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Enviro's File Precedent Setting Lawsuit Against DOE on High-Level Waste

The Natural Resources Defense Council (NRDC) filed a lawsuit in February in U.S. Federal Court for the District of Idaho challenging the Department of Energy (DOE) violation of the Nuclear Waste Policy Act by arbitrarily reclassifying high-level radioactive waste and calling it "incidental waste." According to the NRDC complaint, "This renaming process would allow DOE to permanently leave high-level radioactive waste – which will gradually disperse into the environment – in shallow burial in more than 200 nuclear waste storage tanks located at three DOE nuclear weapons sites: the Hanford Reservation in Washington near the Columbia River, the Idaho National Engineering and Environmental Laboratory (INEEL) above the Snake River Aquifer, and the Savannah River Site in South Carolina where several tanks literally sit in the water table."

In a desperate attempt to cut treatment and disposal costs of what the NRDC accurately calls the "most dangerous substances known to humankind," DOE chose to change the rules that otherwise require appropriate treatment and safe permanent disposal in a secure (10,000-year) geologic repository. At this point, the only obstacle in DOE's path in implementing this tragic policy, is the NRDC suit. One might legitimately ask, "where are the federal and state regulators" whose taxpayer funded mandate it is to take action when public safety and the environment are at risk? Geoffrey Fettus, lead NRDC attorney in the lawsuit, says some encouraging exchanges have occurred between the states of South Carolina, Washington, and Oregon, but alas not a peep from Idaho or EPA. Fettus is hoping that the states will at least file Amicus Curiae (friend of the court) briefs as currently indicated in support of the NRDC suit.

NRDC claims that, "Over the last few decades, hundreds of thousands of gallons of this waste have leaked into the environment and continues to do so." Internal INEEL documents revealed by a whistle blower show that the high-level waste tanks located at INTEC (formerly called Idaho Chemical Processing Plant) are leaking into the concrete vaults surrounding the tanks and have in turn leaked from the vaults to the ground and eventually to the aquifer. Many service pipeline leaks from the INTEC "Tank Farm" have also occurred over the years causing extensive contamination of the soil and underlying ground

water. A 1994 Idaho State Oversight Program report notes that over a 23-month period, about 123,500 gallons leaked into the concrete tank vaults that surround the high-level tanks. In March of 1993, for instance, about 26,000 gallons leaked into the tank vaults. Additionally, other pipe leaks generated some 146,000 cubic yards of contaminated soil with radiation readings of 102 million picocuries/gram for cesium-137 with a radiation of 400 rem/hr are reported by the regulatory agencies. These contaminants are lethal by any standards. These contaminants are migrating into the underlying Snake River Plain Aquifer and pose a significant hazard.

NRDC states that, "Instead of following federal law and disposing of high-level radioactive waste in a geologic repository, DOE intends to leave literally thousands of gallons of the highly radioactive sediments and sledges in the bottom of the underground tanks, cover the waste in place with concrete, and hope for the best. The waste remaining in the tanks will also have comparable – and potentially much higher – concentrations of radioactive elements than the high-level [liquid portion] waste removed from the tanks for disposal in a geologic repository. DOE has already implemented this process with three tanks at Savannah River and has grouted them in place for 'permanent disposal'. Fundamentally, DOE's action creates three national sacrifice zones for high-level waste. DOE [action] arbitrarily and unilaterally reclassifies high-level waste as 'incidental waste,' thereby exempting it from the [Nuclear Waste Policy Act] NWPA and allows this dangerous waste to be subject to an entirely different, and substantially less stringent set of disposal criteria. Disposal of tens of thousands of gallons of high-level waste in the INEEL, Hanford, and Savannah River waste tanks will (1) result in a potentially catastrophic dispersal of radioactivity into the environment and (2) at a minimum, will require significant land-use restrictions, maintenance and monitoring in perpetuity."

All this begs the question of why the attorney generals of South Carolina, Washington, and Oregon are apparently preparing to file Amicus Curiae Briefs in support of the NRDC lawsuit if there were not major outstanding regulatory issues related to DOE's plan to delist significant quantities of high-level waste and leave this

highly toxic waste in place to compromise future generations.

Our collective hats are off and waving to NRDC for having the courage and commitment to challenge DOE on this crucial and potentially precedent setting legal action, and demanding, “ a permanent injunction preventing DOE from taking any actions with respect to waste in the tanks that would be inconsistent with the requirements for high-level radioactive waste disposal under the [Nuclear Waste Policy Act] NWPA.” Who in their right mind would call compliance with existing environmental law “radical” except for the current Bush Administration?

Laird Lucus, otherwise associated with the Land and Water Fund of the Rockies as senior attorney is the local Idaho lead attorney on the NRDC lawsuit. ☉

EDI Challenges Idaho Approval of High-Level Tank Closure Plan

The Idaho Department of Environmental Quality (IDEQ) recently approved a draft Closure Plan for two INTEC high-level waste tanks. If the final Plan is approved, it will allow about 79,000 gallons of tank sediments to remain in place with a concrete (grout) cap. The Environmental Defense Institute (EDI) and David McCoy submitted an official Petition to reopen the public comment period into this misguided Plan. EDI’s request provided internal INEEL documentation that showed the “grouting” planned does not meet regulatory requirements for disposal of high-level waste or, for that matter, any other category of mixed hazardous radioactive waste.

IDEQ’s Director, C. Stephen Allred responded to EDI in a 5/10/02 letter stating, “[I]t appears that DOE and its contractor went to great lengths to prospectively identify both regulatory and operational pit falls. Based on our [IDEQ] review of your [EDI] submittal, the DEQ remains confident that the plan for moving forward with closure of the first two of eleven Tank Farm Facility tanks is compliant with [Hazardous Waste Management Act] HWMA regulations, and it represents full disclosure on the part of DOE to address the operational realities associated with closure of the mixed waste tanks.”

The Tank Closure Plan violates federal regulations (40 CFR 191) for disposing mixed high-level radioactive waste in near surface internment that cannot meet the 10,000-year minimum requirement.

The Tank Closure Plan also violates federal regulations (40 CFR 265.112(b)(4)) that states in pertinent part, “A detailed description of the steps needed to remove or decontaminate **all hazardous waste residues** and

contaminated containment system components, equipment, structures, and soils during partial and final closure including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination necessary to satisfy the closure performance standard.”

The INEEL Tank Closure Plan additionally violates federal regulations (40 CFR Sec. 265.197(a)) closure and post-closure care that states “ At closure of a tank system, the owner or operator must **remove or decontaminate all waste residues**, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste.”

The State of Idaho and EPA regulators are thrusting a “Risk-Based” closure plan that has a multitude of questionable assumptions without supporting sampling data, and specific limits on tank heels left in place, all of which are not fully disclosed. Specifically, how much tank heel will be left in the tanks and grouted over in order to meet the “Risk Based” no harm criteria?

Even more egregious is that the DOE technology development that currently exists that can remove nearly all the tank sediments, yet for cost cutting measures has not been implemented.

Fundamentally, EDI alleges that easily exhumable mixed hazardous high-level waste from the INTEC tanks will be sent to other un-RCRA permitted treatment, storage, disposal (TSD) at INTEC (i.e., High-level Liquid Waste Evaporator (HLLWE), Process Equipment Waste Evaporator (PEWE), and the Liquid Effluent Treatment and Disposal (LET&D). This is illegal!

EDI is requesting reopening or extension of the period for public comment because new information raises substantial new questions related to DOE’s unwillingness to properly close High Level Waste Tanks. IDEQ’S Allred’s determination that everything is copasetic fails to address the various crucial legal issues EDI presented earlier in our “Request for Investigation” some of which include:

1. Decontamination steam jets do not have the capacity (according to INEEL experts) to remove the solids in the tank heels, therefore leaving about 30,000 gallons of mixed high-level waste sediments in the two tanks;
2. Decontamination water/steam jet sprays will not resuspend the heel solids nor remove hazardous heavy metal waste because as INEEL experts pointed out they are precipitates of a < 2 mole acidic raffinate;

3. Grout will not mix with the tank heels which violates the RCRA and EPA's Land Disposal Restrictions;
4. Grout will only "roll over tank heels" and sandwich them between the tank bottom, and required sampling of the final waste form to validate encapsulation is not planned or technically possible as identified by INEEL expert's comments;
5. Grouting of the vault completely under the tank is believed by INEEL's own engineers as impossible, yet the Closure Plan nonetheless assumes it, which in turn invalidates the Plan's Risk Assessment assumptions, and fate and transport contaminate migration modeling;
6. The "Risk-based Clean Closure" does not offer sampling data to specify the minimum amount of tank heels that will be left in the tanks to satisfy the this criteria.
7. Grouting of the tanks sumps will only partially "float" the tanks causing deformation and possible breaching of the fifty-year-old tanks.
8. Closure Plan Risk Assessment fails to include 400 rem/hr soil contaminate loading for cesium-137 (102 million picocuries/gram), strontium-90 (56.8 million pCi/g), and plutonium (276 nano curies per gram) that are the result of tank vault and service line leaks as required in 40 CFR 265.111;
9. Tanks WM-182 and 183 history shows aluminum and zirconium reactor fuel reprocessing raffinate (up until 1993 and 1997 respectively) that produced the solid high-level waste precipitate in the tank heels. Sodium bearing liquid waste (SBW) was only subsequently added after these dates, therefore DOE's claim to strictly SBW with respect to the tank heels is bogus;
10. Tank heel solids (raffinate precipitates) are mixed high-level waste by definition (42 USC 10101 et.seq.) and therefore cannot be legally disposed in shallow land burial as designated in the Tank Closure Plan's "Landfill Closure Plan". Also see: (40 CFR191 Disposal of High-level Waste) and (Nuclear Waste Policy Act at 42 USC ss 701 et seq.);
11. Risk-Based assessment fails to include the fact that the tanks are some forty feet below the 100-year flood plain of the Big Lost River and the leaching effect of contaminated soil, tank vaults, and tank contents into the Snake River Plain Aquifer. Disposal of hazardous waste is also prohibited by RCRA in a flood plain;
12. The tanks have leaked reactor fuel reprocess waste (according to INEEL experts) into the tank

vaults thereby extensively contaminating the concrete vault floor and sides, which was not factored into the Risk Assessment as part of the contaminate loading factors in the fate and transport contaminate migration modeling. ⊗

EPA Risks Compromising INEEL Investigation by Moving it to Seattle Region 10

In September of last year, the Environmental Defense Institute, Keep Yellowstone Nuclear Free, and David McCoy filed a formal Petition with the Environmental Protection Agency (EPA). The Petition asked EPA to remove the State of Idaho's enforcement authority based on an abominable history of non-enforcement of hazardous waste laws at INEEL. EPA's Office of Inspector General Western Division in Sacramento, CA was assigned the task of conducting the investigation, and subsequently ordered the EPA Region 10 Administrator to respond to all the charges listed in the Petition. EPA Region 10 jurisdiction includes Idaho and the INEEL operations. Region 10's response predictably justified the continued operation of INEEL mixed hazardous and radioactive waste incinerators (that operated for decades) under a bogus and illegal "interim status" provision in the statute that was never intended to last more than five years. These "interim status" exemptions expired before 1992.

In April, Kwai Chan, EPA's Assistant Inspector General in Washington, DC abruptly announced that the investigation lead would be changed from Western Division Sacramento office to the Seattle Region 10 office. EPA Region 10 in Seattle is mandated by law to oversee the State of Idaho's enforcement actions to ensure compliance with federal hazardous waste laws.

The Environmental Defense Institute (EDI) Petition documents how EPA Region 10 is just as culpable as the State of Idaho for non-enforcement of environmental laws. Moreover, EPA Region 10 is identified as a defendant in three Notices of Intent to Sue filed by EDI and other Petitioners for allowing the DOE to operate mixed hazardous and radioactive incinerators for decades without the required permits and without meeting federal standards for operating requirements.

The Environmental Defense Institute challenged this major change of venue on the grounds that it was a

conflict of interest for Region 10 to investigate itself. Kwai Chan's response was that, "[B]ased on the background, training, experience, work load, as well as the individual interest of the team members, we have assembled the best team to address the issues raised in the Petition." It is reasonable for the public to view this EPA action as similar to the Arthur Anderson conflict of interest as an Enron auditing firm while at the same time serving as a highly paid consultant. It is naive to think the EPA Region 10 would have sufficient independence to investigate itself just as it is naive to think any Executive Branch agency can credibly investigate another Executive Branch agency (i.e., EPA investigating DOE) given that they both report to the President. Historically, the only thing DOE responds to is a court order. We will just have to wait to see what EPA's Inspector General investigation findings are before any public judgment can be launched.

State of Idaho Reopens Lawsuit with DOE

On April 18th Idaho Attorney General Alan Lance filed a motion in U.S. Federal Court to reopen an old lawsuit originally filed by then Governor Cecil Andrus in 1991 against DOE for violation of environmental laws. The litigation was "settled" by then Governor Phil Batt in 1995, however Idaho now alleges that DOE failed to comply with the settlement agreement that was approved by the federal court as a Consent Order.

The crux of the current dispute is over the interpretation of the 1995 Settlement Agreement. Idaho justifiably claims that DOE agreed to remove **all** high-level and transuranic waste (including buried waste in the INEEL burial grounds) from the state by the year 2035. DOE claims that it only agreed to remove a limited amount (65,000 cubic feet) of this waste currently in above ground storage.

In 1995, when Governor Batt's draft settlement agreement was made public, the Environmental Defense Institute (EDI) attempted to file an Amicus Curiae (friend of the court) brief to alert the federal court and the State of Idaho on major deficiencies in the settlement agreement that did not include adequate specificity of the huge quantities of high-level and transuranic waste in the INEEL burial grounds. EDI, in its Amicus Brief, documented that over 90 metric tons of irradiated reactor fuel has been dumped in the INEEL burial grounds. Both Idaho and DOE blocked EDI's motion to file an Amicus Brief as well as blocking a parallel federal court motion by the Shoshone Bannock Tribes to submit an Amicus Brief.

These are clear examples of Idaho's political agenda to block public and Tribal involvement. Had Idaho listened in 1995, the State would not be back in federal court today. The fact that Idaho is now back in court is either a mixed blessing or simply Governor Kempthorne's reading of the Idaho political winds that is emphatically saying that Idahoans no longer consider INEEL a good neighbor.

Now once again, in yet a new fit of arrogance, Idaho is blocking any attempt by EDI to ensure that the INEEL high-level waste tank sediments (see previous article) are included in the litigation against DOE. Idaho has already approved a draft plan to leave over 79,000 gallons of high-level waste in the underground tanks. This waste is some forty feet **below** the 100-year Big Lost River flood plan and will eventually end up in the Snake River Aquifer.

EDI supports Idaho's current litigation against DOE, despite crucial deficiencies, because the buried waste in the INEEL dump poses one of many enormous threats to public health and safety due to the on-going migration of these pollutants into the Snake River Aquifer.

Specifically, EDI has documented DOE's attempt to enterprise on Idaho's deficient (if not politically motivated) negotiating skills and blatant disregard of public/Tribal input and that is reprehensible. DOE simply does not want to spend the money to exhume the waste in order to properly and legally dispose of it in a geologically safe repository. President Bush does not consider this cost as part of "home-land security," when in fact it has everything to do with "home-land security" for not only the state of Idaho but also Oregon and Washington residents that are downstream of INEEL pollution.

What is at stake here is the viability of a principal sole source aquifer for future generations. This is a major threat to our very future that simply must not be shrugged off by Boise or Washington politicians.

The issue of stored waste verses buried waste is crucial. Comparatively, the 65,000 cm of **stored** waste in buildings at the INEEL Transuranic Storage Area is more recently generated and is less radioactive than the **buried** high-level/TRU waste in the burial grounds. In the earlier years (1950-75), DOE and its predecessors dumped all categories (including high-level) of waste together in shallow burial ground pits, trenches, and "soil vaults." After 1975, high-level and TRU waste were segregated from low-level waste. Consequently, the **buried** waste constitutes a greater hazard than the **stored** TRU waste because of co-mingling in the early years of all types of waste.

The **stored** TRU waste evaluated in DOE's recent environmental study contains 647,000 curies of radioactivity, including 473,600 curies of plutonium.

Although, DOE is not publicly acknowledging the fact, other internal DOE reports show the buried waste contains 11,000,000 curies of radioactivity including 1,455 kilograms of plutonium from Rocky Flats alone. The total **buried** plutonium contains 700,400 curies of radioactivity. The total stored and buried plutonium amounts to 1,174,000 curies (473,600 + 700,400). The buried waste alone represents potentially 17 times more radioactivity to be processed than apparently is considered in the DOE environmental study or the applications for state and federal permits.

DOE's Rocky Flats Plant recently conducted a mass balance inventory of plutonium and determined that 1,191.8 kg of plutonium was "unaccounted" for. Part of this shortfall was attributed to an estimated 300 kg in the ductwork and glove-boxes, and the remaining 891 kg shortfall was shipped to INEEL for disposal and was not included in the shipping manifests. Criticality control limits of 267 grams of plutonium-239 that could be disposed in the same container were regularly exceeded. The numerous fires at Rocky Flats and the resulting cleanup operations that shipped the decontamination waste to INEEL added to the accounting errors. Therefore, the total Rocky Flats plutonium dumped in the INEEL Subsurface Disposal Area could be as much as 2,346 kg (1,455 + 891). Given the radioactive toxic half-life of plutonium at 24,000 years, and the fact that it is migrating into the aquifer, this represents an unacceptable risk to public health and safety.

The DOE internal reports that estimate 11 million curies in the burial ground is considered by Environmental Defense Institute (EDI) as grossly understated. EDI researchers used the Navy waste shipments to the burial ground as a test case to evaluate the reliability of DOE's inventory estimates. DOE's 1994 inventory attributes only 4.2 million curies shipped from the Naval Reactor Facility. EDI, using the DOE's Radioactive Waste Management Information System data base printouts for each shipment (obtained through a Freedom of Information request), added up the Navy shipments between 1960, and 1993, and determined that the curie content amounted to 8.14 million curies. This is twice the amount at radioactivity DOE is claiming in the 1994 inventory for the Navy alone, which means the rest of the DOE inventory is equally understated.

This buried waste is clearly the most problematic in terms of environmental impact because contaminants are migrating into the Snake River Aquifer. In the "good old days," everything that was not usable went into the burial grounds, including some 90 metric tons of irradiated reactor fuel. The curie content of the buried waste is more than 11 million curies as previously cited. The only spent reactor fuel that went into storage at the

INTEC (previously called Idaho Chemical Processing Plant) was fuel that DOE could easily reprocess to extract materials for the nuclear weapons programs. In other words, only aluminum, stainless steel, or zirconium clad fuels could be reprocessed, with the exception that some experimental, and unsuccessful, fuel reprocessing of other reactor clad fuels did occur. There was no reprocessing of fuels such as ceramic clad fuels used in the Aircraft Nuclear Propulsion reactors, the Navy fuel test specimens, the Army reactors, the reactor fuel left after meltdowns where the cladding was compromised and thus difficult to store. This fuel that was not to be reprocessed went to the burial grounds and was mixed in with the other radioactive waste.

This cavalier dumping practice resulted in significant contaminate migration into the underlying soils and the Snake River Aquifer. The consequence of this pollution migration means that huge volumes of contaminated soils must be exhumed in addition to the waste to prevent further contaminate migration into the environment. Estimates of contaminated soils are 690,000 cm of which 170,000 cm is plutonium contaminated TRU waste. This contaminated soil would be candidate waste for the processing plants because it contains significant quantities of hazardous chemicals that were mixed in with the other radioactive waste.

Additionally, the buried waste contains a witch's brew of toxic chemicals and heavy metals, which DOE is not including in its environmental analysis. A 1994 DOE internal document inventory of this buried waste shows more than 2,868.42 metric tons of these toxic chemicals in the shallow pits and trenches.

For more information on this issue, see EDI's website at <http://personalpages.tds.net/~edinst>

Fallen Colleague

Joe Goldfield died on May 22. His passing left a huge void in the nuclear activist community. Joe was a wonderful engineer who had the technical expertise to credibly challenge DOE's radioactive waste incinerators. Joe effectively lead the charge that resulted in closure of the Rocky Flats incinerator, and also the INEEL Plutonium incinerator now called the Advanced Mixed Waste Treatment Plant (incinerator portion). His technical contribution made the difference between winning an illegal incinerator project closure and loosing it. In both cases (Rocky Flats and INEEL) we won, thanks to Joe Goldfield! ☺