

# **Environmental Defense Institute**

## **News on Environmental Health and Safety Issues**

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### **'Smoking Gun' Document shows DOE Fears 'Public Response' if Reactor Undergoes Environmental Review**

#### ***KYNF Seeks Injunction Barring Operation of Reactor at INL***

Keep Yellowstone Nuclear Free (KYNF) has discovered internal U.S. Department of Energy (DOE) documents which reveal that DOE has not performed an environmental review, as required by law, for its plan to extend the operating life of the Advanced Test Reactor (ATR) at its Idaho National Laboratory (INL) because it fears the "public response" that would result if the safety shortcomings of the ATR were exposed to such a public process.

In January, 2007, KYNF, Idaho-based Environmental Defense Institute, Mary Woollen, John Peavey and Debra Stansell sued DOE in Federal District Court, charging that DOE has violated the National Environmental Policy Act (NEPA) by failing to perform an Environmental Impact Statement (EIS) for their plan to extend the operating life of the ATR by 35 years. The ATR is a nuclear reactor designed in the 1950s which has been operating at INL since 1967. The ATR is seismically sub-standard, and suffers from failing safety systems and a maintenance backlog of thousands of man-hours. The ATR has nearly reached its designed lifespan, yet DOE is seeking to extend its operating life by 35 years through a \$200 million "Life Extension Program" (LEP). NEPA requires that DOE conduct an EIS to determine what the environmental consequences would be of extending the life of the ATR through the Life Extension Program, as well as a thorough discussion of possible alternatives to the LEP.

In response to a KYNF inquiry as to what, if any, NEPA analysis had been performed for the ATR's Life Extension Program, the DOE Idaho

Operations Office convened a meeting of its 'NEPA Planning Board' on December 11, 2006. The following entry appears in the minutes of that meeting under the heading "ATR Life Extension Program":

**"Addressed problems with ATR and how to go forward. Suggestions were made to do analysis-EIS. NE does not want it due to public response."**

("NE" refers to DOE's Office of Nuclear Energy, headquartered in Washington, D.C.)

"This is the smoking gun," said KYNF attorney Mark Sullivan. The meeting minutes were two pages from more than 30,000 pages of documents relating to the LEP that DOE unleashed on KYNF in response to its lawsuit. "It appears from this document that although some DOE Idaho personnel recognized that an EIS is required, DOE management refused to perform an environmental review of this project because of likely public reaction once the safety concerns at the ATR are disclosed," he said. "This is exactly the reason an EIS is required," said Sullivan. "It will bring the problems at the ATR into the light of day."

"The public has a right to know the condition of the ATR and the environmental consequences that could result from DOE's plan to extend its life for decades to come," said KYNF Executive Director Mary Woollen. "DOE is afraid of what will happen if they lift the veil of secrecy surrounding this ancient and dangerous reactor. Such a blatant attempt to keep the public in the dark is outrageous and illegal," she said.

On June 22, 2007, KYNF filed a motion for summary judgment in Federal court, seeking a court order forcing DOE to conduct an EIS for the ATR's Life Extension Program, as well as the immediate cessation of operations at the ATR until the EIS is performed.

*For more information see  
[www.yellowstonenuclearfree.com](http://www.yellowstonenuclearfree.com)*

# The Court Should Issue an Injunction Barring Continued Operation of the ATR

*Lead attorney Mark Sullivan filed 6/22/07 a Motion for Summary Judgment in US District Court, on behalf of a coalition of organizations and individuals. Below are excerpts from that court filing.*

For the reasons set forth in KYNF v. DOE,<sup>1</sup> the DOE should be ordered to immediately begin preparation of an Environmental Impact Statement (EIS) on the Life Extension Program (LEP) of the Advanced Test Reactor (ATR). Furthermore, because the ATR poses a serious threat to the environmental health and safety of a wide area, and its continued operation will generate waste for which there is no identified path for disposal, the DOE should be permanently enjoined from operating the facility. Until such time as that EIS has been finalized, a record of decision published by the DOE determining whether or not to proceed with ATR life extension, and the necessary safety upgrades contemplated by the LEP carried out, the ATR should be shut down.

To obtain injunctive relief in the federal courts, once success on the merits has been obtained, the "movant" must show "irreparable injury and inadequacy of legal remedies."<sup>2</sup> "Environmental injury, by its nature, can seldom be adequately remedied by money damages and is often permanent or at least of long duration, i.e., irreparable. If such injury is sufficiently likely, therefore, the balance of harms will usually favor the issuance of an injunction to protect the environment."<sup>3</sup>

In National Environmental Policy Act (NEPA) cases, courts have found that irreparable harm is inherent where, as here, agency activity proceeds absent statutorily required environmental analysis:

The risk of irreparable harm is impossible to assess, because the studies that would quantify that harm are incomplete. Legal remedies are inadequate, however, because permitting construction to proceed before the NEPA studies have been completed would defeat the purpose of undertaking the studies, whose purpose is to make the agency aware of relevant environmental considerations before acting.<sup>4</sup>

## The ATR Poses Grave Risks to Eastern Idaho and Western Wyoming

Extending the operating life of the ATR for decades into the future, rather than building a new reactor, poses a major threat to public safety. The ATR has no containment structure that would help 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 ("LOCA") would release a "source term" of 175,000,000 curies of radiation.<sup>5</sup> 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 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.<sup>6</sup> AR 006517. However, as recent safety assessments have shown, the 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 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

<sup>1</sup> See; Memorandum In Support of Motion for Summary Judgment, and Statement of Undisputed Material Facts; KYNF v. DOE Civ. No.07-36-E-BLW.

<sup>2</sup> Amoco Prod. Co. v. Village of Gambell, 480 U.S. 531, 542 (1987); Sierra Club v. Penfold, 857 F.2d 1307, 1318 (9<sup>th</sup> Cir. 1998)

<sup>3</sup> Amoco Prod. Co., 480 U.S. at 545.

<sup>4</sup> Sierra Club v. Hodel, 848 F.2d 1068, 1097 (10th Cir. 1988), overruled on other grounds

<sup>5</sup> Administrative Record 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, pg D-33

<sup>6</sup> Administrative Record 006517.

without an approved plan for their safe disposal. Creating more such 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 sufficiently likely that an injunction is warranted.

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

*See EDI website <http://environmental-defense-institute.org> for more information.*

## Finally, Some Signs of Hope for Downwinders

**D**on Popkey reports 6/3/07 in Boise, ID The *Statesman*, "Three years ago this summer, I first wrote about the cruel injustice dealt to Idaho downwinders - unrecognized victims of U.S. nuclear weapons tests in Nevada.

I'm pleased to report on signs our government is moving to apologize and compensate Idahoans for the ill wind that drifted north from 1951 to 1962.

Sen. Mike Crapo, R-Idaho, was first to say the 1990 Radiation Exposure Compensation Act should include Idaho. Under RECA, the feds have made \$555 million in "compassionate" payments to cancer sufferers in 21 downwinder counties in Utah, Nevada and Arizona. Idaho was hit as hard or harder, but Idahoans can't get \$50,000 payments or free health screenings.

Crapo says he'll introduce a new bill later this month to add Idaho. Details are scant, but he's been working with Sen. Larry Craig, R-Idaho, and with senators from Utah, Arizona and Montana on a follow-up to his 2005 bill that got nowhere. A key development is that RECA's author, Sen. Orrin Hatch, R-Utah, says he supports a fresh look at expanding the law.

Finally, Crapo has new allies in the House, where nothing happened in the last Congress. Reps. Mike Simpson, R-Idaho, and Jim Matheson, D-Utah, have asked the House Judiciary Committee to hold a hearing on amending RECA to reflect findings in a 2005 study by the National Academies of Science.

"They want recognition something was done that wasn't right," Simpson said of Idaho's downwinders. "Being able to get that in front of the public — and that means congressional hearings — is important."

J. Truman, founder of the group Downwinders,

used 13 exclamation points when he e-mailed the May 23 letter from Simpson and Matheson urging hearings. "It means it's significant, highly significant!" said Truman, of Malad. "We're finally beginning to see some action."

Downwinders have moved from the fringe to the mainstream. That became clear in February, when the Pentagon canceled "Divine Strake," a large-scale weapons test proposed for Nevada. "The pile of dead from the last time has a message that isn't going away," Truman said. "The downwinders said, 'You're not going to make another generation of us.'"

Rep. Matheson led opposition to Divine Strake. His father, Utah Gov. Scott Matheson, died in 1990 of multiple myeloma, compensable under RECA. The young Matheson watched bomb tests from dad's knee. "You can't get any more seriously committed than the Matheson family," Truman said. "He's not joking."

Simpson had the sense to cross state and partisan lines. "It's a good fit," Matheson told me. The National Academies said RECA is outdated because it uses geography rather than assessment of individual risk to determine eligibility. It's time to allow those injured across the nation a chance to make a claim, Matheson said.

"We know more now than when RECA was last addressed by Congress," Matheson said. "Let's have a hearing. Let's bring in some experts. And let's talk about what really happened." For some, any expansion will come too late. The most prominent of Idaho's downwinders, Shari Garmon of Emmett, died in 2005 of breast cancer. At her daughter's wedding in 2006, the wedding party wore shades of pink in her memory. Richard Rynearson, also of Emmett, was another eloquent downwinder. He and Garmon appeared in The New York Times' coverage of the issue in 2004. He's gone, too.

For this column, I phoned a dozen people I spoke with when the story broke. Christine Welch Galvan, the subject of my first column because of her exposure to irradiated milk as a kid in Emmett, is preparing for a stem-cell transplant. Her sister, Barbara DeSalvo, has seen her breast cancer spread to her brain, but reports success with an experimental drug.

The toughest call was to Keith Thomas, a retired rancher in Bruneau who had three kids, two with cancer. "Well," he said, "Terry died." His middle child was born July 4, 1958, two months before me. Never a smoker, chewer or drinker, Terry died Jan. 4, 2006, after treatment that included removal of his jaw. "He never complained or nothing," Thomas said. "He just suffered. It just kept getting worse and worse. It was a terrible thing to sit right beside him."

For all the grief and loss, there are survivors like Gary Riggs and Grace Jenkins, both of Eagle. Back in '04, I accompanied Riggs to Gov. Dirk Kempthorne's office, where Riggs demanded attention to "the tumor I'm packing

in my belly." Riggs, 62, is now cancer-free. With nutrition, conventional chemotherapy and experimental drugs, his 8-by-11-inch, 20-pound lump is gone. "I'm still fighting and scratching. It takes a long time for the tables to turn, but they're turning. And the good thing is our kids and grandkids won't have to deal with this."

Jenkins, 59, has been free of breast cancer almost five years. Weekdays, she babysits her grandchild, Chloe. Jenkins came third in the one-mile fun run at the Susan G. Komen Race for the Cure last month. "How about that — an old broad like me?" There's no room in Jenkins' life for negative energy. "I used to hear people say cancer was a gift, and I'd think, Oh yeah? But I'm beginning to feel that way. It certainly can be a gift — if it doesn't kill you!" That resilience brings strength and purpose to downwinder advocates in Congress. May they soon succeed!"

## Downwinders May Have a New Worry: Genetic Damage

**J**oe Bauman reports in the *Deseret Morning News* 6/10/07, "A study of New Zealand Navy veterans who say they were exposed to atomic fallout found a striking rate of genetic damage, the kind that can cause cancer, says R.E. "Al" Rowland, a professor who headed the research team.

Utahans' and others who lived downwind from the Nevada Test Site during open-air nuclear blasts of the 1950s and early '60s should have genetic testing, says Rowland, senior lecturer in genetics and plant biology at Massey University in Auckland.

"For downwinders, it's never over," said Mary Dickson, a Salt Lake City anti-nuclear activist who is a member of the group Downwinders United. "We have a lifetime of medical follow-up and the expenses. Now we have to worry about what radiation damage does to future generations."

In a telephone interview, Massey said that as far as official government records are concerned, "We have no idea whether (the navy veterans) were even exposed to anything" during the open-air tests in the central Pacific Ocean, which were dubbed Operation Grapple.

Radiation detection badges worn during the 1957-58 test series are no longer available. Also, Massey said he believes officials maintain the men were not exposed. But medical evidence apparently indicates otherwise. The New Zealand frigates Pukaki and Rotoiti were stationed between 20 and 150 nautical miles upwind from the detonations, which took place between Christmas Island and Malden Island in the central Pacific. Altogether, nine bombs were exploded in the experiments, carried out by the British government. "After each explosion they turned around and, from what I was told, they sailed through ground zero," he said. "There's no indication how much radiation

they received."

Veterans later expressed concern about radiation exposure and complained of a variety of ailments. In 1999, the government of New Zealand contributed a research grant of \$100,000 in that country's currency to the New Zealand Nuclear Test Veterans Association. Other groups contributed a like amount, and Massey University used the money to carry out the research. The report was released May 14.

Researchers were careful to use veterans and a control group made of volunteers who matched the veterans in many aspects. One difference is that the former navy men tended to smoke more in their youth. However, the report says other studies found no link between smoking and this type of genetic problem, and a subdivision between smokers and nonsmokers found no significant causation.

Three genetic tests were carried out. Two were to check for the ability of the body to repair genetic damage, and in these tests there was no difference between the veterans and the control group. But the third test - called the "mFISH procedure," which attempts to spot actual genetic damage — had far worse results for the veterans.

The rate of chromosomal translocations, where bits of genetic material become detached and reattached to the wrong places, was 10 translocations in 1,000 cells for the control group. "We found in the veterans, on average, 29 per 1,000 cells, and that is high," Rowland said.

In the report, the veterans were reported to have "an extraordinarily high number of total stable translocations...." "I found evidence of genetic damage, that's all I can report." After accounting for every other possible cause for the difference, he said, "We submit it's radiation exposure."

Translocations can prompt cancer. Under certain conditions, a cell affected by translocations can "give constant, continuous signals: divide, divide, divide," he said. "And that's a cancer cell."

DNA repair mechanisms were still working well for the veterans. That led the researchers to believe "there must still be a lot of, we suspect, alpha (radioactive) particles in their systems today" that are still causing damage. He said DNA repairs can't keep pace with the damage because there are so many translocations.

Massey University's online news — [masseynews.massey.ac.nz](http://masseynews.massey.ac.nz) — quotes a veterans group chairman as saying more than 400 of the 551 sailors who took part in Operation Grapple have died. Asked if such a study would be worthwhile for Utahans' who lived downwind from the Nevada Test Site, Rowland said, "Indeed it is.... Exactly it is."

J. Truman, a former southern Utahan who lives in Malad, Idaho, and heads Downwinders United, called for better answers about harm from atomic testing. "There are

enough of us downwinders, already," he said. Truman worried that there could be "many more we don't fully know about, among our children and grandchildren," harmed through genetic damage.

## **Government Critics Question Validity of Results of Independent Radiation Monitoring**

Nick Clunn reports in Trenton, NJ *Asbury Park Press* 6/13/07 "With support from an anti-nuclear nun and \$90,000 in grants, the epidemiologist behind the Tooth Fairy Project announced Tuesday the start of a campaign meant to drum up support for his research linking childhood cancer to the Oyster Creek nuclear power plant.

Joseph J. Mangano of the Radiation and Public Health Project said he and a group of scientists intend to speak with lawmakers, hold public forums and write opinion pieces to win over skeptics and inspire others to help fund research.

Mangano's findings show a 15-year positive relationship between the level of radiation found in Shore-area baby teeth and the diagnosis of cancer in Shore-area children. The radioactive isotope measured in the donated teeth, strontium-90, is released by the Lacey plant in low, legal levels, but Mangano said his research suggests that those levels might have been high enough to cause cancer in children under 10 from Monmouth and Ocean counties.

But Mangano's critics, including the state Commission on Radiation Protection, have said that it's highly likely that fallout from worldwide nuclear-weapons tests explains the presence of the isotope in baby teeth, not commercial nuclear-power plants.

Commissioners in January 2006 released a report that questioned the validity of the research group and recommended to Gov. Corzine that the state no longer fund its work. The U.S. Nuclear Regulatory Commission, which monitors the products plants release into the air and water, has had long-standing concerns about the research group's methodology and "cherry-picking of the data," commission spokesman Neil Sheehan said. "They tend to select data that matches their conclusions," he said.

And studies published by the National Institutes of Health and the American Cancer Society have found no evidence connecting cancer cases and nuclear reactors. "There is no new information presented in his studies, just more of the same that has been debunked by regional and national health organizations such as the National Institutes of Health," said Leslie Cifelli, a spokeswoman for Oyster Creek.

Yet Mangano said he has circumstantial evidence linking Oyster Creek to the strontium-90 and is confident that further research would bear out that assertion. "We

have really opened the gates to more research on this topic," he said.

Mangano is timing his campaign with an effort by plant operator AmerGen Energy Co. to renew Oyster Creek's license for an additional 20 years. A renewal from the NRC would allow the plant to run beyond a scheduled shut-down date in April 2009.

Grants totaling \$90,000 from the Education Foundation of America and the Louis and Harold Price Foundation will help fund the outreach effort, Mangano said. Mangano may be best known for a prior study he drafted. Called the Tooth Fairy Project, it suggested a correlation between cancer deaths in counties around commercial and Department of Energy reactors - Monmouth and Ocean included levels of strontium-90.

Actor Alec Baldwin and supermodel Christie Brinkley helped publicize the study when the research group came to Toms River to announce its results in May 2000. During a press conference at the Statehouse on Tuesday, Mangano was supported by Rosalie Bertell, a 78-year-old nun with a doctoral degree in environmental epidemiology. Bertell in 1984 founded the International Institute of Concern for Public Health, which informs the public of health hazards posed by industry and the government.

On Tuesday, she said that limits for allowable releases of radiation are based on risk-benefit analyses. However, from a health basis, the standard for the release of low-level radiation should be zero, Bertell said.

*For more information on the Radiation and Public Health Project go to: <http://www.radiation.org>*

## **Comments on the Global Nuclear Energy Partnership (GNEP)**

by David McCoy

The Department of Energy (DOE) is grossly out of touch with the public's desire both in the United States and internationally for alternative and sustainable safe energy policies that can provide greater peace and prosperity in the world. Instead the DOE offers a program that fails to consider significant liabilities consequences of environmental, political and financial obstacles, proliferation of nuclear materials for terrorists and release of enormous quantities of radioactive poisons to the world environment. President Carter halted reprocessing in the US by executive order after India was able to build a nuclear weapon in 1974 from reprocessing "peaceful" spent fuel. North Korea has embarked on reprocessing spent fuel for nuclear weapons and recently tested a device.

Plutonium was the Greek god of the underworld. Plutonium is a profoundly dangerous carcinogen. Other

deadly radioactive wastes that are released from reprocessing such as Americium-241, Iodine-129, Carbon-14, Technetium-99, Cobalt-60, Krypton-85, Strontium-90, Cesium-134, 137 have no boundaries for global travel by air and water for poisoning the planet and humanity. The toxicity of these radionuclides is measured from hundreds up to millions of years of lethality. Resuming reprocessing in the United States and other countries will increase the volumes and dispersal of deadly radioactive poisons.

Reprocessing spent nuclear fuel for plutonium nuclear reactor fuel represents a Death Energy Policy. This Death Energy Policy is being pushed on the public by the Department of Energy fanning unnecessary fears about the future unavailability of fossil fuels. Congress and the Department of Energy have the capability to just as well implement a "Manhattan Project" for development and expansion of numerous alternative energy solutions that could be funded by the plus \$500,000,000,000 that will otherwise be spent on the Death Energy Policy.

The historical record for past and current reprocessing operations shows the United States, Europe, Russia and Japan have released huge quantities of radionuclides to the environment. Sellafield (UK) and La Hague (France) released a cumulative total of 1,440 Kg (250 curies) of radioactive Iodine-129 alone. That is 32 times more than the quantities released from all atmospheric testing of nuclear weapons. La Hague and Sellafield's radioactive contamination of the ocean reaches all the way to the Arctic seas contaminating fish and shellfish such as lobster. Seaweed used for fertilizer is putting radionuclides into the food chain. Childhood leukemia shows evidence of significant increase. Iodine-129 has a half-life of 16,000,000 years and can cause thyroid cancer. An accidental release from the liquid waste inventory at Sellafield could dwarf the Chernobyl accident by 50 times just for Cesium alone. Hundreds of kilos of plutonium contaminate the Irish Sea.

Corrupt management can be problematic, such as at the Sellafield reprocessing facility where the reprocessed fuel was rejected for use:

"The crisis at British Nuclear Fuels Ltd (BNFL) began to emerge last September after the *Independent* newspaper published reports that staff at its Sellafield plant had falsified data relating to MOX fuel pellets. The Japanese, German, Swedish and Swiss governments all subsequently banned imports from Sellafield. A subsequent report by the usually tame Nuclear Installations Inspectorate was heavily critical of the Sellafield management's safety record."

"The end of the Cold War radically altered the demand for military plutonium. BNFL conceived of MOX fuel production at Sellafield as a means of unloading its stockpile of plutonium onto potentially lucrative markets worldwide. BNFL also attempted to court new markets in

waste storage and management.

"On winning office in 1997, Labor took forward plans to sell off BNFL. Now both wings of its nuclear privatization strategy are collapsing at once. Outside of Japan, nobody wants MOX fuel and Japan is presently unable to accept it. Moreover, waste storage at Sellafield is becoming too expensive. The facility is increasingly seen as a liability. Even without new environmental disasters, the facility's estimated decommissioning costs run to tens of billions of pounds. "In addition, numerous reports document the spread of radiation originating in Sellafield."

In 1957 a waste tank at the Soviet Union's Mayak reprocessing facility near Kyshtym exploded contaminating almost 6,000 square miles. The release from this explosion was the largest in a whole series of discharges of all forms of radioactive waste to the environment in this area. The releases of radioactive poisons from Sellafield and La Hague on an annual basis equal the accidental release from the Soviet Union accident. Russian operations for reprocessing and reactor operations such as Chernobyl have been notoriously sloppy.

On September 30, 1999, the Tokai nuclear fuel plant in Japan had a criticality accident in converting uranium hexafluoride to uranium dioxide for nuclear fuel. The accident killed two workers and contaminated members of the public. The Tokai, Japan facility will be dismantled and there are \$136,000,000 for 7,000 damage claims from citizens. That does not count the costs for loss of the plant.

The Department of Energy reprocessing activities at Hanford WA, Idaho National Laboratory, and Savannah River SC sites have been notable for their normal operating and accidental releases of enormous quantities of radionuclides into air, water and soil. West Valley NY was a commercial reprocessing failure and only reprocessed one year's worth of reactor fuel and left a contaminated site with 600,000 gallons of radioactive waste.

In 1964, criticality was reached at a commercial nuclear fuel processing plant near Charlestown, Rhode Island. That plant is no longer in operation. A worker died after being exposed to 1,000 times the lethal dose of radiation when he accidentally set off the reaction by pouring liquid uranium into a tank." (San Jose Mercury News, Oct. 1, 1999).

The DOE is an abysmal failure at managing spent fuel and reprocessing wastes just for a time span of less than 70 years. There is no reason to believe that the DOE radioactive waste management performance will increase by any substantial margin. There is no magic technology that DOE possesses to prevent massive environmental contamination from reprocessing. All DOE can point to at this point in time is failed policies, failed or delayed cleanup, environmental contamination and vague promises

of new technologies that do not exist and for which the costs are unknown.

Even if the DOE could somehow have zero releases and accidents from US reprocessing, the potential would greatly increase for accidents and releases from a growing international reprocessing industry. GNEP enhances the prospects for increased worldwide accidents.

A single major accident at a US reprocessing plant would probably result in the facility being closed as occurred at Three Mile Island after an accident. The result of a reprocessing accident in the US would also mean a huge loss of financial development capital in addition to any casualties or injuries. No nuclear plant has been built in the US since the TMI accident. The DOE greatly underestimates the public's fear and panic in the face of nuclear accidents.

Citizen Action opposes the GNEP plans for reprocessing of spent fuel for numerous reasons:

- Creation of massive volumes of nuclear waste
- Radioactive waste contamination of Earth's air, soil and water for millions of years
- The long-term cumulative effects of environmental contamination that will result from ordinary operational releases
- The long-term damage to planetary life that has already been caused and will occur in the future just from the existing reprocessing operations  
Excessive costs for electric consumers and taxpayers for the federal subsidies that will be committed in the designing, building, operating and environmental consequences of reprocessing facilities. Studies by Harvard and MIT and by the French and Japanese government indicate much higher costs for reprocessing than spent fuel storage.
- The failure to consider the dose effects of reprocessing operations on the world population as a whole
- The potential catastrophic environmental effects from accidental releases whether due to human error, equipment malfunction, explosions or terrorist activities
- The long storage times for high and low level radioactive wastes and the inability of human institutions to maintain political, economic and/or environmental protection for hundreds to thousands of years
- The demonstrated failure of all DOE reprocessing, and foreign reprocessing facilities to prevent the widespread contamination of air, soil and water through their operations
- The encouragement of research and development of reprocessing technology in non-weapon states and the reduction of costs and acceleration of time

to convert from civilian use of spent fuel to nuclear weapons production

- The undermining and violation of the Nuclear Nonproliferation Treaty
- Increased availability of commercial plutonium stocks for nuclear weapons and terrorists
- The growth of an international crime network that will traffic in nuclear weapons grade materials and nuclear wastes
- Larger number of nuclear waste repositories that will be necessary and the political delays and costs for siting the repositories
- The uncertainty regarding the actual reprocessing technologies to be used
- The availability of cheaper, safer, more viable, and proliferation free options for managing spent fuel, including but not limited to, dry storage
- The placement of reprocessing facilities in the United States will be in low-income and ethnic communities least able to withstand the environmental effects and provide adequate health care to residents or emergency provisions.
- Reprocessing may lead to nuclear war
- Reprocessing may lead to resumed nuclear testing by nations that obtain plutonium from reprocessing operations and build nuclear weapons
- The availability of non-nuclear technologies for world energy needs and the need for economic resources to be devoted to those alternative technologies
- Reprocessing and the revival of nuclear economies that bring the risk of accidents and nuclear war will create a worldwide climate of destabilizing tension between nations and perpetual fear for the annihilation of entire populations, panic during accidents, relocations of peoples where catastrophic accidents may occur and deterioration of the health and genetic viability of humans
- Insurance subsidies to reprocessing operators that will limit the public right to damages in the event of accidents (If it's so safe, why won't they insure it?)

The Final Report for the STOA Study Project on Possible Toxic Effects from the Nuclear Reprocessing Plants at Sellafield (UK) and Cap De La Hague (France), Mycle Schneider et al, and August 2001 states:

"For nuclear waste management policies, an important issue is the degree to which dry storage may be considered a viable long-term option for managing spent fuel. Dry storage in inert gas presents relatively few theoretical or practical difficulties. The IAEA has concluded after reviewing national experiences of dry storage that it is an

acceptable waste management option for the storage of spent fuel for periods of 50 to 100 years [IAEA, 1996]. By this time heat rates will have declined by about two orders of magnitude. The anticipated longevity of dry stores (50 to 100 years) is expected to exceed that of wet stores [Schneider and Mitchell, 1992a]. It is concluded that passive dry storage systems appear to be an acceptable means of managing spent nuclear fuel in the medium to long term.

"When reprocessing and dry storage are compared, large differences in costs become apparent: the former are clearly greater than the latter. US/Canadian storage systems are less expensive than European systems: US dry storage systems for PWR fuel are estimated to be 8 to 20 times less expensive per ton than reprocessing [Supko, 1995; Wisconsin PSC, 1994]. Dry stores are considerably less expensive to construct and to operate than wet stores: annual costs are about a factor of 4 lower. Dry stores also seem to have a much higher acceptability than any other spent fuel management option. Environmental and local groups in some countries have not opposed dry storage developments. This was evidenced by the 1987 agreement among major UK environmental groups, supported by over 40 regional and local groups, to a collective strategy of long-term on-site storage. During the 1992-1994 UK public inquiry into Scottish Nuclear's dry storage plans [Hickman, 1994], no environmental group made representations against the plans."

The alternatives to GNEP clearly outweigh the environmental damage and economies of GNEP.

*David B. McCoy, Executive Director, Citizen Action New Mexico, and also an EDI Board member.*

## **Depleted Uranium - A Way Out? Compensation to Those Affected by This Poisoned Legacy**

**F**elicity Arbuthnot reports 6/3/07 in Global Research, "The term "Gulf War Syndrome" is now known world-wide – but - after the 1991 Iraq war, as formerly A1 fit soldiers fell ill with debilitating symptoms, in their thousands, the cause was, for two years, a "mystery". It was in 1993, when a group of twenty-four affected soldiers approached Professor Asav Durakovic, one of the world's leading experts in the effects of radiation, that a cause came to light. They had many times the "safe" level of chemically toxic and radioactive depleted uranium (DU) in their bodies. Durakovic, although a senior officer in the US army during the first Gulf war, had been unaware that the weapons used had contained depleted uranium. "I was horrified", he said: "I was a soldier, but above all I am a

doctor." By 1997, it was estimated that ninety thousand US veterans were suffering from Gulf War Syndrome.

Durakovic, who is also medical consultant for the Children of Chernobyl project at Hadassah University, Jerusalem, lost his job as Chief of Nuclear Medicine at the Veteran's Administration Medical Facility at Wilmington, Delaware, as a direct result of his work with Gulf war veterans contaminated with radiation, he states. Two other physicians, Dr Burroughs and Dr Slingerland of Boston VA also lost their jobs when they asked for more sensitive equipment to better diagnose the soldiers referred to them by Professor Durakovic. Oddly, all the records pertaining to the sick soldiers at the Delaware VA went missing, a syndrome of another kind which has become familiar, both sides of the Atlantic.

Two years before Durakovic's discovery, the United Kingdom Atomic Energy Authority (UKAEA) "self initiated" a Report warning the government that if fifty tones of the residual dust, from the explosions of the weapons on impact, was left "in the region", they estimated it would generate "half a million" extra cancer deaths by the end of the century (2000.) Iraq's cancers and birth deformities have become an anomaly, compared to those in the Pacific Islands and amongst British troops after the nuclear testing in the 1950's.

Further, "depleted" is a misnomer. These weapons are made from waste from the nuclear fuel cycle and thus contain the whole lethal nuclear cocktail. DU weapons (sold to seventeen countries that are known and possibly others - why let poisoning the planet and its population get in the way of numerous millions of quick bucks) are equivalent to spreading the contents of a nuclear reactor around the globe. And far from fifty tones and that chilling warning, in Iraq several thousand tones now cover this ancient, Biblical land and with the bombs raining daily, the audit rises nearly hour by hour. The US is currently by far the largest user of DU weapons. Over the past decade, they have brought more than sixteen million DU shells and bullets from Alliant Tech Systems alone. (Source: Janes.)

Strangely, this time, there have been few reports of soldiers with the terrible effects of 1991, where they were only in the region for a few weeks. Although troops now remain for months or a year, Gulf War Syndrome mark 2 seems not an issue. Perhaps it is because, reportedly, doctors treating returning troops have been threatened with jail and or hefty fines if they say anything regarding DU-related symptoms.

The implication regarding compensation to countries affected by this poisoned legacy (DU's lethality lasts for four and a half billion years) and troops is financially stratospheric. Since the 2003 invasion, US troops are denied entry to the International Atomic Energy Authority or any radiation experts to test ground and air levels.

In Bosnia and the former Yugoslavia where DU weapons were used (with missiles also dropped accidentally in neighboring countries, by the US, to whom all the world's lives are seemingly cheap) the "Iraq Syndrome" became quickly apparent. Even European peacekeepers on relatively short tours of duty became ill, developed leukemia's and other cancers and a number died. A five man film crew from BBC Scotland all tested DU positive after filming for less than a week there.

Afghanistan too was "liberated" in 2001, by uranium weapons, which continue to be routinely used, condemning generations yet to be born to deformities and the living - the new born and under fives the most susceptible - to cancers and other horrific DU-related conditions. Durakovic also found high levels of uranium in hospital patients there, as there will undoubtedly be in the occupying forces. He also found identical conditions to Iraq amongst the young: "Children born with no limbs, no eyes, or with tumors protruding from their mouths and eyes."

The latest country to fall victim to uranium weapons is Lebanon - but with a Difference; it transpires. Dr Chris Busby\*, founder of the Low Level Radiation Campaign and Green Audit, is Scientific Secretary of the European Committee on Radiation Risk and also sits on the (UK) Ministry of Defense Uranium Oversight Board. Israel is one of the countries with uranium weapons and: "The first evidence that the IDF (Israeli Defence Force) were using them" (in the July-August 2006 Israeli bombardment) "was a Getty Picture Library image of an Israeli soldier carrying a DU anti-tank shell", says Busby. He then noted a report in Lebanon's Daily Star, that Dr Khobeisi, a scientist, had measured gamma radiation in a bomb crater at Khiam in the south of the country, at ten to twenty times higher (samples taken from different locations in crater) than naturally occurring background radiation.

The following month, Dai Williams,\*\* an independent researcher went to Lebanon on behalf of Green Audit, to investigate and bring back samples to the UK for testing. He also brought back an air filter from an ambulance. Tested at the Harwell UKAEA laboratory: "The results were astonishing." Both soil and filter contained enriched uranium with the soil sample containing uranium about nine times higher than the natural background. (Remember how threatening the West has become towards Iran's efforts to enrich uranium?) The soil sample was also sent to the School of Ocean Sciences, in North Wales for a second test by a different method for certainty. The results were the same.

Busby asks: "Why use enriched uranium? It is a bit like shooting your enemy with diamonds." He contends it is possible that it is a "smokestream" for the wider use of depleted uranium, as the final contamination "when all gets

mixed up after the war has a natural isotopic signature". (i.e.: can be read as uranium which occurs naturally in nature.) There are two other chilling possibilities says Busby: a fusion bomb or a thermo baric bomb, both of which would need enriched uranium. Certainly, doctors were reporting bodies in conditions they could find in no medical manuals, as in the attack on Fallujah, Iraq.

Lebanese authorities denied the presence of enriched uranium; Israel denied using it. The bombardment had ended on the agreement that UN peacekeepers went in. Given their debilitation and mortality rate in the Balkans, this lethal presence might well have deterred them. To be certain the incident was not in isolation. Williams returned to Lebanon and brought back soil and water samples from Khiam and other sites. Enriched uranium was found in water samples from two separate craters in Khiam and in one of the soil samples. Then the money ran out. The samples tested had already cost £2,000. Donations from an Arab friend and Swiss supporters totaled £850 - and Dai Williams had paid the rest out of his own money. More work is needed, but it is now known that the IDF used enriched uranium in Lebanon. And: "Since it is in the ambulance air filter, it is also in the lungs of the inhabitants ... the Lebanese people have been sacrificed to cancers, leukemia's, birth defects, like the people of the Balkans, Afghanistan and Iraq", says Busby, adding "and it may be worse: since we still do not know what the weapon was."

And have these weapons been used on the people of Gaza and the West Bank? Further, Israel is not alone decimating those she perceives as her enemies, but her own people, neighboring countries and even those further afield. In context, Green Audit studied airborne uranium at sites in the UK, between 1998 and 2004. There was only one period in which uranium in the air "significantly" exceeded the naturally occurring background presence: during the bombing of Iraq, in March and April, 2003. As with the radio nuclides from Chernobyl which affected Europe and the globe, and still contaminates agricultural land, the potentially deadly wave of invisible particles traveled on the wind from Iraq. "We are all Gulf war victims now", commented Busby's colleague, Richard Bramhill.

#### **Can anything be done to halt the use of these genocidal weapons?**

Francis Boyle, Professor of International Law at the University of Illinois and author of *The Criminality of Nuclear Deterrence*, thinks so. He has launched a campaign for a global pact against uranium weapons. Boyle points out that the 1925 Geneva Protocol prohibits: "the use in war of asphyxiating, poisonous or other gases and of all analogous liquids, materials or devices". Clearly he says, DU is "analogous" to poison gas.

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