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Buying Time at the Advanced Test Reactor

By Tami Thatcher

A recent Op-Ed article in the Idaho Falls *Post Register* paper cited INL seismic experts and gave the impression that seismic events at the INL would be quite benign. That's odd because the INL has spent millions of dollars in the last 5 years evaluating and addressing seismic deficiencies at the Advanced Test Reactor, according to the deputy director for Nuclear Operations in a recent letter to the editor. Safety equipment at ATR has sometimes been found not capable of surviving even 1 in 100 year seismic events, but many needed upgrades have been completed.

Tami Thatcher

The INL deputy stated that seismic deficiencies were immediately corrected. But I know that faced with the difficulty of justifying operation with various seismic issues, with DOE's blessing the contractor reinterpreted reporting requirements so that no equipment be presumed deficient before all qualification approaches had been exhausted. This conveniently buys time. In 2008, various seismic deficiencies were corrected, yet no deficiencies had been reported. This leaves me questioning what other unreported seismic deficiencies there might be.

The INL deputy mentioned that in my previous letter to the editor I had cited audit findings that were several years old. The audit findings I cited were less than a year old.

In the 1990s, the facility was touting the completion of upgrading its safety basis. Yet, in 2004, the facility admitted having inadequately analyzed reactor safety and needing to now properly identify and mitigate postulated accident conditions. I was there when a limited scope seismic evaluation was finally funded and not only were many items examined found deficient, equipment vital to safe reactor shutdown that had recently been installed to modern seismic criteria was found glaringly deficient. On another occasion, I pointed out an errant assumption in a safety analysis and that accident became a dominant, stunning in its ability to melt fuel despite successful safety system operation. I saw the discoveries of equipment found to have serious unsuspected failure degradations. I was asked to not report serious reactor safety issues "because the safety basis was falling apart." I did report those issues and many others despite an increasingly hostile work environment.

A low pressure and low temperature reactor with stated doses below 1 rem to the "maximally exposed individual" sounds safe. But that individual has to be over 34 miles from the facility in favorable wind conditions. According to recent contractor calculations for one accident, an individual at the site boundary in 95% worst meteorology could receive a whopping 286 rem total-effective-dose-equivalent (TEDE) and 3410 rem thyroid dose. Don't be in the wrong place at the wrong time and do pray for favorable winds.

I applaud recent efforts to catch up with nuclear industry practices but will it be enough?

Thatcher is a former risk assessment analyst for DOE nuclear facilities who lives in Idaho Falls. The above article was published as an Op-Ed in the Idaho Falls Post Register 5/5/11.

Japan's Nuclear Catastrophe Leaves Little to Celebrate on Children's Day

by Robert Alvarez

May 5 is Children's Day, a Japanese national holiday that celebrates the happiness of childhood. This year, it will fall under a dark, radioactive shadow.

Japanese children in the path of radioactive plumes from the crippled nuclear reactors at the Fukushima Dai-Ichi power station are likely to suffer health problems that a recent government action will only exacerbate.

Robert Alvarez

On April 19, the Japanese government sharply ramped up its radiation exposure limit to 2,000 millirem per year (20 mSv/y) for schools and playgrounds in Fukushima prefecture. Japanese children are now permitted to be exposed to an hourly dose rate 165 times above normal background radiation and 133 times more than levels the U.S. Environmental Protection Agency allows for the American public. Japanese school children will be allowed to be exposed to same level recommended by the International Commission on Radiation Protection for nuclear workers. Unlike workers, however, children won't have a choice as to whether they can be so exposed.

This decision callously puts thousands of children in harm's way. Experts consider children to be 10 to 20 times more vulnerable to contracting cancer from exposure to ionizing radiation than adults. This is because as they grow, their dividing cells are more easily damaged -- allowing cancer cells to form. Routine fetal X-rays have ceased worldwide for this reason. Cancer remains a leading cause of death by disease for children in the United States.

On April 12, the Japanese government announced that the nuclear crisis in Fukushima was as severe as the 1986 Chernobyl accident. Within weeks of the 9.0 earthquake and tsunami, the four ruined reactors at the Dai-Ichi power station released enormous quantities of radiation into the atmosphere.

According to the Daily Youmiri, Japan's Nuclear and Industrial Safety Agency (NISA) announced that between 10 and 17 million curies (270,000- 360,000 TBq) of radioactive materials were released to the atmosphere before early April, a great deal more than previous official estimates.

Even though atmospheric releases blew mostly out to sea and appear to have declined dramatically, NISA reports that Fukushima's nuclear ruins are discharging about 4,200 curies of iodine-131 and cesium-137 per day into the air (154 TBq). This is nearly 320,000 times more radiation then the now de-commissioned Connecticut Yankee nuclear power plant released over a year.

NISA's estimate is likely to be the low end, given the numerous sources of unmeasured and unfiltered leaks into the environment amidst the four wrecked reactors. On April 27, Bloomberg News reported that radiation readings at the Dai-Ichi nuclear power station have risen to the highest levels since the earthquake.

With a half-life of 8.5 days, iodine-131 is rapidly absorbed in dairy products and in the human thyroid, particularly those of children. Cesium-137 has a half-life of 30 years and gives off potentially dangerous external radiation. It concentrates in various foods and is absorbed throughout the human body. Unlike iodine-131, which decays to a level considered safe after about three months, cesium-137 can pose risks for several hundred years.

Measurements taken at 1,600 nursery schools, kindergartens, and middle school playgrounds in early April indicate that children are regularly getting high radiation doses. Radiation levels one meter above the ground indicate that children at hundreds of schools received exposures 43- 200 times above background. And this is outside of the "exclusionary zone" around the Dai-Ichi reactors, where locals

have been evacuated. Japan's Ministry of Education and Science has limited outdoor activities at 13 schools in the cities of Fukushima, Date, and Koriyama Cities.

Although the extent of long-term contamination is not yet fully known, disturbing evidence is emerging. Data collected 40 kilometers from the Fukushima's nuclear accident show cumulative levels as high as 9.5 rems (95 mSv) -- nearly five times the international annual occupational dose. Soil beyond the 30-kilometer evacuation zone shows cesium-137 levels at 2,200 kBq per square meter -- 67 percent greater than that requiring evacuation near Chernobyl.

Three-fourths of the monitored schools in Fukushima had radioactivity levels so high that human entry shouldn't be allowed, even though students began a new semester on April 5.

Robert Alvarez posted this article April 29, 2011 and is a Senior Scholar at Institute for Policy Studies, where he is currently focused on nuclear disarmament, environmental, and energy policies. Bob is also an Environmental Defense Institute board member. For more information and articles by Alvarez, go to www.ips-dc.org

Government Adviser Quits Post to Protest Japan's Policy on Radiation Exposure for Schools

Science Magazine reports 4/29/11; "A prominent Japanese radiation safety specialist has resigned his governmental advisory post in protest over what he calls "inexcusable" standards for school children in Fukushima Prefecture. The Yomiuri Online news web site reported in Japanese this evening that Toshiso Kosako, a radiation safety expert at the University of Tokyo, feels the standards are too lenient and that his advice has been ignored.

On 19 April, the ministry of education announced a "provisional idea" for schoolyards contaminated by radiation emanating from the ravaged Fukushima Daiichi Nuclear Power Plant. The ministry cited a recommendation by the International Commission on Radiological Protection (ICRP), based in Ottawa, Canada, that sets an acceptable level of between 1 and 20 millisieverts (mSv) per year for individuals. In its Application of the Commission's Recommendations to the Protection of People Living in Long-term Contaminated Areas After a Nuclear Accident or a Radiation Emergency , ICRP recommendation reads: 'The reference level for the optimization of protection of people living in contaminated areas should be selected in the lower part of the 1-20 mSv/year band.'

Japan's education ministry figured that children could spend 8 hours a day in a schoolyard with as much as 3.8 microsieverts per hour of radiation and then 16 hours a day inside a building with 1.52 microsieverts per hour and stay within a 20 mSv per year limit. Some 800 groups and 34,000 individuals have signed a petition demanding the withdrawal of the education ministry's 20 mSv per year standard, according to a coalition of citizens' organizations that will present the petition to the government on 2 May.

"Setting this (radiation exposure) number for elementary schools is inexcusable," says Kosako, according to Yomiuri Online. His resignation is expected to put additional pressure on the government to rethink its decision."

Editors Note: According to Dan Hirsch tracks the Japan nuclear disaster; "The National Academy of Sciences and all U.S. agencies (and indeed essentially all international bodies) estimate 20 mSv of ionizing radiation exposure produces on average a cancer in 1 out of every 500 people exposed; children exposed at that level would have a higher risk. If the exposure is per year and continues for several years, the risks would be some multiple. The population dose, and thus the number of cancers produced as that risk is spread over a large population, could be significant. We of course normally regulate carcinogens at a risk range of one in a million to no more than one in ten thousand for cancer incidence."

Chernobyl Survivor Warns of 'Bombshell' in Japan

Channel News Asia reports 4/26/11 from Tokyo; "A survivor of the Chernobyl disaster says people exposed to radiation from Japan's crippled nuclear plant will spend the rest of their lives fearing the "bombshell" of cancer and other dire illnesses.

A man visits a memorial in Chernobyl bearing the names of villages affected by the nuclear disaster. Tuesday marks the 25th anniversary of the world's worst nuclear calamity and coincides with efforts to stop radiation seeping from the Fukushima plant after its cooling systems were knocked out by an earthquake and tsunami on 3/11.

"The Fukushima accident is like the twin brother of Chernobyl," said Pavel Vdovichenko, 59, who had already accepted an invitation from Japanese anti-nuclear groups to join a rally marking a quarter-century since Chernobyl.

"People in the two places have to suffer long-time hardship," Vdovichenko, a Russian, told AFP through an interpreter. "People in Chernobyl suffered from cancer after the accident. A similar thing may happen to Fukushima."

Waiting to see over the coming months and years if their health has been compromised is like living "with a bombshell waiting to explode" for people who lived close to the ageing Fukushima Daiichi plant, he said.

Yet a generation after the disaster in Ukraine, then part of the Soviet Union, experts still disagree on the true extent of the effect on health, with estimates ranging from tens of thousands of fatal cancers to far fewer.

There have been no deaths as a direct result of leaking

radiation from the Fukushima facility in Japan's northeast, but the government has evacuated 85,000 people from homes nearby and set up an exclusion zone.

The plant was rocked by a series of explosions and radiation has leaked into the air, ground and sea in the world's worst nuclear disaster since Chernobyl. Vdovichenko saw first-hand the long-term harm that Chernobyl had on local people. He lived -- and still lives -- in Bryansk, 180 kilometres (110 miles) from the plant and one of the areas worst affected by the 1986 catastrophe. "People suffered a collapse of the economy," said the former history teacher who founded "Radimichi for the Children of Chernobyl", a support group for the most vulnerable victims.

"Companies went bankrupt. Agriculture has fallen apart. There is nowhere to work," he said. "People had no choice but to eat berries and animals from the woods and fish from the rivers and lakes, which were all contaminated."

"Of course I have fears," he said of his decision not to flee the stricken area. "I have problems with my thyroid, but it is my hometown. I try not to think of my health."

"People did not want to come close to people from the contaminated zone," he said, adding that students from the region were told to study at desks isolated from others in their classrooms.

In Japan, the government has also urged people not to discriminate against the evacuees following reports that some hotels had turned people from the Fukushima area away and that children had been bullied. Japan has placed the disaster on the maximum seven on an international scale of atomic crises, the same level as Chernobyl, and the troubles at Fukushima have prompted many questions about whether atomic power is too great a risk.

But while both incidents have the same rating, Japanese government officials have stressed that the total radiation released from Fukushima is around one-tenth of that from Chernobyl. Another difference is that the Fukushima accident was triggered by a natural disaster -- the 9.0-magnitude earthquake and tsunami that left more than 26,000 people dead or missing -- while Chernobyl was blamed more on human error.

As Japan struggles to contain its disaster and Ukraine works on a giant shelter to secure Chernobyl's ruined reactor, Vdovichenko warned another nuclear crisis may occur elsewhere if lessons are not learned fast. "Some people in the world may say Chernobyl is over, but this is wrong," he said. "The Fukushima accident occurred after people failed to resolve Chernobyl. If people fail to resolve the two cases, a third one will come. "The victims of Chernobyl and those of Fukushima need to work together. We need to make an effort to make sure there are no more nuclear disasters like this."

EPA Releases New Radiation Numbers for Boise ID

Anna Webb reports in the Idaho Statesman 4/2/11; "The Environmental Protection Agency said it expected elevated levels of radioactive material in rainwater following the incident at the Fukushima nuclear plant.

A report released on Saturday found levels of two kinds of cesium and iodine 131 in Boise's precipitation. Boise's levels were higher than any other U.S. city in the report; most U.S. cities in the study had levels of cesium and iodine 131 that were not detectable. Officials had no explanation Saturday for why Idaho would have higher levels, but said the levels that were detected were far below levels that would warrant public-health concern.

Radiation in precipitation is measured because it affects not only the air, but vegetation, including grass eaten by cows that produce milk for human consumption.

The nuclear industry of the United States is engaged in blatant disinformation and has been since Mar 12, when cesium was detected by US military. By definition, cesium is [released] by a reactor only in meltdown. [The cesium is a fission product in the fuel and is released when it melts.]

Yet US 'experts' did not acknowledge a meltdown until more than ten days after. US experts stated radioactive iodine could not reach the US, until Iceland on 3/22 said they detected radioactive iodine. By 3/24 the US finally admitted that radioactive iodine was present in the US, however the radioactive material that reached Iceland crossed North America on its way to Iceland. Then the media along with 'top US experts' suggest it is 'fear mongering' to state there are things you can do to protect yourself from radiation poisoning, such as KI, spirulina, resveratol [sic], etc... All in the name of protecting their lucrative interests from the facts they fear will rightly turn the people against their cash cow.

According to EPA's 4/2/11 Radnet Precipitation Results elevated levels of radioactive material in rainwater have been expected as a result of the nuclear incident after the events in Japan since radiation is known to travel in the atmosphere - precipitation data collected by EPA in the states of California, Idaho and Minnesota have seen elevated levels of radiation in recent precipitation events.

In all cases these are levels above the normal background levels historically reported in these areas. While short-term elevations such as these do not raise public health concerns – and the levels seen in rainwater are expected to be relatively short in duration – the U.S. EPA has taken steps to increase the level of monitoring of precipitation, drinking water, and other potential exposure routes to continue to verify that.

About the Data

EPA scientists routinely test precipitation samples from more than 30 sites in the U.S. The stations submit precipitation samples to the EPA lab as rainfall, snow or sleet occurs. Under routine circumstances, samples are composited and analyzed by EPA scientists monthly. In response to the Japanese nuclear incident, gamma analyses are being performed on the precipitation samples as they're received.

It may take up to five days for results because of the number of samples being directed to the laboratory. This is to ensure the proper analysis and quality assurance measures takes place before the results are released.

EPA expects to see radioisotopes consistent with the Japanese nuclear incident during sample analysis. EPA expects the measured levels to be extremely low as this air mass disperses across our planet. All EPA RadNet Precipitation Results below are in picocuries per liter (pCi/L). A picocurie is one trillionth of a curie.

For more information, see the EPA precipitation samples at www.epa.gov/japan2011/docs/rert/radnet-precipitation-final.pdf.

Isotope	Boise, Idaho 3/22/11	Richmond, CA 3/22/11	EPA Standard pCi/L *
Cesium-134	11.2	ND	81.3
Cesiom-137	11.6	ND	119
Iodine-131	242	138	108
Technetium--132	ND	5.96	580

*National Primary Drinking Water Regulations; Proposed Rule, 40 CFR 141 & 142; ND=Non-Detect

Nuclear Official Laments That Spent Fuel Has Nowhere to Go

Hannah Northey, E&E News reporter posted 3/3/11 that; "Federal regulators yesterday said they are preparing spent nuclear fuel in Idaho to be shipped to a permanent storage facility -- even though they're not sure where that might be.

Adm. Kirkland Donald, deputy administrator for the National Nuclear Security Administration's (NNSA) Office of Naval Reactors, told a House subcommittee yesterday that the agency has prepared 38 containers of spent fuel from military operations in Idaho to be shipped to a national repository. NNSA is a semiautonomous agency within the Department of Energy that manages and maintains the country's nuclear weapons capabilities.

But since the federal government has quashed plans -- at least for now -- to use Yucca Mountain in Nevada as a permanent national repository, the spent nuclear fuel from nuclear-powered aircraft carriers and submarines is being stored temporarily at the Naval Reactors Facility at the Idaho National Laboratory.

"There's still a significant issue hanging out there about 'what are we going to do with this fuel, absent Yucca Mountain,'" Donald told the House Energy and Water Appropriations Subcommittee.

The subcommittee met to discuss President Obama's fiscal 2012 budget request, including $1.2 billion for the NNSA's naval reactors program, an increase of 7.8 percent over the fiscal 2011 request (E&E News PM, Feb. 28).

Part of the funding boost would be channeled to NNSA's spent fuel handling recapitalization project, which would replace the 50-year-old Expended Core Facility within the Naval Reactors Facility, which is used for performing research, inspection, examination and storage of naval spent nuclear fuel, according to the Idaho Department of Environmental Quality. NNSA says the facility's infrastructure is deteriorating and could eventually affect the Navy's ability to operate
its nuclear-powered fleet and nuclear propulsion plants.

At the hearing, Donald expressed concern with a 2035 deadline to ship spent nuclear fuel out of Idaho, a date complicated by the lack of a permanent repository. The agreement forged among Idaho, the Navy and DOE in 1995 allows for only the interim storage of spent fuel over a 40-year period in Idaho. Under that agreement, DOE must treat all
"high-level waste" at a facility in Idaho for final disposal elsewhere, with a target date of 2035, according to the Idaho Department of Environmental Quality.

NNSA is concerned with the 2035 timeline and "what it really meant from the beginning," because the agency does not want to leave Idaho and signed an addendum that "provided for a future beyond 2035," Donald said. But that addendum did not relieve the agency of its responsibility to prepare the spent fuel for ultimate disposal and the agency is moving it to dry storage into containers that are "road ready" to be shipped, he said.

"We will meet our obligations, absent the fact that I don't have anywhere to put it right now," Donald said. "The state has been remarkably patient with us and supportive of what it is we're doing. We as a nation have an obligation to come up with a final solution, and when that's ready we'll be ready to support it."

Rep. Mike Simpson (R-Idaho), a member of the House subcommittee, expressed doubt that the 2035 deadline was firm, adding that the true spirit of the agreement was to spur the Navy and DOE to find a permanent repository.

"To me the year 2035 ... I don't think it's written in stone, it is that the people of Idaho want to see progress for a permanent repository, and that to me is the important thing," Simpson said. NNSA official laments that spent fuel has nowhere to go."

More Hanford Radioactive Waste Problems Reveled

Tom Carpenter reports 5/6/11 for Hanford Challenge; "A disturbing trend seems to be emerging at Hanford that is raising our level of concern here at Hanford Challenge. That trend is the sacrifice of safety and rigor in favor of budget-trimming and cost-savings.

This past week, the Defense Nuclear Facilities Safety Board issued its latest report criticizing the lack of rigor in safety plans to ensure that pipes that transfer radioactive waste at the Hanford tank farms do not leak.

The piping system carries radioactive waste within the Hanford nuclear reservation's underground tank farms, which hold 53 million gallons of highly-radioactive waste. The pipes transfer waste from older, leak-prone tanks to newer double-shell tanks and also transfers waste between double-shell tanks to optimize the limited space in the newer tanks. Because of the nature of the nuclear waste, hydrogen gas can build up in the pipes. A fire or explosion in the tank piping system could spread radioactive waste and threaten worker health and safety and the environment.

Many of the pipes are old, and their integrity is suspect. These issues are not factored in by the DOE to prevent pressurized spray leaks, chemical exposures and flammable gas fires, according to the defense board staff.

The Board also pointed out that DOE was not factoring in corrosion and leaks from the piping system, a critical consideration for pipes that will be in use through 2048. Board Chairman Pete Winokur wrote that these and other issues listed in the report "collectively reduce the safety margin for operations within the Hanford tank farms."

Hanford Challenge is also receiving numerous phone calls and emails from workers at the Hanford tank farms expressing concerns about a "chilled work environment" that has resulted from the sudden termination of four tank farm workers in late March. Workers are reporting to us that there is palpable fear to raise concerns, stop work or file written complaints about even obvious safety hazards.

These are very serious and disturbing allegations, and we intend to invest considerable time and effort into sorting out the issues. A robust safety culture is the foundation for a cleanup that is truly protective of the health & environment of the Pacific Northwest."

For more information see; www.hanfordchallenge.org

EDI and KYNF Win FOIA Appeal

Office of Hearings and Appeals (OHA)approved our joint appeal of a Freedom of Information request that DOE/Idaho had previously denied. The FOIA requested safety documents on the Advanced Test Reactor at Idaho National Lab. The 4/25/11 ruling states: "DOE Office of Hearings and Appeals has considered the Freedom of Information Act Appeal you filed on March 14, 2011, regarding a determination issued by the DOE's Idaho Operations Office [IOO] in Idaho Falls, Idaho. As the enclosed Decision and Order indicates, we have determined that your appeal should be granted."

"In response to EDI's FOIA request, IOO identified and released several documents as responsive to the request, but withheld portions of the documents pursuant to FOIA Exemption 3. This appeal, if granted, would require IOO to release additional information to EDI, or to issue a new determination letter providing justification for withholding the information."

It is tragic that the public is forced to jump through these blocks to safety reports that have the potential of revealing the true hazard the Advanced Test Reactor poses to residents living in southeastern Idaho and western Whyoming.

DOE Prepares EIS for Disposal of Greater-Than-Class C Low-Level Radioactive Waste

The United States Department of Energy (DOE), Office of Environmental Management (EM), is preparing an Environmental Impact Statement (EIS) for disposal of Greater-Than-Class C Low-Level Radioactive Waste (GTCC LLRW). The EIS evaluates potential alternatives involving various disposal methods for application at six federally owned sites and generic commercial sites.

Brief Overview of Draft EIS

The Draft EIS evaluates the potential environmental impacts associated with constructing and operating a new facility or facilities, or using an existing facility, for the disposal of GTCC LLRW and GTCC-like waste. Disposal methods evaluated include geologic repository, intermediate depth borehole, enhanced near surface trench, and above grade vault. Disposal locations evaluated include the Hanford Site in Washington; the Idaho National Laboratory in Idaho; the Los Alamos National Laboratory, the Waste Isolation Pilot Plant (WIPP), and the WIPP vicinity in New Mexico; the Nevada National Security Site (formerly the Nevada Test Site) in Nevada; and the Savannah River Site in South Carolina. The Draft EIS also evaluates generic commercial disposal sites and the No Action Alternative.

DOE does not have, and therefore has not identified, a preferred alternative in the Draft EIS, but will do so in the Final EIS based on further consideration and public comment. The preferred alternative could be a combination of two or more alternatives, based on the characteristics of the waste, its availability for disposal, and other key factors.

EDI prepared extensive comments on this GTCC EIS that be considered because Department of Energy (DOE) fails to include all relevant legacy waste under the department's control. Additionally, below referenced Bodman letter submitted previously does not include all of Idaho National Laboratory (INL) stranded waste issues resulting from the Nuclear Navy Propulsion Program that has no disposal path forward. Given the documented evidence of radioactive and hazardous waste migration into the INL underlying Snake River Plain Aquifer, and DOE current near-surface dumping and proposed additional waste dumping in deeper "soil vaults" at the INL Radioactive Waste Management Complex must stop. This waste must be returned to generator within six months of receipt as specified in Idaho/DOE Settlement Agreement where it can be put in generators robust above ground safe/monitored storage until a licensed disposal site is established outside of Idaho. The GTCC draft EIS must discuss alternatives for the current Navy waste and other Spent Nuclear Fuel dumped at INL because there is no current National Environmental Policy Act (NEPA) analysis for what to do with this waste.

Other Stranded Waste at INL

Below EDI offers another category of "stranded" or "orphaned" [1] waste resulting from Spent Nuclear Fuel (SNF) shipped to INL for processing that generates non-TRU RH waste that cannot be sent to WIPP or any other disposal site. [2] DOE designated INL as the central collection site for all SNF (foreign and domestic) with stainless steel/zirconium cladding. Ongoing processing at INL Idaho Nuclear Technology Center (INTEC) of this imported SNF for reprocessing/ storage/ disposal also generates significant amounts of remote handled highly radioactive waste that falls in the category of Greater-than-Class C (GTCC) low-level waste. [3]

DOE created a new category of waste called GTCC-"**Like**" waste that contains TRU waste [4] and/or mixed radioactive and hazardous waste regulated under the Resources Conservation Recovery Act (RCRA) that also fails to meet WIPP Acceptance Criteria (WIPP/WAC). DOE estimates the combined stored and near-term projected GTCC and GTCC-like waste volume at 5,600 cubic meters containing 140 million curies [5] of radioactivity. [6]

The US Navy Nuclear Propulsion Program continues to send spent nuclear fuel (SNF) from various sites to the Idaho National Laboratory/ Naval Reactor Facility as part of its regular decommissioning or refueling program of its nuclear fleet. Possessing of this SNF for reprocessing/storage/disposal generates significant amounts of remote handled highly radioactive waste that falls in the category of GTCC low-level waste. According to Nuclear Regulatory Commission regulations, GTCC waste is prohibited from shallow landfill dumps and must be interred in a deep geologic repository. [7] Given that there is no final disposal site for this waste and DOE finally issued a Notice of Intent (7/18/07) to prepare an Environmental Impact Statement (EIS) for the disposal of GTCC waste. [8]

This is a violation of the State of Idaho's Settlement Agreement with DOE despite Susan Berke, coordinator for Idaho Department of Environmental Quality (IDEQ) INL Oversight Program statement; **"**Paragraph E.2.a of the Idaho Settlement Agreement and similar terms of the Site Treatment Plan require that treatable waste shipped into the State of Idaho shall be treated within six months of its receipt and shall be shipped outside of Idaho within six months of any treatment. Incoming waste is subject to these terms whether it is shipped to WIPP, another storage or disposal facility, or is returned to the shipping facility." [9]

IDEQ refuses to admit that ongoing waste imports to Idaho/INL results in "orphan waste" that has no permitted/regulatory compliant path forward for disposal especially the non-compliant INL Radioactive Waste Management Complex/ Subsurface Disposal Area (RWMC/SDA).

EDI's comments are available on our website; http;//environmental-defense-institute.org

What can you do?

Comments on the Draft EIS may be submitted by U.S. mail to the following address: Mr. Arnold M. Edelman, EIS Document Manager, U.S. Department of Energy, GTCC EIS, Cloverleaf Building, EM–43, 1000 Independence Avenue, SW, Washington, DC 20585. Comments may also be submitted electronically via the GTCC EIS Web site at *http://www.gtcceis.anl.gov*, where the Draft EIS can be found, or by electronic mail to *gtcceis@anl.gov*. The Draft EIS is also available on DOE's NEPA Web site at *http://nepa.energy.gov/draft_ environmental_impact_statements.htm.*

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[1] Don Hancock, "What Will Happen to 'Orphan' Nuclear Waste," *Voices from the Earth*, Fall 2007, Vo.8, No. 3.

[2] See Federal Register Vol. 72, No. 140 7/23/07; "GTCC LLW is defined by the Nuclear Regulatory Commission (NRC) in 10 CFR 72.3 as ''low-level radioactive waste that exceeds the concentration limits of radionuclides established for Class C waste in [10 CFR 61.55].'' GTCC LLW is generated by NRC or Agreement State-licensed activities (hereafter referred to as NRC-licensed activities).

[3] DOE also designated its Savannah River Site as the collection site for all foreign/domestic aluminum-clad SNF due to existing reprocessing infrastructure for this category of SNF and INL existing infrastructure can reprocess SST/ZR clad fuels.

[4] Transuranic waste is radioactive waste containing more than 100 nanocuries of alpha-emitting transuranic isotopes per gram of waste, with half-lives greater than 20 years, except for: (1) High-level waste; (2) waste that the Secretary of Energy has determined, with the concurrence of the Administrator of EPA, does not need the degree of isolation required by the 40 CFR Part 191 disposal regulations; or (3) waste that the NRC has approved for disposal on a case-by-case basis in accordance with 10 CFR Part 61.

[5] A curie of radioactivity is a huge amount within the context of EPA regulations limiting public exposure in units of pico-curies or one trillionth of one curie.

[6] Federal Register, Vol.72, No.140/ Monday, 7/23/07, page 40137.

[7] Title 10 Code of Federal Regulations (CFR) Subsections 72.3 and 61.55

[8] http://www.gtcceos.anl.gov

[9] Susan Burke 6/4/08 email to Chuck Broscious