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DOE's Advanced Test Reactor Expert Claims Errors in His Declaration to the Court

In January 2007, Keep Yellowstone Nuclear Free, Environmental Defense Institute, Mary Woollen, John Peavey and Debra Stansell ("Plaintiffs") filed a lawsuit against the Department of Energy (DOE) for violations of the National Environmental Policy Act (NEPA) for failure to conduct an Environmental Impact Statement for the continued operation of the Idaho National Laboratory's Advanced Test Reactor (ATR).

On December 21, 2007, DOE's expert Robert Boston filed an "Errata" declaration to the court stating; "The Plaintiffs have correctly pointed out that I made a mathematical error in my prior declaration …" Boston goes on to state; "Such issues and measures to change operations to extend the operating life have no relevance to ATR, which identifies that neither the AELEX Program or the Life Extension Program (LEP) have identified any significant aging related issues that require upgrading to the ATR." 1 In an earlier declaration to the court**, Boston states the ATR, "heat exchangers are in pristine condition."** 2

The ATR went into service in 1969 (~40 years ago) and long past its original design life of 20 years. 3 DOE's Life Extension Program is extending ATR operations for another 35 years. Aging/degradation of crucial ATR safety systems are well documented by Plaintiffs briefs to the Court, and in DOE's own reports. For instance, DOE's 2005 ATR Facility Certification Report shows:

a. Emergency reactor shutdowns due to control rod failure and Emergency Fire Water System failures;

b. "Existing hardware has had frequent failures and repair is uncertain with each failure, as there is no current supplier of spare parts;"

c. DOE admits an "extensive NEPA evaluation is required;"

d. "High Level Radiation Monitoring System is not working;"

e. Primary reactor coolant heat exchangers leak; Secondary heat exchangers are seriously corroded and "should be replaced" because both "are operating beyond 200% of their 20-year design life;"

f. Not all safety equipment qualified to current seismic criteria;

g. Emergency water coolant pump failure;

h. ATR non-compliant metal building radiation confinement leaks "above the 125% acceptance line;"

i. On-site raw emergency reactor coolant water supplies are not sufficient in ongoing commercial power outages;

j. ATR Vessel Vent Valves releases radiation directly to the atmosphere during loss-of-coolant event;

k. ATR power level reduced from 250 MW to 150 MW due to core safety assurance problems;

l. Beryllium transuranic waste has "no path to disposal" as required in regulations;

m. Liquid waste evaporator pond liners are leaking;

n. Reactor Core Integral Change-outs "failed two to four years after change-outs and are expected to fail two to four years from now;"

o. During commercial power failure, emergency diesel power generators failed to start;

p. Required National Fire Protection inspection failed because fire dampers "were not made for inspection and some dampers were installed backwards;" 4

Leaks in the ATR Primary Heat exchangers means radioactive contaminates are released to the Secondary Coolant System and discharged to the atmosphere in the ATR cooling towers. "The M-85 [primary coolant system] PCS heat exchanger developed a leak in the shell side. The leak was repaired, but further investigation utilizing non-destructive examination indicated pitting corrosion occurring in all the PSC heat exchangers. **The ATR PCS/ Secondary Coolant System (SCS) heat exchangers are operating beyond 200% of their 20-year design life**." 5 [emphasis added]

As discussed below, in 2003 the ATR released 1,180 curies to the atmosphere. The ATR does not have the currently NRC required sealed radiation containment dome structure otherwise required of commercial nuclear reactors.

The ATR Poses Grave Risks to Eastern Idaho and Western Wyoming

"The ATR is a Category A [the highest] reactor with an operating power level of up to 250 MW, **with potential for significant offsite radiological consequences.** The ATR is classified as a Hazard Category 1 [the highest] nuclear facility in accordance with Department of Energy standards for hazard classifications of nuclear facilities." 6

Extending the operating life of the ATR for decades into the future poses a major threat to public safety. The ATR has no containment structure that would protect the public and the environment in the event of a severe accident. It is housed in a thin metal-walled building. As a result, according to the DOE, a severe loss of coolant accident would release a "source term" of 175,000,000 curies of radiation. 7 Such an accident, according to the DOE, would result in a lethal dose of radiation for anyone within 19.4 kilometers of the facility and would require the evacuation of areas within 105 kilometers of the facility. This is an evacuation radius that would include all of Idaho Falls, Rexburg, and Pocatello as well, an area with a population well in excess of 100,000. This potential accident at the ATR would be second only to Chernobyl in severity.

Furthermore, this supposed worst-case scenario assumes that the critical safety-related system relied upon in the event of a Loss-of-Coolant-Accident (LOCA) the Emergency Firewater Injection System or "EFIS," will be fully operational and available, and will pump water into the reactor confinement area to mitigate the effects of a LOCA. 8

However, as recent DOE safety assessments have shown, the ATR/EFIS is badly flawed and may not operate properly. It has suffered from design defects that hamper its operation, and moreover, is seismically suspect, and may not operate at all in the event of a severe seismic event at the facility. It could result in a lethal dose of radiation for nearby INL workers and members of the public, and would require the evacuation of a large area, disrupting the lives of tens of thousands of people. Id.

Second, continuing to operate the ATR without NEPA analysis will generate significant quantities of spent nuclear fuel and irradiated transuranic beryllium waste, for which there is no identified path for disposal. These wastes pose a substantial risk of irreparable harm to human health and the environment and should not be generated by the DOE without an approved plan for their safe disposal. Producing more of this deadly waste, as the DOE does with each day of ATR operation, creates a substantial risk of irreparable harm to the environment warranting an injunction. The risk of irreparable harm is therefore sufficient evidence for the court to issue an injunction.

DOE's own previous Environmental Impact Statements (EIS) state the ATR released 1,802 curies in 2000 and 1,180 curies in 2003 to the atmosphere. 9 On average that is about 1,491 curies/year; so over a seven year period 2000 through 2007 about 10,437 curies are released to the air. These high emissions from ATR suggest liquid waste is first sent to the ATR cooling towers w/o treatment and the precipitates are then pumped to INTEC evaporators or the percolation ponds. This represents a significant hazard to INL workers and the downwind public.

In a four decade history of operating the ATR formerly called the Test Reactor Area and currently called the Reactor Test Complex the TRA/RTC DOE has dumped huge quantities (more than 85 billion gallons) of radioactive waste water into illegal, unlined percolation ponds that resulted in massive groundwater contamination. 10

Thus, the DOE should be enjoined from continuing to operate the ATR until such time as it has (1) DOE completed an Environmental Impact Statement and issued a record of decision on the ATR Life Extension Plan; (2) DOE completed any and all "modernization" projects necessary to ensure the safety of the facility for its extended lifetime; and (3) DOE determined a path for safe disposal of the wastes the ATR will generate. 11 The following are related government reports on ATR;

a. General Accounting Office report states lax DOE enforcement program at its nuclear facilities;

b. DOE ATR Safety Analysis Report acknowledges major problems in the primary coolant system. Problems with emergency coolant and supporting structures, systems, and components were shown to be worse than originally believed;

c. DOE Office of Facility Safety 2005 report states that "There is a potentially inadequate ATR safety analysis;"

d. ATR Loss of coolant accident caused by either a seismic or other safety system failure has not been corrected by substantive system upgrades;

e. Fuel cladding melting generates fission product re-

leases to the atmosphere. In 2003 the ATR released 1,180 curies to the atmosphere;

DOE ATR Safety Analysis Report still only reviews a 3 inch break in the primary coolant system as the boundary. The reliability of the two primary coolant pumps, (i.e. M-11 pump) has an "uncertain" flow- rate. DOE reports "challenge the basis for reliable on-site long-term water inventory for the Emergency Firewater Injection System following a seismic event. On-site raw water supplies however are not sufficient to last until commercial power could be reasonably assumed to be restored. Therefore, uninterrupted EFIA delivery to the ATR vessel was not ensured following a seismically induced Loss-of-Coolant Accident."

Update on KYNF/EDI Freedom of Information Act Suit Against DOE

Wyoming Federal District Court Judge Downes has scheduled his in-camera review of our requested FOIA documents (related to the ATR) in Idaho Falls 1/22/08 through completion.

Only the judge, his staff, and DOE's Robert Boston and Joel Trent will be present in this exparte review with Mark Sullivan available only by phone if needed.

The purpose of this review is to give Downes a concrete basis on how to rule on DOE's claim that these documents must be exempt (for national security reasons) from release under our FOIA. This suit filed by KYNF/EDI/McCoy 8/8/06 has been dragged out by DOE apparently to ensure that these documents - regardless of Downes' ruling - will remain unavailable for our ID District Court ATR NEPA suit discussed above.

Meeting on Payette nuke plant plan draws 400 Residents and Activists Pose Tough Questions to the Developer

Rocky Barker reports 12/21/07 in the *Idaho Statesman*; "The developer of a proposed nuclear plant near Payette faced tough questions about safety, traffic, water and future quality of life in his first public meeting on Thursday.

Residents peppered Bill Fehrman, president of MidAmerican Nuclear Energy Co., with questions colored by their skepticism since learning about the plant proposed northeast of this lower Treasure Valley city near the confluence of the Payette and Snake rivers.

Fehrman promised the restless crowd of more than 400 people at Payette High School more answers as the company moves closer to a decision on whether to build the plant, a decision it hopes to make by next fall.

The big issue in this desert agricultural community is water. "Where are we going to get the water when even our farmers can't get enough?" asked Kurt Key, a Payette carpenter.

The reactor would use an estimated 25,000 acre-feet of water annually, more than a quarter of the water stored in Lucky Peak Reservoir, Fehrman said. The company has several options for buying it and is studying strategies to get the water at the least cost and without hurting existing water users, he said.

Walt Bosse, a retired cement plant supervisor, worries about what environmental safeguards the company will take. "If they have a problem, they're going to flood the reactor," Bosse said. "What are they going to do with that water?"

Fehrman said many of the details will come later when the company decides what reactor it will use and after nearly a year of studies planned even before the company decides to move forward. Then the project will face a four-year review by the Nuclear Regulatory Commission, which will look closely at environmental hazards. If MidAmerican decides to go forward next year, it could be another 12 years before electricity is produced.

Not everyone was negative. Duane Youngberg, who owns a heating and cooling business in Payette, said he was excited about the economic potential the plant presents. And he wasn't worried about the plant's safety.

Radiation, said Twin Falls anti-nuclear activist Peter Rickards. He urged residents to push their lawmakers to pass laws to stop the plant and was applauded by part of the crowd when he said, "Let's not let it into Idaho."

Residents near the proposed site expressed concerns about traffic and land values. Nicole and Phil Hyatt lost a buyer for their home when the news of the plant became public Dec. 4.

One Payette native had waited for years for this day to arrive. Former Sen. James McClure was one of nuclear

power's strongest advocates as chairman of the Senate Energy and Natural Resource Committee. Now he is a consultant for MidAmerican. The current assessed valuation of Payette County is just over $1 billion, he told the crowd. A nuclear plant could add $8 billion to $10 billion in assessed value, which could mean great economic benefits. "It's a very, very good deal for Payette County," McClure said.

Tim Kennedy of New Plymouth was not convinced. The plant site is one of his favorite hunting spots. He said he worried about living downwind. "You'll see me on horseback with a protest sign wherever you go," he said to a round of applause. But a few voices chimed in saying, "Speak for yourself."

How Risky is the New Era of Nuclear Power?

Paul Davidson reports in *USA Today* (12/11/07); "Nearly two years ago, the Nuclear Regulatory Commission gave the operator of the Indian Point nuclear plant a year to add backup power supplies to the plant's emergency warning sirens. Entergy paid a $130,000 government fine in April — but still hasn't done the work at the plant 24 miles north of New York City.

At the Peach Bottom nuclear plant south of Harrisburg, Pa., security guards often took 15-minute "power naps," according to a letter from a former security manager to the NRC last March. The NRC began investigating after CBS News aired video of the dozing guards in early September.

Neither of the incidents amounted to an "immediate" safety risk, the NRC says. But they — and hundreds of other seemingly minor episodes at nuclear power plants in recent years — are drawing increased scrutiny as the USA prepares to launch a new generation of nuclear reactors.

Since the 1979 Three Mile Island accident, there have been 18 "significant precursors," or equipment failures, at U.S. nuclear plants that sharply raise the chance of a reactor core meltdown, says the Nuclear Regulatory Commission. There have been four since 1990. Since 1988, there have been 337 precursors that increase the risk of a meltdown more modestly. Problems that increase the risk of a core meltdown within a year jumped from an average 1 in 17,000 to greater than 1 in 1,000. Power companies are beginning to file applications to build up to 32 nuclear plants over the next 20 years, the first since the 1979 accident at the Three Mile Island plant in Pennsylvania halted plans for new reactors and led to sweeping changes in safety regulations. It's partly a reflection of how, amid concerns about climate change, communities have become more open to nuclear power as a cleaner alternative to pollution-belching coal-fired plants.

An Ohio nuclear plant is being allowed to reopen after a two-year shutdown over safety issues stemming from an acid leak that ate through a protective steel reactor cap, the Nuclear Regulatory Commission announced.

Nuclear plant told to tighten safety measures

The government ordered an Ohio utility company Thursday to take stricter safety measures at its Davis-Besse nuclear power plant, which has been shut down for the past two years. FirstEnergy, the plant's owner and operator, says it will
comply with the order and hopes to soon restart the reactor.

Critics and advocates of nuclear power generally agree that improvements in equipment and employee training have helped to make nuclear plants safer since the partial meltdown of a reactor at Three Mile Island.

Watchdog groups, however, say that unless nuclear safety and security improve, the USA's expansion of its nuclear power industry — which now involves 104 reactors that supply about 20% of the nation's electricity — could pose risks to nearby communities.

"Serious safety problems" plague U.S. nuclear plants because the NRC isn't adequately enforcing its standards and has cut back on inspections, according to a report released Tuesday by the Union of Concerned Scientists (UCS), a nuclear safety watchdog group.

The report also says that even though security at nuclear plants was increased after the Sept. 11 terrorist attacks, reactors still aren't sufficiently protected against terrorist threats such as hijacked jets, and new reactors aren't being designed to be significantly safer than existing ones. Increasing the number of reactors without creating "unacceptably high safety and security risks" could be difficult, the report concludes.

There has been no meltdown of a reactor in the USA since the incident at Three Mile Island, which led to no deaths or identifiable injuries from radiation exposure but

resulted in the release of some radiation from the plant.

However, since 1979, U.S. nuclear plants have had to shut down 46 times for a year or more, in most cases to fix equipment problems that accumulated over time and that regulators should have ordered repaired earlier, according to the UCS, which compiled the data from the NRC and other research. And the number of equipment failings that increase the risk of an accident is up since 2001, compared with the previous five-year period, NRC figures show.

The UCS says incidents such as occasional failures of pumps that cool the nuclear reactor core in an emergency eventually could prove disastrous if they coincide with other low-probability events, such as coolant leakages from the core. "The track record on existing reactors leaves much to be desired, and until you fix that problem, it's going to carry over to new reactors," says David Lochbaum, director of UCS' nuclear safety project.

The NRC says that in the episode involving the sleeping guards at Peach Bottom, it didn't act sooner because it couldn't substantiate the claims with Exelon the plant's operator. At Indian Point, Entergy says its plan to install backup power for the sirens has been delayed by technical hurdles and the need to get permits from dozens of towns, counties and state offices.

"A Reliable Fleet of Reactors" ??

Nuclear reactors generate heat that produces electricity when uranium atoms split. In the reactor core, uranium is kept in water to prevent it from overheating, melting down and releasing radiation. A meltdown by itself typically would not be disastrous because the reactor sits in a concrete containment structure to prevent radiation from escaping.

However, a meltdown could cause a buildup of temperature and pressure that ruptures the containment building. A massive release of radioactive gas into a surrounding community could destroy or damage human cells and cause death or cancer. That's what happened at the Chernobyl nuclear plant in the former Soviet Union in 1986. The world's worst nuclear plant disaster involved a meltdown and an explosion that killed 56 people. At least an additional 4,000 are projected to die from cancer because of exposure to radiation.

In the accident at Three Mile Island seven years earlier, water cooling the core in one of the plant's two reactors leaked through a partly open valve. The valve was closed enough to prevent an alarm from sounding. Half the core melted, but the containment building stopped all but a small amount of radiation from seeping into the environment.

The incident led the U.S. government to require upgrades in piping, valves and other equipment at all nuclear plants, and NRC inspections were increased. Union of Concerned Scientists UCS' Lochbaum counters that the 46 reactor shutdowns during the past three decades indicate there has been a buildup of multiple problems that regulators should have caught sooner. In 1995, for example, Public Service Electric & Gas had to close its Salem plant in New Jersey for three years until 43 equipment problems were fixed, including a broken fan that kept safety gear from overheating.

A Government Accountability Office report said the NRC knew about 38 of the flaws — in two cases for more than six years — and that its "lack of more aggressive action" compounded the plant's problems.

Plants inspected less frequently

In the most serious episode involving a U.S. nuclear plant since Three Mile Island, the Davis-Besse plant in Ohio was shut down from 2002 to 2004 after the NRC failed to spot what it acknowledges were early signs of trouble.

An acid leak through the reactor vessel's lid left a quarter-inch-thick steel veneer, according to NRC reports. Because emergency pumps also were faulty, core-cooling water leaking through the ruptured lid could have led to a meltdown. The NRC identified the leak in fall 2001 but let the plant keep operating. An NRC Inspector General's report in 2002 found the agency's willingness to keep the plant running "was driven in large part by a desire to lessen the financial impact on (plant operator FirstEnergy) that would result from an early shutdown."

In a statement last month, the NRC blamed FirstEnergy for providing "inaccurate and misleading information," including its "explanation of the leak." FirstEnergy says it has made extensive staffing and procedural changes to prevent such situations in the future. Stuart Richards, deputy director of the NRC's inspection unit, says such shutdowns show "that if the NRC feels plants shouldn't be operating, we'll take appropriate actions."

NRC credits a more precise oversight system, launched in 2000, that increases inspections at poorly performing

plants. However, one key safety measure — of problems that the NRC says increase the annual risk of a meltdown from an average of 1 in 17,000 to up to 1 in 1,000 — has doubled the past six years to an average of 18 a year. There have been 337 such "precursors" since 1988, including failures of pumps that supply water to reactors in a crisis, the NRC says.

Half the problems stemmed from the loss of power — needed to run critical cooling systems — and most of those occurred during the massive electricity blackout that struck the northeastern USA on Aug. 14, 2003. The other half involved cracks in nozzles that, in some cases, let water seep from a reactor.

Lochbaum says that such explanations by the NRC do not ease his concerns about plants' safety. He blames the increasing "precursors" on scaled-back inspections by the NRC and plant owners. From 1993 to 2000, routine NRC inspection hours declined by 20%, partly because of budget constraints, the NRC acknowledges.

Questions about standards

In its report, the Union of Concerned Scientists (UCS) says the NRC has not consistently enforced many of its safety regulations for nuclear plants. The group says that since 1981, for example, the NRC has issued about 1,000 exemptions to plants that failed to meet fire-protection rules that went into effect after a 1975 blaze at the Browns Ferry plant in Alabama.

The NRC says the waivers were granted to older plants that couldn't make certain structural changes such as separating primary and backup safety gear. Waivers permit alternative fire-prevention methods, such as sprinklers or smoke alarms. NRC Commissioner Gregory Jaczko says the agency should require plants to take more elaborate steps, such as installing fire-resistant power cables as backups to standard sets.

In February 2000, a steam generator tube at the Indian Point plant ruptured, causing a small radiation leak outside the plant. Workers had spotted corrosion in the tube in 1997, but Con Edison, the plant's operator, persuaded the NRC to delay a follow-up inspection slated for June 1999. An NRC engineer was skeptical of the request, but agency policy discouraged her from asking follow-up questions, an NRC Inspector General's report found later. The tube broke before the next scheduled inspection in 2000. The NRC says the inspection was delayed because the plant had been shut down for 10 months before the request, leaving little time for the tube to degrade further.

The UCS' Lochbaum largely blames enforcement lapses on an NRC culture he says discourages workers from raising safety issues out of fear of retaliation. A 2002 Inspector General's survey said only 53% of NRC employees "feel it's safe to speak up" at the agency.

Hanford Test Reactor Fuel Being Sent to Idaho

The *Associated Press, Tri-City Herald* reports 1/7/08 " Nuclear fuel from the Fast Flux Test Facility at the Hanford nuclear reservation is being shipped to Idaho to have the uranium extracted for possible reuse by commercial nuclear power plants.

That's part of the work to shut down the research reactor at minimum cost, according to the U.S. Department of Energy. Despite years of efforts by FFTF supporters, the federal government has been unable to find a cost-effective use for the research reactor.

"The sodium-bonded fuel is the last remaining fuel at FFTF," said Al Farabee, the Department of Energy's FFTF federal project director. The sodium-bonded fuel was a later design for use in the reactor, which operated from 1982 to 1992. Melted sodium was poured around the fuel pellets inside each fuel pin to conduct heat from plutonium and uranium. The sodium bonded the pellet to the cladding.

The reactor also had 375 fuel assemblies without sodium bonding. They have already been moved out of FFTF into storage on the sprawling Hanford site. Unused and irradiated sodium-bonded fuel is being shipped to Idaho in steel and lead-shielded casks that are sealed airtight.

At the Idaho National Laboratory, the fuel will be stored inside the Hot Fuel Examination Facility until it is processed, beginning in fiscal year 2009, according to the Department of Energy. Processing is expected to take two years.

Uranium will be extracted from the fuel and cast into ingots, and will be stored until a customer is found, the DOE said. At FFTF, all sodium used in the reactor's cooling systems has been removed and is being stored onsite. The sodium, which includes radioactive contamination, is

expected to be used as a caustic additive to help turn radioactive waste now stored in underground tanks at Hanford into a stable glass form."

The Hot Fuel Examination Facility is located at the Idaho National Laboratory Materials Fuel Complex formerly called Argonne-West that uses electro-metallurgical Spent Nuclear Fuel reprocessing also associated with the production of weapons grade fissile material (Pu & HEU).

This process is in violation of the Non-Proliferation Treaty that the Bush Administration now is denying.

Radiation Sickened 36,500 and Killed at Least 4,000 of Those Who Built Bombs, Mined Uranium, Breathed Test Fallout

Ann Imse reports in the *Rocky Mt. News* 8/31.07 that; "The U.S. nuclear weapons program has sickened 36,500 Americans and killed more than 4,000, the *Rocky Mountain News* has determined from government figures.

Those numbers reflect only people who have been approved for government compensation. They include people who mined uranium, built bombs and breathed dust from bomb tests.

Many of the bomb-builders, such as those at the Rocky Flats plant near Denver, have never applied for compensation or were rejected because they could not prove their work caused their illnesses. Congressional hearings are in the works to review allegations of unfairness and delays in the program for weapons workers.

The *Rocky* calculation appears to be the first to compile the government's records on the human cost of manufacturing 70,000 atomic bombs since 1945. It is based on compensation figures from four federal programs run by the Departments of Labor, Justice and Veterans Affairs. Many people have been paid only recently.

More than 15,000 of the 36,500 are workers who made atomic weapons. They were exposed to radiation and toxic chemicals that typically took years to trigger cancer or lung disease.

Others were civilians living near the Nevada test site during above-ground nuclear tests; soldiers and workers at test sites; and uranium miners and millers who breathed in radioactive dust until 1972 when the government stopped buying uranium.

At least 4,000 of the 36,500 died. This number reflects cases where survivors could be paid only if their relative died of the covered illness.

Many more of the 36,500 likely also have died of the deadly diseases triggered by their work. But in most of the compensation programs, the government does not track deaths or cause of death, so the true number who gave their lives to support the nuclear bomb program probably will never be known.

Some were contaminated through accident or ignorance. But government documents have revealed that officials at times risked the health of civilians, soldiers and workers because they believed national security demanded it. "

References

1. KYNF v. DOE, Idaho District Court, Case 4:07-cv-00036-BLW, Doc. No. 69, Errata to December 3, 2007 Declaration of Robert D. Boston, DKT. No. 64.

2. R. D. Boston Declaration in KYNF v. DOE , Administrative Record Doc. No. 64, 12/3/07, para. 25.

3. KYNF v. DOE, Civ. No. 07-36-E-BLW, Reply Memorandum of Points and Authorities in Further Support of Plaintiffs' Motion for Summary Judgment, 9/14/07. Also see EDI Newsletter Nov./Dec. 2007; and ATR Risk Report available at; http://environmental-defense-institute.org/

4. DOE/ID Facility Certification Report No. 29, "This certification is for the operation of the Advanced Test Reactor (ATR) to be implemented during Cycle 134B-2 and continuing with subsequent cycles under Technical Safety Requirement (TSR) 186, Revision 14, April 7, 2005. Also cited in Plaintiffs original NEPA Complaint, 1/10/07.

5. Facility Certification Report No. 29, for ATR, 4/7/05, Page 26. FOIA Doc. # 50.

6. Document ID: SAR-153, Revision ID:16, Effective date 4/7/05, page ES-9. Safety Analysis Report AR-02710 and Administrative Record-026753.

7. KYNF v. DOE, Civ. No. 07-36-E-BLW, Administrative Record No. 006517. "Source Term" is defined by DOE as "The quantity of radioactive material released by an accident or operation that causes exposure after transmission or deposition. Specifically, it is that fraction of respirable material at risk that is released to the atmosphere from a specific location. The source term defines the initial condition for subsequent dispersion and consequence evaluations." DOE/EIS-0287D, page D-33.

8. KYNF v. DOE, Civ. No. 07-36-E-BLW, Administrative Record No. 006517.

9. DOE/EIS-0287 pg. 4-30; DOE/DEIS-0373D, pg 3-26.

10. D. McCoy, C. Broscious, "Unacceptable Risk at the INL; The Case for ATR Closure, Revised 1/08.

11. See EDI website http://environmental-defense-institute.org

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[9] DOE/EIS-0287 pg. 4-30; DOE/DEIS-0373D, pg 3-26.

[10] D. McCoy, C. Broscious, "Unacceptable Risk at the INL the Case for ATR Closure, Revised 1/08.

[11] *See EDI website http://environmental-defense-institute.org*