'd just milk it and drink it.'

Blowing from south to north, fallout fell on Blaine County, home to Sun Valley, then on Custer County, where Challis is the county seat, and then on Lemhi County, a western flank of the Continental Divide. Because of the short life (8 days) of radioactive iodine, there is no danger to people who moved into this area after the open-air tests stopped, in 1962.

'It's just the same weather pattern we have been having for the last two weeks — winds coming up from Nevada in the south, going over Idaho, then turning over Montana,' Bob Danner, a charter pilot, said as he scanned the sky outside a landing strip in Stanley, a town about 40 miles southwest of Challis.

With a six-point elk head on his cabin wall and a sweeping view of the rugged Sawtooth Mountains, Danner thought that he, too, was on a different planet from pollution. 'Wow, I'm up here in this nice clean air, then I hear there has been all this fallout,' Danner, a native of Stanley, said as he looked at a newspaper map of the drift pattern."

Don McBride

NBC News Channel 6 reports (11/10/04) on Radiation Effect on Idahoans, "Forty years ago, scientists with the United States Government conducted tests of nuclear bombs. Nine hundred and eleven of those occurred at the Nevada test site just 90 miles north of Las Vegas. In 1990, Congress approved the 'Radiation Exposure Compensation' Act because they realized the health of anyone in the area could have been affected. While Utah, Nevada, and Arizona have been

approved for compensation by the U.S. Government, Idaho has not been approved. Aaron Kunz spoke with a couple of people right here in Eastern Idaho who say it's time that changed.

According to several studies by the National Cancer Institute, the prevailing winds blew radioactivity from the Nevada test site north into Idaho and Montana.

Don McBride and Lana Stoddard have both been told they have thyroid cancer. 'We were interested because it's kind of unusual for both of us to have it [cancer]. Thyroid cancer — and yet there is no history of cancer in our family.'

After a little research, they discovered it may be caused by government testing of nuclear bombs in the Nevada desert over 40 years ago. The deadly cause, exposure to iodine-131. What McBride and Stoddard found through hours of research was a little shocking. 'They deliberately made sure the winds were blowing this way instead of towards Los Angeles.' So they knew something was going to happen. Once I read that, I thought, 'Well, it's time we said something, then.' According to a report by the National Cancer Institute, winds blew iodine-131 into Idaho and Montana."

Bess McDoniel

Bess McDoniel, 82, a lifelong Emmett, Idaho resident, will speak to the scientists about the telltale slash on her neck from an operation for thyroid cancer in 1961. She remembers the powdery white fallout that covered her hands and house in the 1950s. (Spokesman 10/24/04)

Richard L. McKinney

McKinney, a U.S. Army Specialist-4, was one of three INEEL SL-1 reactor explosion fatalities. He was 22 years old at the time of the accident, from Canton, Ohio, married, and living in Idaho Falls. All three victims of the SL-1 reactor explosion were so contaminated that the most radioactive parts of their bodies were cut off and disposed as radioactive waste. The rest of the bodies were put in heavily lead lined caskets for burial. Union officials protested at the time that the workers bodies were not appropriately respected and buried because the government would not pay for the requisite additional shielded caskets. [\(21\)](#)

Elaine McNair

Elaine McNair, life-long resident of Moreland, Idaho a few miles southwest of INEEL is frustrated that the State of Idaho is whitewashing the health problems in Moreland. She documented a cancer victim in half the houses in Moreland, a tight-knit, mostly Mormon, town of 675 hardworking, clean living people. Most notable were the four glioblastoma, incurable brain tumors. BEIR V refers to the average of one glioblastoma per 100,000 people. Six other Moreland residents have astrocytoma brain tumors. Elaine complains that the state folks come in and knocked two of the glioblastomas off the list because they were diagnosed in 1993, but were told the "official last census was done in 1992, so the state cannot officially count them. Others that were not counted because they are getting BNCT treatment in Japan despite the fact they were born, raised and diagnosed with brain cancer in Moreland. State officials claimed since

these individuals are IN Japan, they will not be counted. Elaine also alleges that the state intentionally diluted the Moreland report by expanding the population area, adding a square mile on each side adding 2,000 more healthy people. ⁽²²⁾

Joan Mester

I am Robert Sommer. Last February I married Joan C. Mester, whose previous husband had **worked a short time at INL** and 30 years later died a horrible death.

A little over a year ago, Joan was contacted by the Dept of Health & Human Services, CDC and National Institute for Occupational Safety and Health. They said that they are seeking people who may have suffered injuries and deaths that *may* have resulted from exposure to radiation and toxins at government facilities.

Joan followed their instructions and they seemed to be advocates for Joan. However, now we get close to closing and it seems that they are making up information on Dose Reconstruction and not being particularly clever about it.

Joan is in a bit of a quandary because she is not accustomed to dealing with government bureaucracies and I am trying to help her. Please advise me of how I can seek info or join a class action suit or in some way get a straight story from people in the know.

I am piling through your web offerings and am a bit snowed. I am a scientist of sorts but not related to radiation or toxic issues. However, I do have the ability to recognize bullshit when I see it. I see it. There are gross errors in their "Scientific Process" that they use to determine likely dosage.

Gary Miller

Betsy Z. Russell reports in the *Spokesman Review* November 7, 2004, "One after another, Idahoans told National Academy of Sciences officials that they never knew about the radioactive fallout that rained down on their communities, poisoning people, grass and crops, and concentrating in the fresh milk that many fed their children to ensure they'd grow up with strong teeth and bones. 'I want to apologize I was one of the ones who sold raw milk to all the neighbor kids,' said Gary Miller, a 61-year-old Payette, Idaho native who grew up on a farm. 'If radiation was from the garden, then Mom canned a lot of it to feed us. If it was from the cows, then we passed it along to the neighbors.' Six of the eight members of Miller's family have been diagnosed with cancer, including his youngest sister, who died of thyroid cancer in 1985."

Wayne Morrison

Wayne Morrison knows that his health problems are related to nuclear fallout. Jennifer Sandmann reports in the Times News (9/7/04) "Paying the price? Idahoans could join nuclear 'downwinders' eligible for compensation" that "the memory is two decades old but stays with him still. A nurse walks into the treatment room. She's draped with a lead vest, like the kind X-ray techs wear, and holding a long pole. At the end of it is a canister, and she tells him to

swallow the contents. He's instructed to stay away from children until the radioactivity he's about to ingest decays. The dose of radioactive iodine given to former Blaine County resident Wayne Morrison, who now lives in Boise, was intended to treat his hyperactive thyroid condition. It proved to be too much and instead was enough to kill his thyroid gland, which controls the body's metabolism. He's been on medication ever since.

Morrison, who turns 59 this month, considers himself lucky that he didn't develop cancer. But he wonders if the farm-fresh milk ironically contaminated with the same kind of radioactivity doctors' use for treatment caused his thyroid problem in the first place. 'My grandparents had a dairy. We never bought milk, because we had enough for two families. We had fresh cream, and my grandmother used to churn butter,' he said.

A 1997 National Cancer Institute study shows people who lived in Blaine County during the nuclear testing era received much higher doses of radioactive iodine than the 21 counties in Utah, Nevada or Arizona whose residents are eligible for \$50,000 in federal compensation if they develop certain cancers including thyroid cancer. They must have lived in designated counties considered to be downwind from the Nevada Test Site between 1951 and 1958 or from June 30, 1962, to July 31, 1962. But as the 1997 study showed, the entire country was downwind, depending on which way the wind blew when the bombs were detonated in Nye County, Nev.

If Morrison hadn't lived in one of the "hottest" counties in the country, he said he probably wouldn't have thought much about the latest fallout news. Like others who lived in Blaine County during the testing era, he finds it disorienting to consider his thyroid problem could be linked to nuclear fallout.

Farm fresh. Farm-fresh milk was the source of the most concentrated human exposure of radioactive iodine from nuclear fallout. Radioactivity in processed milk or other dairy products had more time to decay before it was consumed. Fallout dropped on pastures. Cows and goats grazed. They concentrated radioactive iodine in their milk, goats more so than cows. People consumed the milk, and the iodine concentrated in their thyroid glands. It's the same principle behind treating thyroid problems with radioactive iodine — the chemotherapy concentrates in the thyroid gland that serves as the body's iodine processor.

Bellevue resident Teresa Bergin, who lost her 19-year-old daughter Rosemary to ovarian cancer in 1979, and neighbor Robert Head, who survived his cancer as a teen, now wonder about the milk they drank. Both families enjoyed nutritious milk straight from the farm. 'We were a very healthy family and tried to eat right. We bought milk from a reputable local farmer while we were raising our family. The people took fine care of their cows, and it was marvelous milk,' Bergin said. Head, 43, and Bergin's daughter underwent cancer treatment at the same time. He was raised on a farm where the milk was fresh. He survived his testicular cancer, but in 1998 a tumor attached itself to his spine. He also developed a tumor on his neck and two behind his heart. All were benign, but the one in his back ruptured, and he was airlifted for emergency treatment in Boise. About a year ago, one of the tumors behind his heart ruptured. He was back in the hospital. 'For basically 25 years of my life I've dealt with some sort of tumors,' Head said.

His insurance premiums are \$310 a month just for himself, but it pays for hospital bills that five years ago reached \$250,000 to \$300,000. 'I'm not into it to recover any money or anything like that,' Head said. 'It's my past.'

But he wonders how the government can choose who should get a federal check. 'Where do you come up with people who should get compensated and not others? I think they have kind of put their foot in it, to compensate certain people,' he said. The money, Bergin said, won't bring her daughter back. 'It isn't the money. It's just that if it was the cause, somebody should have been responsible,' she said."

Jo Anne and Hazel Miller

The Miller sisters grew up in southwest Idaho, living in Ada, Canyon, Payette and Idaho counties. Dan Popkey reports in the *Idaho Statesman* (8/29/04) that "Of the seven Miller siblings, five had thyroid trouble. A sister, Shirley, died of thyroid cancer at 48. Jo Anne's cancerous thyroid was removed, as was sister LaRae's. Hazel and a brother, Richard, had suspicious nodules, which were removed.

Their father, Joe, died of melanoma in 1993, five months after surgeons took an eye. Their mother, Lois, died of liver cancer in 1997. Jo Anne Miller Shockey, 66, is a retired proofreader who moved to Maryland in 1959. She still remembers the strange, dark, yellowish clouds hanging over their Canyon County farm when she was a teenager. Her dad said they came from the Nevada tests.

'It was a terrible thing with my sister, my mother and dad. I was there. It's something I try to push out and not think about too much. For a long time, I was really upset and angry. And, of course, I worry there's going to be more cancer,' Jo Anne said. 'But I say my prayers every day, put my trust in God and believe that whatever will be will be.'

Hazel Miller Bungor, 59, is a hairdresser and also lives in Maryland. She says she won't let her sister watch another sibling die. 'If they told me I had it, I'd just tell them to give me a pill.' "

Sheri Mohr

Sheri Mohr grew up in Valley County, feeding her cats from the teats of the family's cows. She has long wondered what she did to cause her cancer. "After today," she said, "I realize it probably wasn't me or us. It was done to us." (*Idaho Statesman* 11/7/04)

Linda Morrey

Linda Morrey, a cancer victim, joined other Idaho Downwinders at a meeting in Twin Falls to share their concerns about the radioactive fallout that caused their health problems. Michelle Dunlop reports in the *Times News* (10/20/04), "Sitting side by side, they look like sisters. Or, at least, very old friends. A connection between the two women is obvious. They listen attentively to each other speak, nodding and smiling back and forth. Linda Morrey even tears up for a moment as **Sarah Wolfe** shares stories about her struggle with cancer. Cancer is the bond that

connects the two women. They had not met before attending a meeting on the College of Southern Idaho campus Tuesday evening. The event held by the Snake River Alliance, a nuclear watchdog group, was organized for people just like Morrey and Wolfe whose cancer may have been caused by fallout from nuclear testing in the 1950s and 1960s.

‘We were sitting down one morning and the ground shook,’ Wolfe said. ‘I can remember my dad saying it must have been the bomb that went off.’

Researchers have concluded that Nevada Test Site bombs, like the one Wolfe remembers, dusted cancer-causing radioactive iodine across the land with major areas of ‘downwind’ concentration landing in Nevada, Utah, and Arizona. A 1997 study by the National Cancer Institute determined that four out of the five counties in the country that received the largest doses of radioactive iodine were in Idaho.

During the years of nuclear testing, Wolfe lived on a farm. She never thought twice about eating vegetables out of the garden or drinking fresh cow's milk. Scientists now know that nuclear fallout landed on those very crops. Cows consumed contaminated crops. Radioactive iodine concentrated in cow's milk, as well as goat's milk. Once drunk by humans, the radioactive iodine wound up in individuals' thyroids. Thyroid cancer is one of 19 cancers eligible for federal compensation. While the Radiation Exposure Compensation Act covers residents who lived in Nevada, Utah and Arizona, it does not cover Idaho residents like Wolfe and Morrey. The bond between Morrey and Wolfe will continue as both plan to testify at the November 2004 meeting in Boise.”

Pamela Nein A., CIV

I lived in Glens Ferry, ID in 1961. I was 5 years old. My father was working on the nuclear missile silos near Mountain Home, ID. My family visited Idaho Falls and Boise regularly for shopping trips and entertainment. I was diagnosed with Hashimotos disease in 1998. My sister has the same disease. We have both had thyroid removal surgery. We have also had hysterectomies. Have there been any other similar cases from residents of Glens Ferry, Idaho and have they been linked to the 1961 nuclear accident at Idaho Falls or the nuclear missile silo erection in Idaho?

Rebecca Oblatz

Born in Boise and growing up with her brothers Tom and Bob Linville in Gooding County, Idaho, 45-year-old Rebecca Oblatz, was a member of the Stanford University swim team when she was struck with thyroid cancer in 1978, her freshman year. A second tumor was removed the next year. Born in Boise and now a resident of Portland, she was diagnosed with melanoma in February. ‘The Stanford doctors asked me if I'd ever been exposed to radiation. I said no. We had no clue then that Idaho had been hit with fallout,’ Oblatz said. (*Spokesman Review* 10/24/04)

Virginia Peabody

Virginia Peabody died of cancer. She and her husband, Tom, were long time farmers near Rupert, Idaho. Tom is not satisfied with state health studies. Charles Etlinger reports in the *Idaho Statesman* (1/15/89) "One who is interested in [the health studies] is Tom Peabody, a rough-voiced World War II veteran who settled in the mid-1950's, and lost his wife, Virginia, to cancer a few years ago. He said doctors first discovered she had a tumor in her intestine; then they found out she had liver cancer."

LeVerne Parker

Parker lived in Rupert, ID and died of cancer according to Richard Hanson's survey of his neighbors within a 5 mile radius of his house.

Kenneth and Calvin Peterson

Kenneth Peterson who lost his dad, a brother, a sister and a daughter to brain cancer, also has hope. "My brother Calvin and myself are the only two left alive," Peterson said. "I've been through a lot of heck and I'm sure our politicians are going to do all they can to help us. After what they heard on Saturday, so do I." (*Idaho Statesman* 11/7/04)

Richard Rynearson

Richard Rynearson also drank milk from cows fed on Gem County hay. Dan Popkey reports in the *Idaho Statesman* (8/29/04) that "Born in 1942, he ran a heating and air-conditioning business in Emmett for 38 years until he got cancer in 2002. Last week, he and his wife counted 75 people around their age from the Emmett Valley who are fighting cancer or have died from it. Rynearson's mom, a sister and a cousin are breast cancer survivors.

'We've always complained about it, but nobody ever listened,' said Rynearson, who beat colon cancer in 2002 after a baseball-sized tumor was removed. In July 2003, they found cancer in his liver. After two months of weekly chemotherapy sessions that lasted up to 5 hours, he had more than half his liver removed. That didn't work either. Rynearson has an 8 a.m. date every weekday for the next six weeks at Saint Alphonsus, where his liver is bombarded with radiation. 'The government needs to fess up to the fact they hurt us and we need to be compensated,' he said. 'I didn't stay in business for 38 years treating my customers that way. You got a problem, you fix it.' " (23)

Gary Riggs

Gary Riggs grew up on a Custer County Idaho farm. Dan Popkey reports in the *Idaho Statesman* (8/29/04) that "A former teacher and football coach at Notus and Emmett, he's fighting for his life and for compensation for cancer victims. Riggs, 59, lives in Eagle and builds houses. In June, he was diagnosed with non-Hodgkins lymphoma. His wife, Suzanne, has doggedly

researched on the Web, devising a 7 a.m. to 10 p.m. schedule that includes vitamins, herbs, fish oil, protein drinks, yoga and rest. He also is being treated at Mountain States Tumor Institute in Boise, and spent \$10,000 at a Texas cancer clinic. Riggs went to see Gov. Dirk Kempthorne on Thursday, angry and wanting answers. In 1997, when Kempthorne was a U.S. senator, he vowed to fight for Idaho downwinders. Kempthorne wasn't in Thursday, so Riggs met with Mike Journee, the governor's spokesman. 'I'm a guy that's packing a tumor in my belly. My wife's so tired she can't even hardly keep her eyes open,' he told Journee. 'I don't have time to wait for Dirk for another seven years. I'll be dead. I want to know why Orrin Hatch got money and we didn't.' ” (also see *Boise Weekly* 11/18/04)

Margaret Satterlee

Margaret Satterlee grew up in Bellevue. When she was 11, she watched her teenage sister, Rose, die of ovarian cancer. Satterlee has had three tumors removed, one as big as a watermelon, one as large as a grapefruit and the last enough to keep her from having children. She's hopeful Idaho leaders will now take up the cause of downwinders. “Our congressional delegation let us down at first, but I'm glad that you are finally here now,” she told them. (*Statesman* 11/7/94)

Robert Sherwood

Robert Sherwood who lives in Boise, Idaho believes he and his mother are Downwinders. Jennifer Sandmann reports in the Times News (9/7/04) that, “Test shot in 1952 hit Idaho hardest.

Most of the fallout that hit Idaho from the United States' nuclear testing program arrived on the wind of the ‘How’ test shot in June 5, 1952. It was detonated at the Nevada Test Site in the face of a cold front, said statistician and environmental scientist Richard L. Miller, author of the ‘Atlas of Nuclear Fallout.’ Four Idaho counties — Blaine, Custer, Gem, and Lemhi — and Meagher County, Mont., were hardest hit in the nation when it comes to exposure to radioactive iodine. Much of it came by way of the ‘How test.’

Seven years ago the National Cancer Institute released a nuclear fallout study that revealed the extent of nationwide contamination, including Idaho's high dosage. Boise resident Robert Sherwood recalled for *The Times-News* then that in 1952 his mother who lived in Blaine County had told him about a strange, dusty ash that left an odd residue on the family home and peeled the new paint. The product development consultant and science buff was living in New York. She sent him a jar of the ash, and he took it to the Atomic Energy Commission. ‘They did tell me it was radioactive. They explained it was nothing to worry about,’ said Sherwood, who today is 84. He left it at that.

The 1997 National Cancer Institute study analyzed iodine-131, but it's just one of 125 radioactive isotopes found in nuclear fallout, Miller said. He spent about two years calculating fallout levels for 80 isotopes from the government's nuclear testing program between 1951 and 1970. Idaho's Gem County north of Boise was the ‘hottest’ in the nation for 30 isotopes including cesium-137 and strontium-90, according to his research.”

Millie Smith

Karen Dorn Steele reports in the *Bulletin of the Atomic Scientists* the following: “For some downwinders, the government admission that Hanford may have caused harm came too late. Millie Smith was born 12/5/47 in Richland and moved away after she graduated from Pasco High School. She had to take thyroid medication as a teenager and suffer from fatigue for years. But she did not get her thyroid rechecked until early 1986, when she read in the Spokane *Spokesman-Review* that Hanford had released huge quantities of radioactive iodine.

‘I went to the hospital and asked for a checkup. They found thyroid cancer. They said it had spread to my jugular vein, trachea, lymph nodes, and into my upper chest.’ Smith said. Seattle surgeons reports notes that she spent her early childhood in the Hanford area ‘with a suspicion of possible radiation exposure during that time.’

Smith filed a \$ 5 million tort claim against the Energy Department in March 1987, shortly after her surgery. In November of the same year, the department's Richland operations office rejected it. ‘We have found nothing to indicate that your illness was caused by the negligent or wrongful act or omission of any employee of the United States’ the department told Smith in its notice of denial.

Although the evidence so far is anecdotal, a doctor who has practiced in Pasco for 43 years and who treated some of the downwinders, including Smith, as children, thinks the CDC Hutchinson study will find thyroid damage. ‘I treated lots of people for hypothyroidism [low thyroid function] and nodules. It started showing up years ago. I think they lied like hell out at Hanford and they didn't even care.’ said Dr. Anthony Putra, who retired last November.

A Richland doctor who started a private practice in the area in 1951 reflected somberly on the deep bitterness of the downwinders. ‘If Hanford officials had said “I'm sorry in the fifties, we put some people at risk while making weapons, people would have accepted it” ’ said Dr. Herbert Cahn, who served as Benton-Franklin County health officer before his retirement. ‘They didn't do it and now there's a major price to pay,’ he said.”

Kathy Smith

Betsy Z. Russell reports in the *Spokesman Review* November 7, 2004 “When Kathy Smith was a 39-year-old mother, she was diagnosed with thyroid cancer that left her too sick to hold her two children and kept her from having any more. ‘I put this in the back of my mind for years,’ Smith, now 59, said [NAS hearing] Saturday, as she waited in line with nearly 300 others for a hearing on how Southern Idaho residents were affected by nuclear weapons tests in Nevada in the 1950s. ‘Then this all came up, and I really got mad.’

One after another, Idahoans told National Academy of Sciences officials that they never knew about the radioactive fallout that rained down on their communities, poisoning people, grass and crops, and concentrating in the fresh milk that many fed their children to ensure they'd grow up with strong teeth and bones.”

Lana Stoddard and Don McBride

Aaron Kunz reports on *NBC News Channel 6* on radiation effect on Idahoans (11/10/04) “According to several studies by the National Cancer Institute, the prevailing winds blew radioactivity from the Nevada test site north into Idaho and Montana. **Don McBride and Lana Stoddard** have both been told they have thyroid cancer. We were interested because it's kind of unusual for both of us to have it. Thyroid cancer — and yet there is no history of cancer in our family.

Lana Stoddard was diagnosed this year and she's upset that it will affect her for the rest of her life. ‘We've been healthy all our lives; we don't drink, we don't smoke, we haven't indulged in any of these things that might put our health at risk, and yet we show up with thyroid cancer. I know eventually it's going to get me.’ ”

Linda Thompson

In an article "Downwinders persevere: More come forward as hearing draws near" by Dan Boyd *Idaho State Journal* 10/31/04, “Linda Thompson, of Pocatello, attributes her thyroid cancer to fallout that drifted from atomic bomb tests done in Nevada during the 1950s. Linda Thompson sat down in the middle of the aisle next to the house plants, too worn out to move. She felt tired and depressed and knew something was wrong. Going to Fred Meyer wasn't supposed to be this formidable.

Thompson was born in Los Angeles in 1949 and one of her early memories is riding a Union Pacific train back to her mother's hometown of Blackfoot in 1953 after her parents divorced. Her grandmother had a five-acre farm outside of Blackfoot and Thompson quickly acclimated to life in Idaho, including spending time on the farm and regularly drinking fresh cow's milk. ‘I was a child,’ she said. ‘And I thought I was safe as could be.’

Thompson then moved to Pocatello in 1974 and had seven children. Life was good, until she started feeling mysteriously ill. Thompson is positive in her mind the cancer was caused by the Nevada bomb tests and will live under the shadow of the experience for the rest of her life. ‘It affected me, my husband and my children,’ she said. ‘I worry about ovarian cancer. I'll always be constantly worried.’

To a growing number, there's no doubt about what really happened. To others, however, the mysteries of the world can't be so easily explained. Finding out what really happened 30 years after the fact isn't an easy task. In this detective story, there's no quick fix and no easy answers. Even those who are convinced they are right willingly acknowledge there's a chance they're wrong. Much like the argument between the petri dish and the holy host, there's one lingering problem: No matter how you boil it down, it's just about impossible to convince the other side with absolute irrefutable proof.

Thompson lay on the table, heart pounding, as nurses stuck long needles into her neck over and over again. The nurses couldn't hit their target and Thompson felt like a pincushion. It was March 1996, but to her, it must have felt like the end of the world. It had all happened so soon,

Thompson was more stunned than distraught. She received the call from a nurse while at work after weeks of testing to try to get to the bottom of her strange bouts of exhaustion and mood swings. The news wasn't good. 'We thought I was going to die,' she said.

Thompson is positive in her mind the cancer was caused by the Nevada bomb tests and will live under the shadow of the experience for the rest of her life. 'It affected me, my husband and my children,' she said. 'I worry about ovarian cancer. I'll always be constantly worried.'

For Thompson, telling her story is the important part. Compensation would be nice, but it can't patch the holes left by cancer. After the painful treatment for papillary thyroid cancer that included medical personnel sticking long needles into the nodule by her thyroid, Thompson was directed to take radioactive capsules which made her stay in the basement like a leper and avoid human contact for entire days. Though the treatment has helped Thompson mostly overcome her cancer, she remains upset and can't help looking back at the past. 'It really made me angry,' she said. 'When you find out something could have been prevented ... I cried a lot.' "

Shirley Squires

Shirley Squires once raced her horse alongside a herd of elk across a mountain meadow. She was a girl then, growing up on a cattle ranch near Kooskia in the 1950s and early '60s. Her youth was an idyllic portrait of rural life. A wilderness of syringa and pine stretched from her back doorstep. After Maternity Ridge, where the family's cows spent calving season, the next privately owned ground was somewhere in Montana.

Once in a while Air Force jets buzzed the ridges, shattering the stillness. But such intrusions were rare. "You think you are in a safe environment on a farm," says Squires, 50, who now lives in Lewiston.

But the military was sending more than just jets over the remote Idaho ranch. In time for her 20-year class reunion at Clearwater Valley High School, Squires' doctor diagnosed her with thyroid cancer. She believes the cancer came from nuclear bomb tests at the Nevada Test Site, 65 miles north of Las Vegas.

She's not alone in that suspicion. Scientists, politicians and cancer-victim advocates agree Idaho's children were exposed to dangerous levels of nuclear fallout — showing up as cancer in today's adults.

In 1997, U.S. government researchers revealed that iodine-131, a deadly byproduct of nuclear blasts, blew into Idaho repeatedly between 1951 and 1962. There were 86 above-ground tests in Nevada during those years. The researchers in 1997 estimated that 49,000 cases of thyroid cancer could arise across the nation from those tests.

Born in 1957, when many farms had milk cows, Squires drank fresh milk daily. They churned the milk into butter. They shared milk with neighbors.

Milk consumption is a major pathway for iodine-131 into people, according to the National Cancer Institute. "Every ranch up there had a milk cow, even if you didn't have a lot of land," Squires said. "Families were sustained on everything raised on the farm."

Iodine-131 landed on grass. Cows ate the grass and passed the isotope on in milk. Once ingested by people, it concentrated in thyroids — bow-tie-shaped glands in the lower neck. Average radiation doses were low but smaller thyroids in infants and children concentrated the dose to dangerous levels.

Those children, now in their 40s, 50s and 60s, might be facing cancer. Much of what is known about where radiation landed comes from the U.S. government-sponsored National Cancer Institute report released in 1997, which studied only iodine-131. Other cancer-causing radioactive isotopes were in the fallout as well.

Iodine-131 degraded quickly, losing half of its radioactive potency every eight days. That compares to strontium-90, also found in fallout, which loses half its potency every 28.8 years. The 300,000-page report drew conclusions from government monitoring of fallout after bomb blasts.

Idaho is home to four of the hottest counties in the nation: Lemhi, Custer, Gem and Blaine counties. Only Meagher County in Montana was hotter. But Idaho County got a big enough dose to cause alarm, said nuclear expert Arjun Makhijani, who works for the Institute of Energy and Environmental Research in Maryland. All eastern Washington counties that border Idaho received a dose of the fallout, but at less alarming levels.

"People who were born in Idaho, generally in the 1950s, should be concerned," Makhijani said. "I think there has been enough fallout in Idaho."

The average dosage level is measured in rad, which is "radiation absorbed dose," and represents a person's lifetime cumulative exposure to radiation.

People in the four top Idaho counties took average doses of 13 to 16 rad of iodine-131. Idaho County got an average of 9.4 rad, according the National Cancer Institute. Asotin and Whitman counties received an average dose of 2 to 4 rad.

The dose for an Idaho baby born in the 1950s, who was drinking milk, was probably more than 30 rad, a dangerous level, Makhijani said.

Those rad levels compare to 1 rad a decade that people also get from natural radiation sources. Girls are more likely to get thyroid cancer than boys. And the cancer has a long latency period, perhaps requiring another factor to trigger the cancer 15 or more years after the initial damage from radiation.

"Cancers grow slowly, many of them do," said Chris Johnson, epidemiologist with the Cancer Data Registry of Idaho. "Think of smokers and lung cancer. You may start smoking at whatever age, say 15 ... and not be diagnosed with lung cancer until your 70s or 80s."

The cancer registry does not show whether a county has higher rates of cancer related to nuclear fallout because most people in the registry were not born or raised in the county where their cancer is reported.

Questions about what constitutes a “low dose” of radiation leads to a dark crevice of scientific dispute. “We as a human species have evolved in a radioactive environment,” said Fred Gunnerson, University of Idaho director of Nuclear Engineering at Idaho Falls.

The sun cooks us with radiation everyday, Gunnerson noted. He said only doses between 25 and 50 rad harm health. Then there’s a hypothesis called the hormesis effect that suggests low levels of radiation “stress the body and immune system and makes us stronger ... like lifting weights,” Gunnerson said.

“When people talk about what is the effect of fallout at the really low levels, you cannot say it is bad,” Gunnerson said. “You could find that it’s absolutely beneficial.”

Makhijani calls that claim “ridiculous.” “All ‘low dose’ means is you can’t see immediate effects, you see delayed effects,” Makhijani said.

The hormesis effect shows short-term gains in scientific testing, he said. The long-term consequence is a higher risk of cancer. While the two scientists disagree on the effect of a low dose of radiation, they agree levels of iodine-131 during the 1950s and 1960s were high enough to put children at risk for thyroid cancer.

“I think that’s fair. I think that’s a fair statement,” Gunnerson said. Why radiation from Nevada would come north is a puzzle for people who know north central Idaho winds generally come from the west. But the wind sometimes comes from the south and bomb blasts sent radioactive material high enough to hit the jet stream and drop fallout in the north. (See related story)

That radiation came down as ash, dusting fruit and vegetables and soiling laundry in Gem County, said Tona Henderson, 47, a “downwinder” activist in Gem County, the second-hottest county in the nation.

Henderson’s mother held her wedding reception outdoors in 1957, just 17 days after a nuclear bomb test in Nevada. The fallout drifted north, hit a storm front, and rained onto Gem County. A photograph captured the happy bride outside with 14 others.

“All the people in mom’s picture from the wedding have either had thyroid problems or cancer, everyone of them,” Henderson said. Henderson, who grew up on a dairy farm, counts 42 people in her family who have had thyroid problems or cancer. Thirteen have died.

“No radiation is good for you,” said Henderson, who “knocks on wood” when she says she has not had cancer or thyroid problems. The Idaho Department of Health and Welfare is aware of the risks for Idahoans from past doses of radiation. The North Central Idaho Public Health District also knows and encourages concerned people to consult their doctors.

As far as cancer goes, thyroid cancer is one doctors combat well, keeping 95 percent of patients alive. Squires is not interested in political efforts to compensate victims. She isn't looking for anything from the government.

“I feel lucky enough,” Squires said. “I think I'll deal with it.” She wants her neighbors and friends from Idaho County to know they may be at risk. To find out what kind of dosage they may have received, they can log onto the National Cancer Institute Web site, www.cancer.gov. The site includes a “dose-risk calculator.” “I just want people aware so they can follow up on it. If they have a tickle in their throat, then they should get their thyroid checked.”

(Ferguson may be contacted at dferguson@lmtribune.com or at (208) 743-9600, ext. 274. “Idaho County downwinder sounds the alarm; Woman who grew up near Kooskia blames her thyroid cancer on nuke fallout; scientists, researchers agree;” (By Dean A. Ferguson of the *Tribune*; 8/19/2007)

Merla Kidd Fries Stone

The Idaho State Journal reports (11/16/04) that “Merla Kidd Fries Stone, 75, passed away Tuesday, Nov. 16, 2004, after a valiant 10-year battle with multiple myeloma. She was born June 24, 1928, in Acequia, Idaho, the eighth child and seventh girl to Carson Gilbert and Nellie Louisa Florence Kidd. She grew up and attended schools in Declo, Idaho, graduating from Declo High School in 1946.

Merla married her high school sweetheart, Don Ray Fries, Feb. 11, 1948, in the Idaho Falls Temple. Together they had five children and lived in several communities in southern Idaho, including Declo, Burley, Shoshone, Boise and Pocatello. Don died in 1963, leaving Merla, age 34, to raise their children alone.

Merla met and married LaRoy A. Stone May 25, 1965, and they have lived in Pocatello for the past 39 years. She was an active member of the Church of Jesus Christ of Latter-day Saints, and served in many callings both on the ward and stake level in Relief Society and Young Women's program. She loved to serve, and was loved by everyone who knew her.”

Debbie Stansell

Debbie, born in the 1950's in Dele Monte, Idaho, now lives in nearby Aberdeen, Idaho a few miles southwest of INEEL in Bingham County, and has a tumor in her thyroid. Her mother, her sister (Diane with non-hodgkins lymphoma) and, according to her, twenty of her friends and neighbors have cancer, including one family that has five types of Berkets lymphoma. Two other of Debbie's sisters have Graves Disease, and hyper-thyroidism. [\(24\)](#)

Tim Jackson reported in the *Idaho State Journal* (12/12/96), “A brain cancer rate that's four times as high as expected in the Bingham County town of Moreland is prompting public health officials to look closer for possible reasons. Two Idaho Department of Health and Welfare researchers this week informed the INEEL Health Effects Subcommittee ...that the [agency] survey showed that while Moreland's four reported brain cancer cases between 1997 and 1996

are four times higher than expected, Moreland had fewer cases of other types of cancer than expected. The state agency also found a roughly 24 percent higher than expected rate of brain cancer in Bingham, Bonneville, Butte, Clark, Jefferson and Madison counties. These are the counties around the INEEL. In Blain County, a survey requested by a local physician found that the female population younger than 70 had a significantly 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 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.”

Lana Stoddard

Aaron Kunz reports on NBC News Channel 6 on radiation effect on Idahoans (11/10/04). “According to several studies by the National Cancer Institute, the prevailing winds blew radioactivity from the Nevada test site north into Idaho and Montana. Don McBride and Lana Stoddard have both been told they have thyroid cancer. ‘We were interested because it's kind of unusual for both of us to have it. Thyroid cancer — and yet there is no history of cancer in our family.’”

Lana Stoddard was diagnosed this year and she's upset that it will affect her for the rest of her life. ‘We've been healthy all our lives; we don't drink, we don't smoke, we haven't indulged in any of these things that might put our health at risk, and yet we show up with thyroid cancer. I know eventually it's going to get me.’ ”

Janet Tomita

Dan Popkey reports in the *Idaho Statesman* (11/7/04) on the Idaho downwinder hearing in Boise, “Janet Tomita, who grew up in Salmon, told the story of ‘The List,’ an accounting of 73 people who attended Salmon High School in the 1950s and '60s who have suffered cancer or autoimmune diseases.”

Betsy Z. Russell reports in the *Spokesman Review* November 7, 2004, “Janet Tomita said it was at the high school class reunions that Salmon residents hold every five years that Lemhi County residents started noticing oddly high rates of cancer and other diseases among their classmates. She began keeping track, and sick friends started calling and writing to her. ‘Their desperation has stayed with me, and I knew in my heart that something had gone terribly wrong in Lemhi County,’ Tomita told the academy officials. ‘How could so many be sick so soon in life, from such a small community?’ ”

The Boise Weekly reports (11/18/04) “Janet Tomita of Salmon, for instance grew up in the 1950s in one of Idaho's four ‘hottest’ radiation affected counties. She does not, however, have thyroid cancer. Tomita suffers from multiple sclerosis, and autoimmune disease whose connections to nuclear fallout has long been viewed as uncertain—but in her mind, and in the minds for her Lemhi County neighbors, there is little doubt that fallout is responsible. With her impassioned testimony [at NAS hearing] Tomita submitted a slim stack of papers simply titled ‘The List.’ Dozens of names long and almost genealogical in scope, the roster represents decades

of effort by Tomita to catalogue the rash of abnormal diseases contracted by friends and ex-classmates of her age in Lemhi County. Thyroid cancer, while present in many cases, is accompanied by cases of non-Hodgkin's lymphoma and numerous other cancers, but also by non-cancerous nervous system disorders like Parkinson's disease and Multiple Sclerosis of which have even been linked in government research to iodine exposure and the last two of which have never been included in the RECA. Tomita's request, one which could devastate the nuclear program if conceded was to expand the compensation to the high number of autoimmune diseases that are occurring in people from Lemhi County. 'I know in my heart that something had gone terribly wrong in Lemhi County,' she told the NAS panel. 'How could so many be sick so soon in life from such a small community?' The answer to her question, unfortunately, could be a long time coming." (*Boise Weekly* 11/18/04)

J. Preston Truman

Preston Truman knows he is a downwinder growing up in St. George, Utah (where they could see the nuclear bomb explosions from their home), now lives in Malad City, Idaho. He organized Downwinders Inc. that has been documenting the issue of radiation exposure to the Nevada Test Site releases for over a decade. Thankfully, the cancer he sustained from that exposure is in remission, but the chemo-therapy has ravaged his kidneys and other vital organs. Truman's health future and other downwinders remain uncertain. See <http://www.downwinders.org>

Whitney and Ruth Vahlberg

Ruth Vahlberg died of cancer and as the *Idaho Statesman* reports (9/12/04) "Tears flowed when teen daughter Whitney Vahlberg describes her mother and friends' pain as they've lost parents. 'It's just terrible. The rest of your life your mom's not going to be there. And having to tell your kids that you're not going to live to see their full potential must be so hard for them. The only good thing I've ever seen come from cancer was all the people that came to help out. There was so much love and so much caring. I'm glad to see that, finally, some other people are here to help, too.' "

Chuck Walker

Time ran out for self-described INEEL Downwinder Chuck Walker who died at the age of 44 from chronic myelogenous leukemia — the rarest form of all leukemia. Before he died, Walker testified to the Idaho State Oversight Committee and recorded below in November 9, 1990 by *Idaho State Journal* reporter Mary Duan who notes, "As a young boy living in Jefferson county near the border of the INEEL he remembers an explosion in the late 1950's that lit up the night sky from his home in Dubois. He remembers smoke pouring from stacks at the then Atomic Energy Commission site, and government workers running frantically at a monitoring station a mile away from his family's farm. Since chronic Myelogenous leukemia is the rarest form of all leukemias, Walker only had a one-in-20,000 chance of finding a donor with compatible bone marrow to save his life, and doctors say the only way he could have gotten the disease is from a massive dose of radiation. 'I've spent hours and hours going over my health history with doctors from the University of Utah and the Fred Hutchinson Cancer Institute,' he said. 'They say that I must have gotten a good-sized dose of radiation at one time or another. The first time they

identified this kind of cancer was after Hiroshima and Nagasaki. I don't understand why the department is not looking at Jefferson County. It's closer to the site than any other,' Walker told the committee. 'If the doctors are right in telling me that the only place I could have gotten this from is the site, what will the oversight committee do to make sure they don't get away with this again. I'm not sure what I want the [state oversight] committee to do, but I do hope they can come back next time with something better than this, because this is just a waste of time and money,' said Walker. 'The population may not have understood potential hazards 30 years ago, but we're sure paying the price now.' ”

Norma Wheeler

Wheeler lived in Rupert, ID and died of ovarian cancer according to Richard Hanson's survey of his neighbors within a 5 mile radius of his house.

Shelley Wunder

Karen Dorn Steele reports in The Spokesman-Review October 24, 2004 “Shelley Wunder, a registered nurse who works at the local hospital and whose family owned the Ford Dairy in Emmett, said cancer in middle-aged people is common in the county. ‘The Mountain States Tumor Institute in Boise says they have a sea of 1G plates—Gem County—in their parking lot,’ Wunder said.

Emmett's ailing residents are profoundly uneasy about a Bush administration proposal to resume nuclear testing in Nevada by 2007 for a new generation of nuclear weapons. ‘They've killed more people with fallout than we lost at the twin towers in New York on 9/11,’ said Pearl Ford, who has lost her mother, father, brother and husband to cancer within the past five years. ‘We don't want them to do it again.’ ”

Two award winning video documentaries "Idaho's Nuclear Dilemma" and "Voices of Victims" that document many of the above and many more victims, are available from Palouse Clearwater Environmental Institute, Moscow, Idaho, or the Environmental Defense Institute website;
<http://environmental-defense-institute.org> ; edinst@tds.net

BIER V List (1990) [\(25\)](#)**Relationship of Cancer Sites to Radiation**

Established Relationships to External Radiation Sources	Weak/Inconsistent Relationship	Probably Not Associated
Salivary glands	Uterus and cervix	
Esophagus	Prostrate	Pharynx
Stomach	Pancreas	Hypopharynx
Colon		Small Intestine
Rectum		Gallbladder
Liver (after deposited alpha and beta)		Melanoma
Lung		Testis
Bronchus		Hodgkin's disease
Bone (after deposited alpha and beta)		Chronic lymphocytic leukemia
Skin		
Breast		
Ovary		
Urinary Bladder		
Kidney		
Brain		
Central nervous system		
Thyroid		
Parathyroid		
Lymphoma, non-Hodgkin's		
Multiple myeloma		
Leukemia (except chronic lymphocytic)		

Endnotes:

1. J. Preston Truman, Jeremy Maxand, and Dr. Peter Rickards sent many of the news stories to EDI that are contained in this report.
2. "DOE Facts, Declassification of Unannounced Nuclear Tests at the Nevada Test Site, Summary List of Previously Unannounced Tests," DOE Office of Public Affairs, Sam Grissle that states, "There were 925 [announced] nuclear tests at the Nevada Test Site in addition to 204 unannounced tests." The total number of tests would number 1,129.
3. Specific radiation fallout deposition can sometimes be evaluated with sampling and chemical/radiological analysis to "differentiate" between different fallout depositions.

Unfortunately, no government data is publically available nor is there funding currently provided to provide the public with a clear picture of the issue. The public is often more interested in knowing the **total** radiation exposure they were subjected to without consent than which facility the radiation came from. To date both DOE and CDC adamantly refuse to provide this basic information.

4. See the National Cancer Institute mapping of Nevada Test Site fallout and the red hot spots in Idaho on this NCI webpage.
http://cancer.gov/cancer_information/doc_img.aspx?viewid=556f5603-23e3-4171-aa5e-77f79d46b27c&docid=ed441687-03f6-4f2e-8eab-4296e8f44606
5. EDI July/August 2004 Newsletter details the rise in cancer in Idaho since the 1950's .
<http://www.environmental-defense-institute.org/publications>
6. Betty Anderson phone call to Environmental Defense Institute
7. Valerie Brown personal correspondence with Preston Truman, and direct email to Environmental Defense Institute 9/8/04.
8. Also see Valerie Brown letter to Idaho Governor Kempthorne, and Post Register's Kathleen O'Neil article 9/2/04.
9. Mary Burket sent EDI extensive information related to her father (Clair) to EDI in addition to many phone calls describing the relevance of the information to her own health problems.
10. SL-1 Recovery Operations, Combustion Engineering, June 30 1961, IDO-19301 page 23 .
11. James Dennis, Affidavit, March 27, 1962, page 10, hereinafter referred to as Dennis.
12. Marge Freeman email September 12, 2004 to EDI containing an open letter to Preston Truman with the Downwinders.
13. Also see New York Times Sarah Kershaw article "Suffering effects of 50's A-Bomb Tests" (9/5/04)
14. Phone conversation with Kenneth Grover's daughter to Environmental Defense Institute.
15. Dr. Peter Rickards and Preston Truman personal contacts with Sarah Wolfe, who now goes by her maiden name Sarah Hughs recorded in email to EDI 8/11/04 , 8/14/04, and 8/15/04.
16. "Rupert worries about Cancer," *Associated Press* [Rupert], Daily News/Idahonian, February 18-19, 1989. Also see "Cancer Cases Spur Concern," *The Idaho Statesman*, 1/15/98, front page feature.
17. Richard Hanson and Ethel Kadel conducted a survey of their neighborhood now called "Cancer Ridge" near Rupert, Idaho. Hereinafter called Hanson survey. Also see video "Voices of Victims" produced by Alan Lifton that features Rupert, ID "Cancer Ridge" victim's stories.
18. Email letter "To Whom It Should Concern " from Bret Kuntz 8/25/04 to EDI.
19. SL-1 Recovery Operations, Combustion Engineering, June 30 1961, IDO-19301 page 23
20. Steele, Karen, D., "Time Bombs Keep Going off for Cancer-plagued Families in Idaho who Lived Downwind of Nuclear Testing in the 1950s," *The Spokesman Review*, October 24, 2004.
21. SL-1 Recovery Operations, Combustion Engineering, June 30 1961, IDO-19301 page 23
22. Dr. Peter Rickards October 11, 2000 letter to Dr. Steve Wing, University of North Carolina, forwarded to EDI 10/25/00, that details Rickards' personal contact with Elaine McNair.
23. Also see New York Times 9/5/05
24. Debbie Stansell's numerous phone conversations (beginning 9/03) to Environmental Defense Institute that described her and her family's health problems.
25. Review of Clark County Cancer Data, Division of Health, Idaho Department of Health and Welfare, November 1990, page 6.