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December 4, 2006

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RE: Comments for the Public Record on the Proposed U.S. Environmental Protection Agency Final Authorization of State of Idaho Hazardous Waste Management Program Revision Noticed in the Federal Register Vol. 71 No. 216, 11/9/06.

The Environmental Defense Institute (EDI), Keep Yellowstone Nuclear Free (KYNF) and David McCoy (Citizen Action) ["Petitioners"] offer these comments on EPA's above proposed ruling.

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Background

The Idaho Department of Environmental Quality (IDEQ) failed to require Department of Energy (DOE) to comply with Resource Conservation Recovery Act (RCRA) and Hazardous Waste Management Act (HWMA) at its Idaho National Laboratory (INL) Idaho Nuclear Technology and Engineering Center (INTEC). Petitioners filed a Notice of Intent to Sue (see Attachment III) DOE, IDEQ, and EPA July 2, 2002 alleging:

> "DOE's Failure to Comply with the Resource Recovery and Conservation Act, (42 U.S.C. § 6901 et seq); the Clean Water Act (33 U.S.C. § 1251 et seq.); the Clean Air Act (42 U.S.C. § 7401 et seq.); Safe Drinking Water Act (42 U.S.C. 300 F, et seq.); the National Environmental Policy Act (42 U.S.C. § 4332 et seq.); the floodplain/wetlands requirements of 10 CFR 1021 et seq.; DOE Orders 5400.1, 5400.5; Plaintiffs' rights to Due Process under the U.S. Constitution and the Administrative Procedures Act, 5 U.S.C. §§ 701-706 (APA) in operation of facilities at the Idaho National Engineering and Environmental Laboratory (INEEL) including the High Level Liquid Waste Evaporator (HLLWE), the Process Equipment Waste Evaporator (PEWE), the Liquid Effluent Treatment and Disposal facility (LET&D), New Waste Calcine Facility (NWCF), Tank Farm Facility (TFF), the Service Waste System (SWS), the two Percolation Ponds, ancillary equipment and injection well at located at INTEC."

DOE subsequently shut-down the New Waste Calcine Facility and IDEQ generated a draft HWMA/RCRA permit for the PEWE and LET&D 3/24/04. Petitioners again filed formal comments to IDEQ strenuously protesting the exclusion of the HLLWE stating:

> "Construction for the High-Level Liquid Waste Evaporator (HLLWE) at the Idaho National Engineering and Environmental Laboratory (INEEL) was initiated in 1993 and operation of the HLLWE <u>as a new facility</u> began in 1996. The HLLWE is required as a matter of law to obtain a RCRA permit as a new facility and not be engrafted as a modification onto the current application. This is a jurisdictional issue that requires resolution before the HLLWE can receive any legitimacy as a RCRA facility. The HLLWE has processed over 4 million gallons of high-level radioactive liquid and mixed hazardous wastes without a RCRA permit. DOE is required but has failed to submit an application for a RCRA permit for the HLLWE. The HLLWE has operated at all times without a RCRA permit and without interim status.
>
> "The whole purpose of obtaining state and federal permits for a new facility in advance of construction and operation is to protect the public and environment from the operations of facilities which have not received proper scientific and regulatory scrutiny. The HLLWE has failed to comply with the RCRA requirements for new facilities. DOE failed to obtain a prerequisite RCRA permit 180 days before beginning construction.
>
> "Moreover, DOE has never complied with the statutory requirements to have obtained interim status for the HLLWE because the HLLWE was <u>not</u> "in existence" by July 3, 1986, i.e., under construction, in operation, or with unavoidable contractual commitments. Interim status is granted only by statutory compliance. Interim status

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cannot be conferred by a permitting agency, consent order or by merely listing a facility on the Part A application as DOE did for the HLLWE." [1]

Petitioners filed a Withdrawal Petition (9/13/01) to EPA Inspector General (EPA/OIG) on EPA Idaho RCRA/HWMA authorization proposals. [2] EPA/OIG subsequently generated "Evaluation Report, Review of EPA's Response to Petition Seeking Withdrawal of Authorization for Idaho's Hazardous Waste Program. [3] Petitioners also filed comments dated September 5, 2003, June 3, 2005, and July 14, 2004 to EPA concerning significant lax enforcement of RCRA/ HWMA articulated specific enforcement of RCRA/HWMA issues. Petitioner's previous comments are hereby included herein by reference since they are in EPA's public record. [4]

Additionally, Petitioners filed a formal petition April 28, 2006 to EPA's Office of Inspector General (OIG) requesting a review of RCRA permitting at the DOE Idaho National Laboratory Reactor Technology Center. Petitioners further commented on OIG "Evaluation Report: Review of EPA's Response to Petition Seeking Withdrawal of Authorization for Idaho's Hazardous Waste Program." [5] Also see EPA/IG Evaluation Report, Substantial Changes Needed in Implementation and Oversight of Clean Air Act Title V.

1. **This EPA Inspector General report required action by Region 10 EPA as follows:**

"**ACTION REQUIRED:** In accordance with EPA Manual 2750, you, as the primary action official, are required to provide this office with a written response within 90 days of the final report date. The response should address all recommendations. For corrective actions planned but not completed by the response date, please describe the actions that are ongoing and provide a timetable for completion. Reference to specific milestones for these actions will assist in deciding whether to close this report in the assignment tracking system." [6]

If you [EPA Region 10 and/or EPA OIG] have taken the above action Petitioners have not received any notice of or written copy of the required response. Kindly furnish Petitioners with the written response.

2. During 2002, the Region 10 posted on its website a News Release concerning the Petition filed by Keep Yellowstone Nuclear Free, The Environmental Defense Institute and David B. McCoy. Rick Albright, Director of EPA's Region 10 Office of Waste and Chemicals

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[1] See Petitioners (1) 10/23/02 Petition to reopen public comment on RCRA permit; (2) Petitioners 2/1/03 Complaint to EPA Region 10, EPA Inspector General, IDEQ alleging lax RCRA/HWMA enforcement at INL and (3) Petitioners 11/25/05 comments on deficiencies in LWMS permits and Petitioners 4/7/04 RCRA permit comments. .These comments are available on EDI's website Publications: http://environmental-defense-institute.org

[2] U.S. EPA, Office of Inspector General for Audit, Western Division, October 23, 2001 Memorandum, Subject: "Petition to USEPA to Commence Proceedings for Withdrawal of the Idaho Department of Environmental Quality as the RCRA Authority for the State of Idaho (40 CFR ss 271.22 and 271.23), September 13, 2001, from Keep Yellowstone Nuclear Free, David B. McCoy, and Environmental Defense Institute.

[3] U.S. EPA Office of Inspector General, Evaluation Report, Review of EPA's Response to Petition Seeking Withdrawal of Authorization for Idaho's Hazardous Waste Program, Report No. 2004-P-00006, February 5, 2004.

[4] Petitioners challenges to EPA Office of Inspector General are available on EDI's Website/Publications

[5] Environmental Protection Agency, Office of Inspector General, Evaluation Report, Report No. 2004-00006, February 5, 2004.

[6] OIG report forward "Memorandum" from Carolyn Cooper to John Iani, 2/5/04

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Management stated that; "[R]eview of IDEQ's permitting and enforcement program shows that the state is performing in accordance with applicable hazardous waste regulations." [7] Another EPA press release stated that David B. McCoy was "confused about the law."

In Petitioners collective opinion, the Inspector General's Evaluation Report indicated serious deficiencies in the hazardous waste management program at INL as conducted by the Idaho Department of Environmental Quality (IDEQ). The EPA Inspector General found that:

- "IDEQ failed to exercise control by requiring permits for the Calciner.
- "IDEQ allowed Calciner operations from 1991 until 2001 closure although there was the inability to sample waste, establish emissions monitoring for radionuclides, and establish risk assessments for the workers and public.
- "Idaho has failed to demand a complete permit application for at least eight years up until the present for the High Level Liquid Waste Evaporator even though it identified "substantial issues" in the operation of the unit involving waste characterization. The IDEQ failed to make "timely permitting decisions ... protective of human health and the environment" for the HLLWE.
- "The IDEQ did not independently collect data or adequately conduct annual inspections to confirm whether or not the emissions from Process Waste Equipment Evaporator and associated tanks were safe.
- "The IDEQ failed to verify whether waste sampling activities were appropriate at the PEWE and another facility, the Liquid Effluent Treatment & Disposal unit prior to the treatment, storage or disposal of the hazardous wastes."

3. The Inspector General's Evaluation Results (p. 3) states that "[T]he Region [10] needs to ensure that IDEQ requires DOE to expeditiously move to resolve Part B permit application deficiencies for the HLLWE." DOE changed the HLLWE name to Evaporator Tank System. Please provide all information available to show what the Region has done to ensure compliance with this goal and the data that it has received from the IDEQ to show compliance.

4. The Inspector General recommended that "The Region needs to ensure that IDEQ inspections include evaluations of the Process Equipment Waste Evaporator (PEWE) and its associated tanks to determine compliance with RCRA emissions requirements." Please provide us all information available to show what the Region has done to ensure compliance with this goal and the data that it has received from the IDEQ to show compliance.

5. The Inspector General recommended that; "The Region [10] needs to ensure that IDEQ inspections include evaluations of the ILWMS to determine compliance with waste characterization requirements." (Page 10). Please provide us all information available to show

[7] EPA Region 10 website, October 16, 2001, "EPA Corrects Activist's Misstatements," http://yosemite.epa.gov/r10/homepage.nsf. Also, Region 10 News Release, March 20, 2002, "EPA Denies Petition to Withdraw Idaho's Hazardous Waste Program."

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what the Region has done to ensure compliance with this goal and the data that it has received from the IDEQ to show compliance.

6. The Region [10] agreed (p. 15) to designate the next inspection of the INEEL ILWMS as an oversight inspection, with a Region 10 EPA inspector participating on the inspection team in an oversight capacity. If this inspection has been performed, we would like to receive a copy of the data, comments and conclusion of that inspection. [8]

After strenuous objections from Petitioners, IDEQ later illegally approved a permit modification (only for hazardous emissions and excluding radioiactoactive emissions) to the previous Process Equipment Waste Evaporator (PEWE) and the Liquid Effluent Treatment and Disposal (LET&D) that included the High-level Liquid Waste Evaporator (HLLWE) calling it the Evaporator Tank System (ETS). DOE can not modify a non-existent permit for the HLLWE/ETS especially when this operation processes the most deadly hazardous/radioactive material on the planet! EPA/OIG agrees as stated above.

Recently, Idaho Department of Environmental Quality's (IDEQ) willingness to allow DOE Idaho Nuclear Technology Center (INTEC) Liquid Waste Management System (ILWMS) to obfuscate regulatory process vent emission requirements are fully discussed in Attachment I below. Specifically, IDEQ complicities in allowing DOE to "boot-strap" major new waste treatment operations onto a "Permit Modification" process that is NOT as comprehensive as an otherwise required individual RCRA/HWMA permit. The new Integrated Waste Treatment Unit (IWTU) slated to process the most deadly high-level liquid waste in the INTEC Tank Farm into a solid "calcine" like waste form is again being "boot-strapped" into the existing ILWMS RCRA/HWMA permit modification. This permit modification results in inappropriate and abbreviated permitting process that puts the public at risk due to the significant mixed hazardous and radioactive emissions to the atmosphere.

IDEQ's apparent unwillingness to implement a RCRA/HWMA permit for the INL Advanced Test Reactor and related operations at the Reactor Technology Complex demonstrates lax enforcement by IDEQ. Robert Bullock, IDEQ permit manager sent an email to Broscious 3/4/06 stating: "Chuck, The reactors are not currently regulated as Treatment Storage or Disposal Facilities. As to the title 5 issue. Mike Simon (here at DEQ) would probably be able to give you a status update on that. REB"

Again, IDEQ is apparently allowing INL Engineering Test Reactor D&D waste for disposal at the INL CERCLA Disposal Facility (ICDF) that violates ICFF Waste Acceptance Criteria . These issues are fully discussed in Attachment II below.

In summary, there is no apparent EPA Region 10 follow-through that documents that the OIG stipulated requirements have been met by IDEQ and/or more recent RCRA/HWMA un-enforced regulatory issues articulated herein. Moreover, IDEQ apparently continues to violate its enforcement RCRA/HWMA enforcement obligations. Therefore, any EPA final RCRA/HWMA authorization for Idaho is unsubstantiated.

[8] http://www.epa.gov/oig/reports/2004/20040205-0006.pdf

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Respectfully Submitted

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Enclosures
Attachment I, Petitioners Comments 11/5/06
Attachment II, Petitioners Revised Comments 11/13/06
Attachment III, Petitioners Notice of Intent to Sue 7/9/02

cc: Sent via Email

Kathleen Trever, Administrator, Idaho INL Oversight Program
Mark Sullivan, J.D, Counsel for KYNF

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Attachment I

Environmental Defense Institute

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November 5, 2006

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RE: Preliminary Comments on U.S. Department of Energy Class 3 Draft Modified Permit to the Volume 14 for the Idaho Nuclear Technology and Engineering Center (INTEC) at the Idaho National Laboratory, Permit Number EPA ID No. ID4890008952I
INTEC Liquid Waste Management System and the Integrated Waste Treatment Unit

Section I: Summary

The Department of Energy (DOE) Idaho National Laboratory (INL) contractor CH2M-WG issued a public notice mailing (August 21, 2006) on a Permit Modification Request ("PMR") that offered inadequate discussion on this project and no "on-line" access to the PMR documentation.

The DOE quickly posted a "Draft Modified Permit" in August 2006 that has no official

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public comment provisions. [9] Apparently, Idaho Department of Environmental Quality (IDEQ) will eventually issue a semi-final "Revised Draft Permit" for public comment. The below Environmental Defense Institute (EDI) preliminary comments are on the DOE's "Draft Modified Permit." EDI appreciates IDEQ's willingness to post these pre-decisional documents on its website. EDI's final comments will be submitted when IDEQ issues the semi-final "Revised Draft Permit."

The 60-day comment period is inadequate given the importance of this major new operation and the potential for significant environmental impact. Therefore, EDI requests that the comment period be extended to 90 days to IDEQ "Revised Draft Permit" of the more than 640+ pages of the PMR and the DOE Draft Modified Permit documentation. Hopefully, IDEQ will not again bury the Revised Draft Permit in some obscure location on its website as it did previously with other drafts.

EDI has always supported the safe conversion/treatment of INTEC high-level tank waste inventory into a waste form that would not pose a continued threat to the underlying Snake River Aquifer. EDI, however, protests DOE's attempt to circumvent applicable Resource Conservation Recovery Act (RCRA), Hazardous Waste Management Act, and Clean Air Act regulations.

One of the numerous and crucial deficiencies of this Draft Permit is that it only addresses hazardous materials and totally ignores radioactive materials released to the atmosphere. The Permit must address compliance with all applicable regulations. [10] This is a crucial issue because during 2003, INTEC released 6,002 curies of radioactive emissions to the atmosphere. [11] By any standards, this is an enormous amount of radiation to the environment! [12] Since the new Integrated Waste Treatment Unit (IWTU) is part of the multi-process INTEC Liquid Waste Management System (ILWMS) that is treating the most radioactive waste on earth, this is an unacceptable exclusion. This Permit belatedly includes the main ILWMS component units that include:

- Integrated Waste Treatment Unit (IWTU) treating formerly classified high-level waste
- Evaporator Tank System (ETS) formerly called the High-level Liquid Waste Evaporator
- Process Equipment Waste Evaporator (PEWE)
- Liquid Effluent Treatment and Disposal (LET&D)

No one outside DOE will challenge the Department's creative moves to change the names of processes in a blatant attempt to obfuscate the legal definitions in the regulations. This Draft Permit is no exception! Even the most pedestrian observer of this Permit will conclude that DOE's "bait and switch" is illegitimate and continues to compromise public health and safety.

Although the Integrated Waste Treatment Unit (IWTU) does not meet the legal definition

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[9] Department of Energy Draft Modified Permit of the current "INEEL: ILWMS Partial Permit, signed by Toni Hardesty, Director IDEQ, 9/16/04, hereinafter called "Draft Permit." Available on IDEQ's website below; http://www.deq.idaho.gov/waste/permits_forms/permitting/haz_waste/ilwms_permit/overview.cfm

[10] 40 CFR 191.27 (notes 5 and 6) as well as 40 CFR 61 Subpart I.

[11] Draft Environmental Impact Statement for the Proposed Consolidation of Nuclear Operations Related to Production of Radioisotope Power Systems, DOE/EIS-0373D, page 3-26.

[12] By comparison, the Three Mile Island reactor meltdown released between 13 and 23 curies.

of incinerator (open flame combustion) that DOE calls "Steam Reformer," it meets every other regulatory definition of a "combustion unit," "high-temperature thermal treatment," and controlled pyroforic high-temperature burn (1,150 degree C), using induced fuel in the form of combustible carbon (coal) and oxygen as a means of maintaining the high temperature for reducing the waste in a fluidized bed to a granular calcine like waste product.

Regardless what DOE calls this new IWTU and other ILWMS operations they must be independently defined by a independent characterization of the treatment process implemented.

"A temperature of 1,150 C is the same as the operating temperature in the turbine (hot end, in the direct blast of the burning fuel/air mixture) of a jet engine. This is bright red heat, enough to melt copper & incinerate almost anything, but the mere idea of burning previously classified high level waste & not monitoring or controlling the resulting emissions seems to me to be beyond stupid & without regard to public safety," notes a University of Idaho Engineering Materials Science professor.

DOE's PMR claims the new IWTU will process "approximately 836,000 gallons of mixed liquid waste, containing both hazardous and radioactive components stored in three 300,000-gallon tanks." [13] However the Permit claims; "Permitted/Prohibited Waste to be Treated: Treatment of hazardous only (no radioactive waste component) waste is not authorized." [14] However, the purpose of the IWTU is to treat the Sodium Bearing Waste currently in the INTEC high-level waste tank farm and even DOE acknowledges this waste is remote-handled mixed hazardous and radioactive transuranic waste for disposal at the Waste Isolation Pilot Plant (WIPP).

Therefore, DOE is violating the Permit by treating radioactive waste.

These are only current liquid waste inventories and do not include DOE plans to restart spent nuclear fuel reprocessing that will generate significant volumes of "newly-generated" high-level liquid waste. This is an enormous amount of extremely deadly waste to treat and the potential for significant emissions that could affect the public and the environment must be recognized.

DOE states: "The units that comprise the [INTEC Liquid Waste Management System] ILWMS are capable of handling high-level, transuranic, and low-level radioactive wastes. Activities of typical wastes range from<20 nCi/g to 50,000 nCi/g. The exposure rates associated with these process solutions routinely exceed 100 mrem/hr and can pose a potentially serious hazard to workers at the INL if appropriate protective measures such as time, distance and shielding are not applied." [15]

DOE's reported intent to restart reprocessing of spent nuclear fuel (SNF) at INL lends credence to public concerns that the IWTU is not just dedicated to treating existing high-level waste tank inventories, but also facilitating managing "newly-generated-waste" from reprocessing of SNF. [16]

1. DOE Draft Permit Discussion of Process Vents

"Process Vent" is a broad Resource Conservation Recovery Act (RCRA) regulatory

[13] PMR, Attachment 1, page 1-D-134
[14] DOE Draft Permit, page74
[15] PMR, Attachment 2, Section C, pg. 2-6. (nCi/g = nano Curies per gram) (mrem/hr = millirem per hour)
[16] PMR, Attachment 2, Section C, pg. 12

category for a major source of hazardous air pollutants that must comply with more restrictive EPA emission regulations. DOE has been and continues to side-step compliance with these emission regulations with bogus assertions that their hazardous and radioactive waste treatment operations are NOT Process Vents. IDEQ is complicities in this charade by allowing DOE's obfuscation of the law. [17]

DOE claims: "The IWTU does not involve distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations. As such, the IWTU stack does not meet the definition of a process vent in IDAPA 58.01.05.008 (40 CFR § 264.1031) and the requirements specified in 40 CFR 264 Subpart AA do not apply." [18] Yet, the Draft Permit approves and states; "Treatment by Distillation, Evaporation or Steam Reforming." [19]

Moreover, 40 CFR 264.1031 states: "Process vent means any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or through a tank (e.g., distillate receiver, condenser, bottoms receiver, surge control tank, separator tank, or hot well) associated with hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations.

"Distillation operation means an operation, either batch or continuous, separating one or more feed stream(s) into two or more exit streams, each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and vapor phase as they approach equilibrium within the distillation unit.

"Fractionation operation means a distillation operation or method used to separate a mixture of several volatile components of different boiling points in successive stages, each stage removing from the mixture some proportion of one of the components.

"Distillate receiver means a container or tank used to receive and collect liquid material (condensed) from the overhead condenser of a distillation unit and from which the condensed liquid is pumped to larger storage tanks or other process units."

Clearly, the IWTU meets two or more of the above definitions of a "process vent" under 40 CFR 264.1031. DOE cannot credibly claim exemption of this crucial RCRA emission control regulation. Moreover, IDEQ fails to ensure that DOE is in violation and challenge this unfounded exemption.

DOE's PMR includes other liquid waste treatment units and claims: "The [Process Equipment Waste Evaporator] PEWE and [Evaporator Tank System] ETS off-gas is processed through vessel off-gas systems in Buildings CPP-604 and CPP-659 respectively and then sent to the APS in Building 649, prior to discharge to the main stack. Therefore, the PEWE and ETS vents do not meet the definition of a process vent and IDAPA 58.01.05.008 [40 CFR § 264.1031] does not apply." [20]

Again, the PEWE and ETS meet one or more of the above definitions of a "process vent" under 40 CFR 264.1031. DOE cannot credibly claim exemption of this crucial RCRA emission control regulation. IDEQ must change its position and force DOE

[17] DOE Draft Permit, page 32. Also IDEQ 10/3/06 Notice of Deficiency for the Integrated Waste Treatment PMR Modification Request contains no mention of Process Vent regulation applicability.
[18] PMR, Attachment 2, Section C, page 2-52
[19] DOE Draft Permit, page 76.
[20] Draft Permit page 32, and PMR, Attachment 2, page 2-52

to comply with RCRA and ensure (for the sake of public health and safety) that DOE is not allowed to use this unfounded exemption.

The above DOE PMR does not implement new: "EPA (2005) recommendations that organics and metal emissions be increased by factors of 2.8 and 1.45 respectively, to account for potential increases in emissions due to process upset conditions." [21] Also, there is no apparent cumulative hazardous/radioactive emissions data for all the INTEC operations using the same Main Stack, other co-located stacks, and the new IWTU stack as required in the regulations. This is a crucial issue because during 2003, INTEC released 6,002 curies of radioactive emissions to the atmosphere. [22] By any standards, this is an enormous amount of radiation to the environment!

2. INTEC Liquid Waste Management System (ILWMS) PMR Tank Issues

DOE plans to continue using RCRA non-compliant tanks and ancillary service lines and equipment. DOE's Draft Permit only lists about 53 tanks and fails to provide crucial information about each tank. [23] Apparently, all of the functioning tanks are not listed in the Draft Permit.

Twelve of the tanks (listed in the PMR) date back to 1951, and nine tanks date back to the 1970s and 1980s, long beyond their 20-year design life. An additional 18 tanks have no "certification stamp." That is a total of 39 tanks that are non-compliant. **The ASME design standards [24] for the other tanks are only relevant if the tanks have not already exceeded their design life. DOE must stipulate the ASME design life and age for each of the tanks listed in the PMR along with the anticipated years of future operational use.**

RCRA secondary containment requirement in tank vaults is compromised by DOE's use of "gerry-rigged" Hypalon liners with dubious joint sealants that are not compliant or certified for waste contained in tanks. Extensive use of old non-compliant "drip troughs" in ancillary service lines instead of the required welded stainless steel secondary containment with continuous monitoring, are grounds for denying the Permit under 40 CFR 270.42. [25]

ILWMS "Bottoms Tanks" do not meet required secondary containment under RCRA. DOE's Permit states: "The secondary containment is constructed of concrete floor lined with a Hypalon® membrane (registered trademark of DuPont), which extends three feet up the walls.[26] All seams in the secondary containment are heat-welded or adhesive 14 bonded to avoid any cracks or gaps. The membrane is sealed around the tank saddles by silicone rubber 15 sealant that is capable of withstanding the expected waste solutions for extended periods of time. " [27]

The above DOE disclosure of use of non-certified "silicone sealant" that is "capable of withstanding the expected waste" for some vague undocumented "extended period of time" is grounds for denial of the Permit under 40 CFR 270.42 because it does meet regulatory requirements for secondary containment.

Twelve of the CPP-641 listed tanks date back to the early 1950s, 45 years beyond their

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[21] PMR, Attachment 1, page 1-D-138

[22] Draft Environmental Impact Statement for the Proposed Consolidation of Nuclear Operations Related to Production of Radioisotope Power Systems, DOE/EIS-0373D, page 3-26.

[23] DOE Draft Modified Permit, pages 42 through 64.

[24] American Society of Mechanical Engineers (ASME)

[25] USDOE Idaho Operations Office RCRA PMR Modification Request for Idaho National Laboratory, August 2006, herein after referred to as PMR. Attachment 1-D-Process pg. 99

[26] Draft Permit, page 42, 47, and 48.

[27] PMR, Attachment 1, page 1-B-10

20-year design life. Nine of the above tanks put into service in the 1960s and 1980s are also long beyond their design life. An additional four tanks have no certification stamp.

So a total of 26 tanks (just in CPP-641) are not in compliance. The ASME design standards for the other tanks are only relevant if the tanks have not exceeded their design life. DOE must provide documentation on each tanks design life and age to validate their continued use through the operational life of the ILWMS.

The PMR tank table states: "No code stamp required??" The code stamp is a RCRA requirement and is the only legitimate verification that the tank does in fact meet the standard. Again, these tanks are likely beyond their 20-year design life. Therefore, DOE must provide documentation on each tank design life.

Again, the ASME design standards for the tanks are only relevant if the tanks have not exceeded their design life and future operational planed use. DOE must provide documentation on each tanks design life to validate their continued use through the operational life of the ILWMS.

DOE's PMR acknowledges secondary containment in waste service piping: "Concrete-embedded transfer lines have been identified at the ILWMS." [28] This is a violation of compliance with 40 CFR § 264.193(f) that requires monitored leak collection and welded stainless steel secondary containment. Although DOE claims its intent to upgrade or reroute these service lines, there is no apparent confirmation that all of these upgrades has occurred.

RCRA does not provide for the above DOE claimed exemptions. Therefore, the Permit is deficient. Extensive use of old non-compliant "drip troughs" in four other buildings' ancillary service lines instead of the required welded stainless steel secondary containment with continuous monitoring, are grounds for denying the Permit [29]

DOE's PMR states that; "No viable pathway exists for migration of hazardous waste or hazardous constituents from the waste treated in the PEWE, LET&D, ETS, or IWTU to the soil, ground water, and/or surface waters." [30]

DOE's above statement is not true because of the extensive soil and groundwater monitoring data under INTEC showing massive contaminate migration to the soil and groundwater. As these comments articulate the ILWMS process off-gas systems are inadequate, and DOE's attempt to exempt these process vents from regulatory compliance, is clear evidence that they would not meet critical scrutiny on compliance.

According to IDEQ, major portions of the Permit have been redacted (censored) as "proprietary information." [31] This redaction/censorship of pertinent information is unacceptable in EDI's view because it shows the flow charts outlining the inter-connection of the various operations as well as other crucial information! IDEQ must force DOE to fully disclose all process information.

DOE acknowledges that; "The INTEC was designed and built using a variety of Architectural Engineers (AE) over the past 50 years. Those AE's used different line identifier, instrumentation identifiers, etc. As buildings were designed and constructed, the current architectural engineering standards for the time period were used. The diagrams of the processes

[28] PMR, Attachment 1-D, page 1-D-87
[29] PMR, Attachment 1-D-Process pg. 99
[30] PMR, Attachment 1-D, page 1-D-104
[31] IDEQ email 9/6/06 to Broscious

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submitted to the IDEQ span more than 50 years." [32]

What confidence can the public attribute to this grossly out-dated documentation and standards even if it were made public?

Finally, IDEQ must take a more critical review of this Draft Permit than it has taken with previous INL Liquid Waste Management System RCRA PMR and DOE's Draft Modified Permit because of the extreme hazard this remote handled mixed transuranic waste treatment poses to the public. [33] Moreover, there is no "path-forward" for the final waste form, so IDEQ must ensure that DOE develop a credible regulatory compliant interim storage for this waste until the final geologic repository is designated.

The Idaho Department of Environmental Quality has taken a position supporting the Current Permit deficiencies and appears ready to issue similar findings for the new proposed permit. In the past, IDEQ chose to put the politically expedient ruling of Idaho's single largest employer ahead of public health and safety. Public comment is crucial to reversing this miss-guided priority.

Section II: DOE Draft Permit Discussion of Process Vents

1. Process Vents

DOE claims in its PMR "SUBPART AA, SUBPART BB AND SUBPART CC APPLICABILITY [IDAPA 58.01.05.008; 40 CFR §§ 264.1030, 264.1050, AND 264.1080]; 40 CFR 264 Subpart AA requires owners or operators of facilities with process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations managing hazardous wastes with organic concentrations of at least 10 ppmw to either: 1) reduce total organic emissions from all affected process vents at the facility below 1.4 kg/hr (3 lb/hr) and 42.8 Mg/yr (3.1 tons/yr); or 2) reduce, by use of a control device, total organic emissions from all affected process vents at the facility by 95 weight percent. A process vent is defined in 40 CFR 264.1031 as any 6 open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or through a tank associated with hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations. "

DOE's Draft Permit illegally adopts [34] previous DOE claims that; "The IWTU does not involve distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations. As such, the IWTU stack does not meet the definition of a process vent in IDAPA 58.01.05.008 (40 CFR § 264.1031) and the requirements specified in 40 CFR 264 Subpart AA do not apply." [35]

DOE PMR claims: "Wastes in the process condensate collection tanks (VES-WL-106, -107, and -163) are sampled for [total organic compounds] TOC before being transferred to the LET&D facility. Historical sample results of the LET&D feed have been in the range of 30 to 200 ppm for TOC. Therefore 40 CFR Subpart AA is applicable to the LET&D facility." [36]

"The LET&D facility off-gas system [total organic compounds] TOC emissions are

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[32] PMR, Attachment 1, page 1-D-72
[33] PMR, Attachment 2 Section C, page 17
[34] Draft Permit, page32 and 33.
[35] PMR, Attachment 2, Section C, page 2-52
[36] INL HWMA/RCRA INTEC Liquid Waste Management System Part B PMR Attachment 2, Section C, Waste Characteristics Volume 14 Revision Date: January 23,August 2006 2-53

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controlled per the following calculations 22 and methodology: 23 3 lbs/hr (454 g/lb) = 1362 g/hr = 1,362,000 mg/hr; maximum feed rate = 550 gal/hour; 25 (550 gal/hr) (3.785 liters/gal) = 2,079 L/hr 1 (1,362,000 mg/hr) / (2,079 L/hr) = 655.1 milligrams/L = 655.1 ppm."

It is uncertain that 40 CFR 264 Subpart AA and/or new EPA standards are met that requires owners or operators of facilities with process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations managing hazardous wastes with organic concentrations of at least 10 ppmw to either: 1) reduce total organic emissions from all affected process vents at the facility below 1.4 kg/hr (3 lb/hr) and 42.8 Mg/yr (3.1 tons/yr); or 2) reduce, by use of a control device, total organic emissions from all affected process vents at the facility by 95 weight percent.

Again, IDEQ's Draft Permit misguidedly adopts [37] DOE claims "40 CFR 264 Subpart BB Applicability IDAPA 58.01.05.008 (40 CFR 264 Subpart BB) applies to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10% by weight. Sampling of the PEWE, system and ETS, and IWTU inputs have shown the maximum TOC contained in the waste to be less than 800 ppm. Since the TOC is less than 10 percent by weight, the requirements of 40 CFR 264 Subpart BB do not apply**."**

The above DOE Permit does not implement new: "EPA (2005) recommendations that organics and metal emissions be increased by factors of 2.8 and 1.45 respectively, to account for potential increases in emissions due to process upset conditions." [38] [emphasis added]

DOE further claims "40 CFR 264 Subpart CC Applicability; 40 CFR 264.1080(b)(6) exempts from applicability a waste management unit that is used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act. Process liquids associated with the ILWMS are radioactive mixed waste and are exempt from regulation under Subpart CC."

This is not a valid exemption claim because 40 CFR 264.1080(b) states:

"(b) The requirements of this subpart do not apply to the following waste management units at the facility: (1) A waste management unit that holds hazardous waste placed in the unit before December 6, 1996, and in which no hazardous waste is added to the unit on or after December 6, 1996. … (6) A waste management unit that is used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act."

DOE routinely, as of this date and future acknowledged operations, adds newly generated waste to the ILWMS so the above exemption does not apply. Also, as these EDI comment articulate, DOE is not managing its "radioactive mixed waste in accordance with all applicable regulations under the Atomic Energy Act and the Nuclear Waste Policy Act" or other applicable statutes/regulations. **Therefore, DOE cannot claim this exemption.**

2. IWTU PMR Process Information

DOE claims this "The IWTU utilizes a steam reforming process for treating INTEC Sodium Bearing Waste (SBW) and newly generated liquid wastes. IWTU site preparation is

[37] DOE Draft Permit, page32 and 33.
[38] PMR page 1-D-138

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scheduled to begin in Spring 2007 and start of operations is scheduled in December 2009.

"This action is consistent with existing language in the PMR, which describes the current ILWMS treatment units as part of an overall treatment train for wastes stored at INTEC. The IWTU is the final unit in the overall ILWMS treatment system and will be used to convert the remaining stored liquid waste into a solid treatment product that is suitable for ultimate disposal." [39] **Again, current and previous ILWMS Permitting is deficient.**

3. IWTU Facility Description

"Bottoms Tank (VES-WL-101) and Feed Collection Tank (VES-WL-102) Vault
The vault contains VES-WL-101 and VES-WL-102 and is constructed of reinforced concrete that ranges in thickness from 2 to 4 feet. This vault is 30 ft wide, 43 ft long, and 16 ft high. The secondary containment is constructed of concrete floor lined with a Hypalon® membrane (registered trademark of DuPont), which extends three feet up the walls. The main body of the membrane 9 has a 45-mil nominal thickness and is reinforced with denier polyester fabric scrim. Un-reinforced 10 membrane that is used for corner reinforcement and around the sump liner insert, which must be molded 11 to fit, is 60-mil nominal thickness. The Hypalon® membrane conforms to the requirements of the 12 National Sanitation Foundation Standard 54 (revised May 1991) Type 3-45, (industrial grade 13 chlorosulfonated polyethylene). All seams in the secondary containment are heat-welded or adhesive 14 bonded to avoid any cracks or gaps. The membrane is sealed around the tank saddles by silicone rubber 15 sealant that is capable of withstanding the expected waste solutions for extended periods of time. " [40]

The above DOE disclosure of use of non-certified "silicone sealant" that is "capable of withstanding the expected waste" for some vague undocumented "extended period of time" is grounds for denial of the PMR under 40 CFR 270.42 because it does meet regulatory requirements for secondary containment.

4. Building CPP-641

"The Westside Waste Holdup System (VES-WL-103, VES-WL-104, and VES-WL-105) is housed in CPP-641, which is a cinderblock building 22 ft long and 15 ft wide. CPP-641 contains the instrumentation, motor control center, sample station, and jet valves for the tanks. The three tanks are located in two underground vaults north of CPP-641. The vault complex is 39 ft 8 in. long and 20 ft wide (outside dimensions). The east vault is 18 ft by 22 ft by 12 ft 6 in. high. "

"The west vault measures 18 ft by 12 ft 2 in. by 12 ft 6 in. high. VES-WL-104 and VES-WL-105 share the east vault; VES-WL-103 is located in the west vault. **The VES-WL-103 vault floor and lower 4 ft 9 in. of the walls are lined with Hypalon®** with a stainless steel insert in the sump. **The remainder of the** walls and ceiling are coated with an epoxy coating. The VES-WL-104 and VES-WL-105 vault floors and 21lower 2 ft 6 in. of the walls are lined with Hypalon® with a stainless steel insert in the sump. The 22 remainder of the walls and ceilings are coated with epoxy coating."

With the exception of the above, the PMR fails to disclose if the required stainless steel

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[39] INL HWMA/RCRA INTEC Liquid Waste Management System Part B PMR Attachment 2, Section C, Waste Characteristics Volume 14 Revision Date: January 23,August 2006 2-54.
[40] PMR Attachment B page 1-B-10

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secondary containment extends to the tank sumps.

Table D-1 PEWE Tanks [41]

Tank Number/ Description	Year of Operation	Materials of Construction	Design Standards
VES-WL-132 Evaporator Feed Sediment	1983	Nitronic 50	ASME Section VIII Stamped
VES-WL-133 Evaporator Feed Collection	1983	Nitronic 50	ASME Section VIII Stamped
VES-WL-102 Surge Tank For VES-WL-133	1951	Type 347 SS	See Note *
VES-WL-109 Evaporator Head	1953	Type 347 SS	See Note *
VES-WL-129 Evaporator	1985	Nitronic 50	ASME Section VIII Stamped
VES-WL-161 Evaporator	1984	Nitronic 50	ASME Section VIII Stamped
VES-WL-131 Condensate Surge	1975	Type 304L SS	Unknown
VES-WL-134 Condensate Surge	1984	Type 304L SS	ASME Section VIII Stamped
VES-WL-111 Bottoms Collection	2001	Type 304L SS	ASME Section VIII Stamped
VES-WL-101 Bottoms Collection	1951	Type 347 SS	See Note *
VES-WH-100, Deep tanks	1953	Type 347 SS	See Note *
VES-WH-101, Deep tanks	1953	Type 347 SS	See Note *
VES-WG-100, Deep tanks	1953	Type 347 SS	See Note *
VES-WG-101, Deep tanks	1953	Type 347 SS	See Note *
VES-WL-103 WWH tank	1961	Type 304L SS	Not Stamped See Note **
VES-WL-104 WWH tank	1961	Type 304L SS	Not Stamped See Note **
VES-WL-105 WWH tank	1961	Type 304L SS	Not Stamped See Note **
VES-WM-100 CPP-604 TFT	1953	Type 347 SS	See Note *

[41] PMR Attachment D pg. 1-D-45

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VES-WM-101 CPP-604 TFT	1953	Type 347 SS	See Note *
VES-WM-102 CPP-604 TFT	1953	Type 347 SS	See Note *
VES-WL-106 Process Condensate Collection Tank	1953	Type 347 SS	See Note *

Note *: Due to the age of these tanks, no documentation exists to confirm standards. Conversation with the vendor indicates the tanks were built to API or to ASME Standards. It is common practice for the vendor to maintain the documentation for 20 years.
Note **: Not Stamped – Built to ASME Section VIII. No code stamp required.

Twelve of the above listed tanks date back to the early 1950s, 45 years beyond their 20-year design life. Nine of the above tanks put into service in the 1960s and 1980s are also long beyond their design life. An additional four tanks have no certification stamp. **So a total of 26 tanks (just in this above table) are not in compliance. The ASME design standards for the other tanks are only relevant if the tanks have not exceeded their design life. DOE must provide documentation on each tanks design life and age to validate their continued use through the operational life of the ILWMS.**

Table D-2. LET&D Tanks [42]

Tank Number/ Description	Year of Operation	Materials of Construction	Design Standards
VES-WLK-197	1993	Type 304L SS	ASME Section VIII Division 1
VES-WLL-170	1993	Hastelloy G-30	ASME Section VIII Division 1
VES-WLK-171	1993	Hastelloy G-30	ASME Section VIII Division 1
VES-WLL-195	1993	Type 304L SS	ASME Section VIII Division 1
VES-NCR-171	1995	Type 304 SS	ASME Section VIII Division 1
VES-NCR-173	1995	Type 304L SS	Fabricated per Project Drawings **(no certification)**

" No certification" equals RCRA non-compliance.

Table D-3 Evaporator Tank System (ETS) formerly called the High-Level Liquid Waste Evaporator [Attachment 1. Section D, Process Information]

ETS Tanks Number/ Description	Year of Operation	Materials of Construction	Design Standards
VES-NCC-101	1982	Nitronic 50	ASME Section VIII Division 1*
VES-NCC-102	1982	Nitronic 50	ASME Section VIII Division 1*

[42] PMR Attachment 1. Section D, Process Information

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VES-NCC-103	1982	Nitronic 50	ASME Section VIII Division 1*
VES-NCC-119	1982	Nitronic 50	ASME Section VIII Division 1*
VES-NCC-122	1982	Nitronic 50	ASME Section VIII Division 1*
VES-NCC-150	1996	G-30 Hastelloy	ASME Section VIII Division 1
VES-NCC-152	1996	Nitronic 50	ASME Section VIII Division 1
VES-NCC-108	1982	Nitronic 50	ASME Section VIII Division 1*
VES-NCC-136	1982	Type 304 SS	ASME Section VIII Division 1*
VES-NCC-116	1982	Type 304 SS	ASME Section VIII Division 1*

Note *: Not Stamped - Built to ASME Section VIII. No code stamp required.

"No code stamp required??" The code stamp is a RCRA requirement and is the only legitimate verification that the tank does in fact meet the standard. Again, these tanks are likely beyond their 20-year design life. Therefore, DOE must provide documentation on each tank design life. **Again, the ASME design standards for the tanks is only relevant if the tanks have not exceeded their design life and future operational planed use. DOE must provide documentation on each tanks design life to validate their continued use through the operational life of the ILWMS.**

5. ILWMS Ancillary Equipment

ILWMS Ancillary Equipment

"Ancillary piping and equipment associated with the ILWMS are included in this PMR, **except the piping and equipment identified below: [I-D-72]**

- This PMR does not include piping and equipment associated with the TFF. The piping and equipment associated with the [tank farm facility] TFF will be operated under interim status/Consent Order and will be RCRA closed with the tank farm closure.
- This PMR does not include piping and equipment associated with CPP-666. The CPP-666 (Fluorinel Dissolution Process) lines are not included because they carry only radioactive waste.
- This PMR does not include piping and equipment associated with CPP-603. The line from CPP-603 is not included in this PMR because it will be closed with VES-SFE-106. VES-SFE-106 is currently operated under interim status and will be RCRA closed.
- This PMR does not include piping and equipment associated with CPP-640 (VES-HW-101, VES-HW-102 and VES-HW-103). The lines associated with these vessels will be operated and closed under interim status. "

DOE's PMR acknowledges secondary containment in waste service piping: **"Concrete-embedded transfer lines have been identified at the ILWMS**." [43] This is a violation of compliance with 40 CFR § 264.193(f) that requires monitored leak collection and welded

[43] PMR, Attachment, page 1-D-87

stainless steel secondary containment. Although DOE claims its intent to upgrade or reroute these service lines, there is no apparent confirmation that all of these upgrades has occurred.

RCRA does not provide for the above DOE claimed exemptions. Therefore, the PMR is deficient. Extensive use of old non-compliant "drip troughs" in CPP-604, CPP-605, CPP-1618, and CPP-1696 ancillary service lines instead of the required welded stainless steel secondary containment with continuous monitoring, are grounds for denying the PMR. [44]

DOE's PMR states: The following is an explanation of the symbols the Idaho National Laboratory (INL) has chosen to identify the RCRA-regulated tank systems associated with the INTEC on the diagrams:

"R - Indicates an active RCRA-regulated liquid transport line requiring secondary containment and inspections.

E - Indicates that the lines in question are not used to routinely manage hazardous waste. They would only receive hazardous waste if an unplanned spill or release occurred. As such, the lines are not subject to secondary containment, daily inspections, or closure. Where drains are located with the secondary containment system for regulated units, they are considered an integral part of a secondary containment system and subject to applicable regulatory requirements associated with secondary containment systems."[45] **[emphasis added]**

The above disclosure is non-compliant because all the INTEC tank systems must comply because RCRA does not distinguish between "routine" and "non-routine." DOE PMR also claims:

"The offgas piping for the [INTEC Liquid Waste Management System] ILWMS, while subject to HWMA/RCRA regulations as ancillary equipment to the regulated unit, does not require secondary containment because it is not intended to manage free liquids. However, any liquid condensate from such a gas/vapor stream may be subject to RCRA requirements (December 11, 1989, 54 FR 50968). The ILWMS is designed to remove condensable liquids from offgas. These condensable liquids are collected in tanks equipped with secondary containment and leak detection devices." [46]

The above DOE claimed RCRA exemption from secondary containment is not credible because liquid "condensate" (i.e. 12-inch LET&D off-gas line) is either pumped or transferred via gravity service lines to other process units and the liquid concentrated "bottoms" are pumped back to the waste tanks. Additionally the PMR claims that no liquids are in the "over-head" or "bottoms" service lines in another effort to claim secondary containment exemptions.

DOE also claims; "Drip troughs are located beneath process transfer lines within CPP-604, CPP-605, and CPP-1618. A drip trough also extends below the pipe bridge that spans from CPP-605 to the LET&D facility. The troughs are designed to collect liquid (e.g., recovered nitric acid) in the event of a leak from the process transfer lines. These drip troughs are sloped and drain to collection bottles located within each system. The drip troughs located within the LET&D facility are **not** equipped with leak detection devices." [47] "Drip troughs" do not meet

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[44] PMR Attachment 1-D-Process pg. 99

[45] INL HWMA/RCRA ILWMS INTEC Liquid Waste Management System PMR Attachment 1, Section D, Process Information Volume 14 Revision Date: January 23,August 2006, page 1-D-72.

[46] PMR page 1-D079

[47] PMR page 1-D-99

RCRA secondary containment requirement of monitored welded stainless steel enclosure for ancillary service lines.

5. IWTU Tanks

Table D-4 [48]

Tank Number Description	Year of Operation	Materials of Construction	Design Standard(s)
VES-SRC-131 Waste Feed Tank	2009	Type 304L SS	ASME Section VIII Division 1*
VES-SRC-140 Denitration and Mineralization Reformer	2009	Haynes 556 Alloy	ASME Section VIII Division 1
VES-SRC-160 Carbon Reduction Reformer	2009	Carbon Steel and Alumina/Chrome Oxide Based Refractory Lined	ASME Section VIII Division 1
COL-SRC-170A, B, & C Product Receivers/Coolers	2009	Type 316H SS	ASME Section VIII Division 1
TK-SRH-196	2009	Fiberglass-Reinforced Plastic (Double Wall)	N/A

Note * : Not Stamped - Built to ASME Section VIII. No Code Stamp Required.
N/A: Not Available?

"Not Stamped…No code stamp required??" Again, the code stamp is a RCRA requirement and is the only legitimate verification that the tank does in fact meet the standard. DOE must provide documentation on each tank design life. The ASME design standards for the other tanks are only relevant if the tanks have **not** exceeded their design life. DOE must provide documentation on each tanks design life to validate their continued use through the operational life of the ILWMS. Regardless if the N/A means "not available" or "not applicable" then this too is non-compliant because all tanks must meet standards for the materials contained in them.

DOE's PMR claims in Section D-8b that; "No viable pathway exists for migration of hazardous waste or hazardous constituents from the waste treated in the PEWE, LET&D, ETS, or IWTU to the soil, ground water, and/or surface waters. A potential pathway for release of waste constituents is through exhaust air either from PEWE, LET&D, ETS, or IWTU. Any release would be limited to the period during which PEWE, LET&D, ETS, or IWTU are operating. The potential for a release though the exhaust air system of hazardous constituents that could potentially have adverse effects on human health or the environment is minimized by the PEWE, LET&D, ETS, or IWTU off-gas systems." [49]

DOE's above statement is not true because of the extensive soil and groundwater monitoring data under INTEC show massive contaminate migration to the soil and groundwater. DOE further claims; "Although they are not specifically designed to trap organic constituents, HEPA filters trap any particulates that may contain hazardous constituents. The process will contain the waste constituents in the liquid and, thus only minute amounts of waste constituents can potentially escape the process. The ETS **condenses** and collects the [process off gas] POG

[48] PMR page 1-D-52
[49] PMR page 1-D-104

and transfers it to the PEWE system for further treatment as discussed previously." [50] "Any remaining **liquids** in the offgas enter the NWCF POG and are removed in mist eliminators, VES-NCC-136 and VES-NCC-116." [51] [emphasis added]

Yet, DOE's PMR claims no liquid condensates are transferred between treatment units requiring secondary containment of service waste piping. As these comments articulate the ILWMS process offgas systems are inadequate, and DOE's attempt to exempt these process vents from regulatory compliance, is clear evidence that they would not meet critical scrutiny on compliance.

Section III Applicable Regulations

40 CFR 270.42

"(i) PMR modification list. The Director must maintain a list of all approved PMR modifications and must publish a notice once a year in a State-wide newspaper that an updated list is available for review.

(j) **Combustion facility changes to meet part 63 MACT standards.** The following procedures apply to hazardous waste combustion facility PMR modifications requested under Appendix I of this section, section L(9).

(1) Facility owners or operators must have complied with the Notification of Intent to Comply (NIC) requirements of 40 CFR 63.1210 that were in effect prior to October 11, 2000, (See 40 CFR Part 63 Revised as of July 1, 2000) in order to request a PMR modification under this section.

(2) If the Director does not approve or deny the request within 90 days of receiving it, the request shall be deemed approved. The Director may, at his or her discretion, extend this 90 day deadline one time for up to 30 days by notifying the facility owner or operator." [emphasis added]

DOE has not met the above regulatory requirements in this PMR because the Clean Air Act National Environmental Standard for Hazardous Air Pollutants (NESHAP) Part 63 MACT standards have not been applied to the process vents. The IWT extracts nitric acid and re-circulates it back into the ILWMS process.

40 CFR 260.10 Definitions State:

"(11) Combustion devices used in the recovery of sulfur values from spent sulfuric acid.

"**(13) Such other devices as the Administrator may, after notice and comment, add to this list on the basis of one or more of the following factors:**

(i) The design and use of the device primarily to accomplish recovery of products;

(ii) The use of the device to burn or reduce raw materials to make a material product;

(iii) The use of the device to burn or reduce secondary materials as effective substitutes for raw materials, in processes using raw materials

[50] PMR page 1-D-104
[51] PMR page 1-D-105

as principal feedstocks;
(iv) The use of the device to burn or reduce secondary materials as ingredients in an industrial process to make a material product;
(v) The use of the device in common industrial practice to produce a material product; and
(vi) Other factors, as appropriate." [emphasis added]

40 CFR 191 states:

"**Note 4**: Treatment of Fractionated High-Level Wastes. In some cases, a high-level waste stream from reprocessing spent nuclear fuel may have been (or will be) separated into two or more high-level waste components destined for different disposal systems. In such cases, the implementing agency may allocate the Release Limit multiplier (based upon the original MTHM and the average fuel burnup of the high-level waste stream) among the various disposal systems as it chooses, provided that the total Release Limit multiplier used for that waste stream at all of its disposal systems may not exceed the Release Limit multiplier that would be used if the entire waste stream were disposed of in one disposal system.

"**Note 5:** Treatment of Wastes with Poorly Known Burnups or Original MTHM. In some cases, the records associated with particular high-level waste streams may not be adequate to accurately determine the original metric tons of heavy metal in the reactor fuel that created the waste, or to determine the average burnup that the fuel was exposed to. If the uncertainties are such that the original amount of heavy metal or the average fuel burnup for particular high-level waste streams cannot be quantified, the units of waste derived from (a) and (b) of Note 1 shall no longer be used. Instead, the units of waste defined in (c) and (d) of Note 1 shall be used for such high-level waste streams. If the uncertainties in such information allow a range of values to be associated with the original amount of heavy metal or the average fuel burnup, then the calculations described in previous Notes will be conducted using the values that result in the smallest Release Limits, except that the Release Limits need not be smaller than those that would be calculated using the units of waste defined in (c) and (d) of Note 1.

"**Note 6:** Uses of Release Limits to Determine Compliance with Sec. 191.13. Once release limits for a particular disposal system have been determined in accordance with Notes 1 through 5, these release limits shall be used to determine compliance with the requirements of Sec. 191.13 as follows. In cases where a mixture of radionuclides is projected to be released to the accessible environment, the limiting values shall be determined as follows: For each radionuclide in the mixture, determine the ratio between the cumulative release quantity projected over 10,000 years and the limit for that radionuclide as determined from Table 1 and Notes 1 through 5. The sum of such ratios for all the radionuclides in the mixture may not exceed one with regard to Sec. 191.13(a)(1) and may not exceed ten with regard to Sec. 191.13(a)(2). For example, if radionuclides A, B, and C are projected to be released in amounts Q<INF>a</INF>, Q<INF>b</INF>, and Q<INF>c</INF>, and if the applicable Release Limits are RL<INF>a</INF>, RL<INF>b</INF>, and RL<INF>c</INF>, then the cumulative releases over 10,000 years shall be limited so that the following relationship exists:"

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Section IV: Regulatory Definitions

40 CFR 260.10

"Infrared incinerator means any enclosed device that uses electric powered resistance heaters as a source of radiant heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace."

"Miscellaneous unit means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of and that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well with appropriate technical standards under part 146 of this chapter, containment building, corrective action management unit, unit eligible for a research, development, and demonstration PMR under 40 CFR 270.65, or staging pile."

" Ancillary equipment means any device including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps, that is used to distribute, meter, or control the flow of hazardous waste from
its point of generation to a storage or treatment tank(s), between hazardous waste storage and treatment tanks to a point of disposal onsite, or to a point of shipment for disposal off-site."

"Containment building means a hazardous waste management unit that is used to store or treat hazardous waste under the provisions of subpart DD of parts 264 or 265 of this chapter."

"Disposal means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters."

"Disposal facility means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure. The term disposal facility does not include a corrective action management unit into which remediation wastes are placed. Drip pad is an engineered structure consisting of a curbed, free-draining base, constructed of non-earthen materials and designed to
convey preservative kick-back or drippage from treated wood, precipitation, and surface water run-on to an associated collection system at wood preserving plants."

"Drip pad is an engineered structure consisting of a curbed, free-draining base, constructed of non-earthen materials and designed to convey preservative kick-back or drippage from treated wood, precipitation, and surface water run-on to an associated collection system at wood preserving plants."

"Liner means a continuous layer of natural or man-made materials, beneath or on the sides of a surface impoundment, landfill, or landfill cell, which restricts the downward or lateral escape of hazardous waste,
hazardous waste constituents, or leachate."

"Tank means a stationary device, designed to contain an accumulation of hazardous waste which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, **plastic**) which provide
structural support."

"Thermal treatment means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the
hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge. (See also ``incinerator" and ``open burning".)"

"Totally enclosed treatment facility means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which waste acid is neutralized."

40 CDR 264.1031 Definitions

"Process vent means any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or through a tank (e.g., distillate receiver, condenser, bottoms receiver, surge control tank, separator tank, or hot well) associated with hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations."

"Distillation operation means an operation, either batch or continuous, separating one or more feed stream(s) into two or more exit streams, each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and vapor phase as they approach equilibrium within the distillation unit."

"Fractionation operation means a distillation operation or method used to separate a mixture of several volatile components of different boiling points in successive stages, each stage removing from the mixture some proportion of one of the components."

"Distillate receiver means a container or tank used to receive and collect liquid material (condensed) from the overhead condenser of a distillation unit and from which the condensed liquid is pumped to larger storage tanks or other process units."

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Respectfully submitted
on behalf of the Environmental Defense Institute

_____

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Attachment A

EDI Comment Excerpts on ILWMS RCRA PMR 11/25/05

These comments are re-presented to document that IDEQ was previously fully appraised of the regulatory deficiencies and chose not to take action. It remains to be seen if IDEQ will again compromise its regulatory obligations to enforce the law with this new RCRA ILWMS/IWTU PMR Modification Request.

I. Tank Issues

Only about 47 tanks are listed in the PMR yet about 145 tanks are currently in use in the ILWMTS. See attachment B Tank list of 145 tanks connected to the ILWMS. IDEQ must either acknowledge these ~ 100 tanks as part of the PMR or provide substantive tank closure documentation. **This represents a fundamental flaw in the PMR.**

II. Tank Secondary Containment Issues

The following tanks identified in the PMR have a "gerry-rigged" retrofitted hypalon liner that have no apparent Resource Conservation Recovery Act (RCRA) certification for secondary containment (i.e., welded stainless steel liner sufficiently adequate to contain to full contents of the tank) required in IDAPA 58.01.05.008 or 40 CFR 264.193(f). [See PMR pages 39 through 66]

- VES-WM-101
- VES-WM-102
- VES-WM-105
- VES-WM-150
- VES-WL-101
- VES-WL-102
- VES-WL-108
- VES-WL-103
- VES-WL-104
- VES-WL-105

Other tanks identified in the PMR (VES-WL-108) have NO RCRA qualified secondary containment at ALL. Also see Attachment B; ILWMS Tank List that shows ~ 145 tanks that are involved in the ILWMS system and that are **not all** acknowledged in the PMR. **This non-disclosure represents a fundamental flaw in the PMR.**

III. PMR Only for Hazardous Waste and NOT for Radioactive Waste

The PMR [page 79] claims only hazardous contaminates and NO radionuclide which conflicts with other reports that show significant radionuclide throughput and emissions. DOE's arbitrary and unilateral reclassification of former high-level radioactive waste is a violation of Nuclear Waste Policy Act and is currently being litigated in U.S. Federal Court.

[52] Until the court rules on this, the waste being processed by the ILWMS must include high-level waste. **This represents a fundamental flaw in the PMR.** [See Section VI below and Attachment B]

IV. Blending is Prohibited

Dilution of the throughput is and remains common practice at the various ILWMS processing operations and is illegal under RCRA (40 CFR 268.4).

V. RCRA Process Vent Classification

The PMR claims "The Process Equipment Waste Evaporator (PEWE) off-gas is processed through both the Building 604 Vessel Off-Gas System and the Process Atmospheric Protection System (APS) in Building 649, prior to discharge to the INTEC main stack. The PEWE vent does not meet the definition of a process vent at IDAPA 58.01.008 [40 CFR.1031]. Therefore, the air emission standards for process vents do not apply." [Page 35 and 36]

The PMR also claims "The Evaporator Tank System (ETS) off-gas is processed through both Building 659 Process Off-gas System and the Process Atmospheric Protection System (APS) in Building 649, prior to discharge to the INTEC main stack. The PEWE vent does not meet the definition of a process vent at IDAPA 58.01.008 [40 CFR.1031]. Therefore, the air emission standards for process vents do not apply." [Page 36] **This represents an unsubstantiated switch from the previous ILWMS PMR that acknowledged the PEWE as being a "process vent" operation.**

The DOE HLW &FD EIS (DOE/EIS-0287D) page 1-13 (Figure 1-6) and DOE/EIS-0287 Final page 2-11 (figure 2-4) clearly shows the High-level Liquid Waste Evaporator also housed in the New Waste Calciner building, and now called the ETS, emissions go directly to the INTEC main stack. [53] See Attachment C Schematic.

40 CFR 1031 states that "Process vent means any open-ended pipe or stack that vented to the atmosphere either directly, through a vacuum producing system, or through a tank (e.g., distillate receiver, condenser, bottoms receiver, surge control tank, separator tank, or hot well) associated with hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation."

40 CFR 1032(c) states "Determinations of vent emissions and emissions reductions or total organic compound concentrations achieved by **add-on control devices** may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions, or total organic compound concentrations achieved by add-on control devices, the performance tests must conform with the requirements of ss 264.1034(c)." [emphasis added]

Clearly, both the PEWE and the ETS meet the criteria of operations under the "process vent category in the 40 CFR 264.1031 and 1032(c) due to the specific language of "add-on control devices" that the PMR identifies above with the POG and APS units.

The PMR claims that only the Liquid Effluent Treatment and Disposal (LET&D) has a

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[52] United District Court for the District of Idaho, Natural Resources Defense Council, et al., v. USDOE, Case No. CV-01-413-S-BLW.

[53] Idaho High-Level Waste and Facilities Disposition, Final Environmental Impact Statement, September 2002, DOE/EIS-0287.

"Process vent" for emission release. [54] **Commenters believe that DOE is attempting to obfuscate the RCRA "Process Vent" regulatory requirements of the PEWE and the High-level Waste Evaporator (ETS) and therefore represents a fundamental flaw in the PMR.**

VI. No Radioactive Waste Throughput PMRted ?

The modified ILWMS PMR claims [Page 79] that the PMR is only for hazardous waste and **NOT** for radioactive waste. This is a physical impossibility given the emission data. The PMR acknowledges about 30 references to throughput of "mixed waste" that is universally understood to be mixed radioactive and hazardous mixed waste. [pg 31] The previous name of the High-level Waste Evaporator utilized to reduce the liquid volume in the eleven INTEC high-level waste tank farm that contains about one million gallons of High-Level Waste speaks for itself. Changing the name to the Evaporator Tank System does not change the plants ongoing mission.

Moreover, DOE's own 2002 EIS acknowledges that in 2000 1360.246 **curies** of radioactivity was released to the air from INTEC alone. [55] The only emission sources at that time are the ILWMS radioactive waste evaporators. This represents an enormous hazard to the public that both IDEQ and DOE are not disclosing in the proposed ILWMS PMR.

Additionally, see "Hazardous Waste Management Act/ Resource Conservation Recovery Act Work Plan for the Idaho National Engineering and Environmental Laboratory." [56] This report clearly shows mixed hazardous and radioactive liquid waste processing at the ILWMS operations.

VII. Seismic Issues

A recent INL report established design basis earthquake parameters for INTEC and the nearby Reactor Technology Center. The report found the following:

1. "The…spectral peaks of the mean soil surface spectra for Group 1 **exceed** the RTC/INTEC Performance Category (PC-4) Soil Design Basis Earthquake (DBE) spectrum by about 5% which is considered acceptable." [page 202 to 203]
2. "The RTC/INTEC PC-3 Soil DBE 5% damped spectra shows the mean soil surface 5% damped spectra for soil profiles with soil column heights of 50 feet (group 1) and 40 feet (group 3) **exceed** the PC-3 soil DBE spectrum by as much as 14%."
3. "Despite the above the PC-3 and PC-4 are recommended for the seismic analysis at the RTC/INTEC.
4. "Soil spectral amplification factors of PC-3/PC-4 spectral ratio share spectral peaks that range from 1.8 to 3.0 with majority between 2.0 and 2.5. Spectral amplification factors for [peak ground acceleration] PGA from 1.3 to 1.9." [pg.112] [57]

The ILWMS PMR has no apparent requirement that DOE produce engineering analysis

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[54] Also see PMR page 11 for definition of "Process Vent" and IDAPA 58.01.05.008 and 40- CFR 264.1031.

[55] Idaho High-Level Waste and Facilities Disposition, Final Environmental Impact Statement, September 2002, DOE/EIS-0287 page 4-30.

[56] Hazardous Waste Management Act/ Resource Conservation Recovery Act Work Plan for the Idaho National Engineering and Environmental Laboratory, EPA ID No. ID4890008952; and IDR000002881, September 12, 2002, pages 19 and 27.

[57] "Data and Calculations for Development of Soil Design Basis Earthquake Parameters at RTC" (Reactor Technology Center) 9/05, S. J. Payne, INEEL/EXT-03-00943

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of all the ILWMS component systems verifying that they meet performance category (PC-4) or even the lesser PC-3. By component systems, we are referring to, but not limited to, buildings, evaporators, tanks, service line piping, and emergency power systems. These seismic issues represent a major hazard vulnerability that must be covered to meet regulatory requirements in Resource Conservation Recovery Act (40 CFR-270.30 and 270.32 Subpart B) and U.S.C. Title 42, Chapter 82, Subchapter II ss 6925(a).

In plain language, there is a major seismic hazard related to the ILWMS operations that the PMR does not address, and therefore, represents a fundamental deficiency in the proposed PMR.

VIII. Summary

The above comments identify major deficiencies in the proposed PMR modifications for the ILWMS that collectively add up to a fundamentally flawed PMR. Commenters therefore believe that the PMR in its present form is unacceptable and must be rejected by the Idaho Department of Environmental Quality.

Commenters reserve the right to submit supplemental comments to this PMR if new information becomes available that we believe must be made available to IDEQ.

Attachment D: Liquid Effluent and Disposal Project Status Report by J.W. Bryant, Staff Engineer, DOE Waste Processing Unit, JWB-14-89, 11/20/89, that also clearly shows the High-Level Liquid Waste Evaporator venting to the INTEC Main Stack.

Attachment B

INEEL INTEC Liquid Waste Management System (ILWMS)
Waste Code Summary

	ICPP Tank Farm [b]	PEWE [b]	LET&D b	HLLWE [d]	Calciner [c]	HEPA Leach [a]
Total No. RCRA Hazardous Waste Codes	128	128	127	127	128	404
Total Hazardous Air Pollutants (HAP)	86	86	86	86	86	>86
Total RCRA "F" Codes	4	4	4	4	4	22

Sources for above table:

a. RCRA Part A PMR Application, Volume 1, Book 1, Revision 13 3/95 DOE/ID-10213
b. RCRA Part A PMR Application Revision 19; 4/99
c. RCRA Part A PMR Application Revision; 11/95
d. RCRA Part A PMR Application Revision; 3/95
e. RCRA Part B PMR Application Volume 14, Book 1, Revision 0, 6/21, PEWE Feed Tank Waste Codes list only 28 codes including 4 "F" codes, page 6 (IA-1). No explanation is offered why the ~ 100 waste codes were dropped between 1999 Part A and 6/21 Part B.

Acronyms:

PEWE	Process Equipment Waste Evaporator (CPP-604)
LET&D	Liquid Effluent and Disposal (CPP-1618)
HLLWE	High-level Liquid Waste Evaporator (CPP-659)
ICPP Tank Farm	Mixed High-Level Radioactive Waste Tank Farm
Calciner	High-Level Liquid Waste Incinerator (New Waste Calcine Facility) (CPP-659)
HEPA Leach	NWCF HEPA Leach System (CPP-659)
HAP	Hazardous Air Pollutant (40 CFR 63)
RCRA	Resource Conservation Recovery Act (42 USC 7412)

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List of “F” Hazardous Waste Codes for INTEC CPP-659 NWCF HEPA Filter Leaching System Processed in ILWMS

F001 - Spent Halogenated Solvents (list of six)
F002 - Spent Halogenated Solvents (list of nine)
F003 - Spent Non-Halogenated Solvents (list of six)
F004 - Spent Non-Halogenated Solvents (list of three)
F005 - Spent Non-Halogenated Solvents (list of eight)
F006 - Waste Water Treatment Sludges
F007 - Spent Cyanide
F008 - Plating Bath residues with Cyanides
F009 - Spent Striping Baths with Cyanides
F010 - Quenching Baths with Cyanides
F011 - Spent Cyanide Solutions
F012 - Quenching Water with Cyanides
F019 - Waste Water Treatment Sludges
F020 - Wastes from manufacturing tri- or tetrachlorophenol
F021 - Wastes from manufacturing of pentachlorophenol
F022 - Wastes from manufacturing of terta, penta, or hexachlorobenzenes
F023 - Wastes from manufacturing of tri, or tetrachlorophenols
F024 - Process wastes from reactor clean out
F026 - Wastes from manufacturing tetra, penta, or hexachlorobenzene
F027 - Discarded tri, tetra, or pentachlorophenol
F028 - Residues resulting from incineration or thermal treatment of soil contaminated (six codes)
F039 - Leachate liquids

References for Above Table

1. 40 CFR 261.31;
2. RCRA Part A PMR Application for INEEL Volume 1 Book 1 Revision 13 March 1995 page IO-1 through 13, DOE/ID-10213
3. 42 USC Sec. 7412 “Hazardous Air Pollutants”

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ILWMS Hazardous Waste Constituents Requiring Carbon Absorption, Chemical Oxidation, Wet Air Oxidation or Combustion Treatment That Must Meet RCRA Land Disposal Restrictions in 40 CFR 268.40 Regardless of Concentration Levels

Waste Code	Common Name of Waste	Waste Code	Common Name of Waste
P005	Allyl alcohol	U113	Ethyl arylate
P027	3-Chforopropionitrile	U116	Ethylene thiourea
P028	Benzyl chloride	U122	Formaldehyde
P031	Cyanogen	U123	Formic acid
P075	Nicotine and salts	U125	Furfural
P105	Sodium azide	U133	Hydrazine
P116	Thiosemicarbazide	U135	Hydrogen Sulfide
U007	Acrylamide	U147	Maleic anhydride
U008	Acylonitrile	U154	Methanol
U014	Auramine	U171	2-Nitropropane
U020	Benzenesulfonyl	U182	Paraldchyde
U055	Cumene	U191	2-Picoline
U056	Cyclohexane	U201	Resorcinol
U103	Dimethyl sulfate	U218	Thioacetamide
U108	1,4-Dioxanc	U219	Thiourea
F001	Spent Halogenated Solvents	U328	o-Toluidine
F002	Spent Halogenated Solvents	F003&5	Non-Hallogenated Solvents

As evaporators, the HLLWE, PEWE, and LET&D feed do not meet the RCRA treatment standards specified for the above list of 29 hazardous waste throughput constituents in 40 CFR 268.40. Also of the total 128 hazardous waste evaporator throughput constituents, 86 are hazardous air pollutants listed in 42 USC 7412 list of pollutants covered under the Clean Air Act MACT emission standards that DOE has made not attempt to comply with. Additionally, discharge of the evaporator “overheads” containing these pollutants (even after illegal dilution) to INTEC percolation ponds is prohibited.

Sources of Organics to INTEC Liquid Waste Management System

ILWMS Feed

1. INTEC Spent Nuclear Fuel Reprocessing Raffinate in High-level Tank Farm
2. Analytic Laboratories
3. Radioactive Liquid Waste Management System
    a. Annual decontamination of evaporator with oxalic acid
    b. Floor and Cell washings (EDTA)
    c. NWCF Decontamination Shop and HEPA filter leachate
    d. Tank Farm valve box cleanings
    e. High-level Waste Tank Heel removal/flushes
4. CPP-666 FAST
    - Spent Nuclear Fuel Pool Water Filter Back-flush Waste
5. CPP-637 Laboratories
    - Trybutyl phosphate
    - Dodecane
    - Crown ethers
    - Octanol
    - Other specialized chemicals
6. Maintenance Services
    - Organic based cleaning solutions
7. HEPA Filter Leachate System Effluent to ILWMS
8. Debris Treatment Effluent to ILWMS

References in Addition to Footnotes:

1. HWMA/RCRA Part A Application for INEEL Volume 1 Book 1 (EPA form 8700-23), January 2000, DOE/ID-10213.
2. Carlson Memo TLC-07-94 page 6; DOE/ID-10544, October 1996; HLLWE waste codes D001 (Ignitable) and D002 (Corrosive) require deactivation in see 40 CFR 268.40.
3. DOE/ID-1544, October 1996, pages 14 to 17 for listing of Tank Farm Waste codes, and 42 USC 7412 list of Hazardous Air Pollutants.

Attachment C: Schematic of ILWMS [Idaho HLW & FD EIS, DOE/EIS-

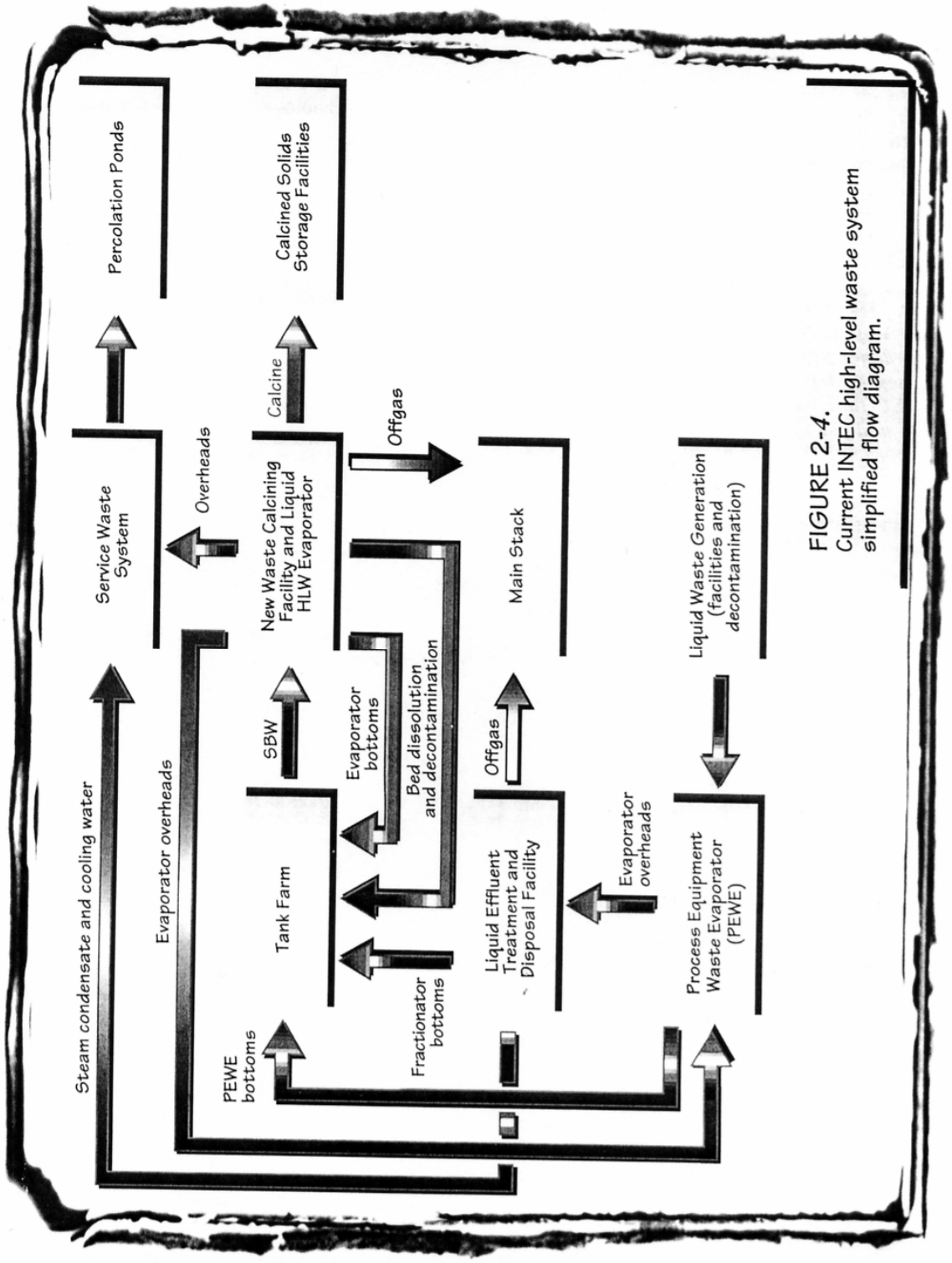

FIGURE 2-4.
Current INTEC high-level waste system simplified flow diagram.

Attachment II

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Troy, Idaho 83871-0220

November 13, 2006

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Daryl Koch (sent via email)
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RE: Revised Comments on Department of Energy, Idaho National Laboratory, Reactor Technology Center, Engineering Test Reactor Decommission/Decontamination and Waste Disposition at the INL CERCLA Disposal Facility.

The Environmental Defense Institute (EDI) offers the following revised comments on the disposition of the waste generated by the decommissioning/ decontamination (D&D) and cleanup of the Engineering Test Reactor (ETR) at the Reactor Technology Center (RTC), and disposal at the INL CERCLA Disposal Facility (ICDF).

DOE's Risk Assessment document shows the Engineering Test Reactor (ETR) core slated for disposal at the ICDF contains 59,228.1295 curies of radioactive contamination. [58] This is a huge quantity of extremely deadly radioactive waste to dump over-top the Snake River Aquifer and within the Big Lost River flood plain. See Attachment below.

DOE Risk Assessment document also states the ETR core mass at 22,276 kilograms (22,276,000 grams). [59] However, Engineering Design File uses ETR core mass of 74,535,000 grams for calculating the total transuranic content of the core and the beryllium

[5858] Groundwater Pathway Risk Assessment for the Engineering Test Reactor Complex Closure, Engineering Design File , Doc. ID. EDF-5142, (EDF) page 28 through 30, effective date 10/31/06
[59] Engineering Design File (EDF) - 5152, page 21.

reflector. [60] This is a significant discrepancy because it apparently radically understates the total nCi/g total applied to the ICDF Waste Acceptance Criteria limit of 10 nano-curie/gram limit. This discrepancy must be resolved due to the regulatory implications.

Additionally, "The [radioactive] transuranic activity in the [beryllium] reflector was determined to be 9.59×10^{7} nCi [95,900,000 nCi]. It was obtained by multiplying the average transuranic specific activity for the reflector, 177 nCi/g by the total beryllium mass, 5.424×10^{5} gram [542,400 gm]." [61] This also puts the beryllium reflector into the Nuclear Regulatory Commission (NRC) definition of Transuranic waste greater than 100 nCi/g that requires deep geologic disposal. [62] Dumping the beryllium reflector together with the ETR core violates both the ICDF WAC but also NRC regulations that require deep geological disposal of Transuranic waste.

According to Daryl Koch at Idaho Department of Environmental Quality (IDEQ) "ETR vessel characterization data can be reviewed in Engineering Design files EDF 6133 and 7222. These documents, as well as the Engineering Evaluation and Cost Evaluation EE/CA, DOE/ID-11272, are in the INL administrative record. [63] [T]he 'vessel' and attached 'internals', i.e. beryllium reflector, etc; would be disposed as a single item waste package. The radioactive data is presented in the aforementioned documents. There is no 'core' (fuel & associated items) remaining in the vessel. They were removed in 1981. GTCC [Greater-than-Class-C] waste is not expected to be generated from this particular decommissioning project. If it did, a Performance Assessment, as discussed in my e-mail of yesterday could be performed. If the waste still exceeded GTCC then it would have to be addressed by a facility other than the ICDF." [64]

The issue of Greater-than-Class-C (GTCC) waste is crucial here because of the Nuclear Regulatory Commission (NRC) definition of; "Waste that is not generally acceptable for near-surface disposal is waste for which form and disposal methods must be different, and in general more stringent, than those specified for Class C waste. In the absence of specific requirements in this part, such waste must be disposed of in a geologic repository as defined in part 60 or 63 of this chapter." [65]

Nuclides identified by NRC regulations for GTCC include C-14, Ni-59, Nb-94, Tc-99, I-129, Pu-241, Cm-242, H-3, Co-60, Ni-63, Sr-90, Cs-137. [66] All of these radionuclides are

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[60] Engineering Design File (EDF) - 7222, approved 9/11/06, page 14.
[61] EDF-7222, page 13.
[62] Transuranic waste also known as TRU waste, contains elements with atomic numbers greater than 92, the atomic number of uranium. TRU waste contains alpha-emitting transuranic radio-nuclides with half-lives greater than 20 years and total concentration greater than 100 nano-curies per gram. This is the U.S. Environmental Protection Agency definition. The U.S. Nuclear Regulatory Commission definition is slightly different and is part of a broader category called Greater-than-Class-C waste.
[63] http://ar.inel.gov/owa/select_current_2
[64] Daryl Koch email to Broscious 11/1/06
[65] 10 CFR 61.55
[66] 10 CFR 61.55

in the ETR vessel and reflector slated for near-surface disposal in significant quantities at the ICDF near-surface dump site. For instance, see the long-lived radionuclides; Cobalt-60 concentrations of 1,970 Ci; Ni-63 concentrations of 24,200 Ci. [67]

Clearly, DOE's intent to intern the ETR reactor core and components as a single unit in the ICDF will violate the ICDF Waste Acceptance Criteria (WAC) of 10 nano-curies per gram [68] TRU disposal unit by significant amounts. [69]

EDI's preliminary review of the ETR components (including TRU and GTCC waste) slated for disposal at the ICDF also do not meet the ICDF Waste Acceptance Criteria (WAC).

EDI continues to challenge the long-term adequacy of the ICDF to effectively prevent the migration of waste contaminates and these concerns are presented again in the below Attachment that articulates these continuing concerns.

Respectfully Submitted

_____

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Attachment

[67] EDF-5142, page 28 through 30.
[68] Nano Curie = 0.000000001 curie (10-9).
[69] ICDF Complex Waste Acceptance Criteria, October 2006, U.S. Department of Energy Idaho Operations Office, DOE/ID-10881, Revision 3, page 4-1.

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Comments on Idaho National Laboratory Siting of the INL CERCLA Disposal Facility

submitted on behalf
Environmental Defense Institute
by
Chuck Broscious
August 3, 2001

The Department of Energy (DOE) Idaho National Engineering and Environmental Laboratory (INEEL) issued a Record of Decision in October 1999 to, among other things, construct an on-site mixed hazardous and radioactive waste dump.[70] This decision was made within the Superfund (CERCLA) process with the concurrence of the State of Idaho and the U.S. Environmental Protection Agency (EPA). Initially, this was welcome news since the Environmental Defense Institute has for years criticized DOE's illegal waste "disposal" practices in dumps that would not even meet municipal garbage landfill regulations let alone radioactive and hazardous chemical waste. After detailed analysis of the Record of Decision, it is clear that DOE plans to repeat the mistakes of the past by siting the new dump (called the INL CERCLA Disposal Facility) (ICDF) not only in a flood zone, but over top of Idaho's sole source Snake River Aquifer which sustains more than 200,000 families. In short, the issue is not the construction of the new dump, but the issue is **where** it is to be built on the INEEL site. EDI's position is that there are credible alternative sites on the INEEL that are not over the aquifer or in a flood zone.

Additionally, DOE is violating other environmental laws by claiming that the CERCLA process waves the requirements of the National Environmental Policy Act (NEPA) among other

[70] Final Record of Decision, Idaho Nuclear Technology and Engineering Center, Operable Unite 3-13, Idaho National Engineering and Environmental Laboratory, October 1999

laws. Attorneys conversant in the regulations say CERCLA only waive the permitting and NEPA requirements in the direct removal and remediation of a contaminated site. CERCLA does **not** in this case waive the RCRA permitting or NEPA requirements on a major $85 million ICDF dump project. Specifically, the equivalent requirements under NEPA would require DOE to evaluate, in an Environmental Impact Statement, the credible alternative siting locations for the ICDF. This was never done. Yes, DOE evaluated alternatives for on-site vers off-site disposal.....but not alternative on-site locations. Once again, the legal requirements are obfuscated not only by DOE but by the State of Idaho and the Environmental Protection Agency. Since this appears to be a "done deal" between DOE and the regulators, it appears the public's only recourse is litigation. Once again the public's rights have been trampled.

A review of the available US Geological Survey (USGS) reports related to INEEL flooding scenarios and flood control infrastructures, it is clear that DOE and the regulators ignored this information. Moreover, DOE ignored USGS recommendation that additional analyses are conducted prior to any final siting decisions are made for new waste internment and disposition of existing buried waste. Specifically, USGS recommended a two dimensional model to expand the 1998 USGS one dimension model to include the upper 95% confidence flow estimates of 11,600 cubic feet per second for the Big Lost River 100-year flood, and include modeling for the upper range limit of the 500-year estimated flow rate in the Big Lost River flood plain on the INEEL.

DOE is constructing the ICDF as a step toward meeting regulatory requirements in the Resource Conservation Recovery Act (RCRA) Subtitle-C hazardous waste disposal criteria. After 25 years of thumbing its nose at RCRA, DOE finally is making a gesture toward compliance after five decades of mismanagement of its waste streams that cause massive environmental contamination. Estimated cleanup costs of this INEEL debacle are in the range of $19 billion that will come out of our pockets as taxpayers. DOES' decision to finally comply with RCRA is marred by the wrongheaded choice of **location**, when other on-site locations would not pose the same risks to the aquifer that is already severely contaminated from INEEL waste.

DOE is constructing the ICDF immediately south of the Idaho Chemical Processing Plant (ICPP) also now called INTEC mainly for economic reasons. It is close to the ICPP where much of the waste will be generated and it is near/over existing waste water percolation ponds which are on the Superfund cleanup list, and it is over extensive soil contamination caused from ICPP stack releases. In other words, "kill three wasted birds with one stone."

The US Geological Survey released a 1998 report that modeled the **median** 100-year flow rates in the Big Lost River (that flows by the ICPP) down stream of the INEEL Diversion Dam (6,220 cf/s). The USGS report cross section number 22 at the ICPP puts the median flood elevation at 4,912 feet.[71] Again, this is only the mean flow rate (as opposed to the maximum rate of 11,600 cf/s) of just a 100-year flood, and **not** including any additional cascading events like the failure of Mackey Dam. The USGS flood map shows the northern half of the ICPP under water. There are only five-foot differences between the ICDF (south end of ICPP) elevation of

[71] Preliminary Water-Surface Elevations and Boundary of the 100 Year Peak Flow in the Big Lost River at the Idaho National Engineering and Environmental Laboratory, Idaho, US Geological Survey, Water-Resources Investigations Report 98-4065, DOE/ID-22148

4,917 feet and the USGS predicted elevation of 4,912 feet through the middle of the ICPP. The USGS study also employed current modeling technics and plotted 37 separate cross sections on the INEEL site. The ICPP as a whole is about as flat as a table top with only a couple feet change in elevation north to south.[72] The crucial point here is that even the slightest variation in a Big Lost River flood would put the ICDF underwater assuming the dump was on the surface. Proportionally less variation in floods would inundate the dump the deeper the ICDF is buried below the surrounding terrain.

An earlier USGS study in 1996 also estimated the flow range for the Big Lost River at the INEEL; "The upper and lower 95-percent confidence limits for the estimated 100-year peak flow were 11,600 and 3,150 cubic feet per second (cf/s), respectively." [73]

Since 1950, INEEL has experienced significant flooding events (localized and site-wide) in1962, 1965, 1969, 1982, and 1984. In an effort to mitigate the flooding problem, DOE built a diversion dam on the Big Lost River that is designed to shunt flood waters to the south and away from INEEL facilities. USGS's 1998 report that modeled the mean (midrange) 100-year flow rate of 7,260 cf/s upstream of the INEEL diversion dam. USGS estimated that the Big Lost median flow rate downstream of the diversion dam at 6,220 cf/s with a thousand cf/s going down the diversion channel for a total median flow rate of 7,260 cf/s upstream of the INEEL diversion dam. [74] "This peak flow was routed down stream [of the Big Lost River] as if the INEEL diversion dam did not exist. On the basis of a structural analysis of the INEEL diversion dam (U.S. Army Corps of Engineers) assumed the dam incapable of retaining high flows. The Corps indicated that the diversion dam could fail if flows were to exceed 6,000 cubic feet per second."[75]

This USGS study acknowledged that the northern half of the ICPP would be flooded with four feet of moving water, even at this midrange (mean) flow rate. If ICDF excavation goes two feet **below** present surfaces, it will be below the elevation of the mean 100 year flood zone. Plans are to excavate ICDF pits most of the entire 50 feet to bedrock.

Since the radioactive waste will be extremely hazardous for tens of thousands of years and flooding will flush contaminates down into the aquifer, a conservative risk assessment would model the upper 95-percent confidence limits for the estimated 100-year peak flow of 11,600 cf/s. USGS has proposed this additional research to DOE, but the Department is not willing to provide the funding. A USGS hydrologist notes, "The flow of 11,600 cfs represents the upper 95 percent confidence limit flow for the estimated 100-year peak flow (Kjelstrom and Berenbrock, 1996, p6). Future modeling needs are to model the area with this flow. We've expressed this to

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[72] Topographic Map of Block 21, National Reactor Testing Station (now called INEEL) showing works and structures, U.S. Atomic Energy Commission, Idaho Operations Office, shows three feet change in elevation between the north and south end of the ICPP.

[73] Estimated 100-Year Peak Flows and Flow volumes in the Big Lost River and Birch Creek at the Idaho National Engineering Laboratory, Idaho, U.S. Geological Survey, Water-resources Investigations Report 96-4163, L.C. Kjelstrom and C. Berenbrock, 1996, page 9.

[74] Preliminary Water-Surface Elevations and Boundary of the 100 Year Peak Flow in the Big Lost River at the Idaho National Engineering and Environmental Laboratory, Idaho, US Geological Survey, Water-Resources Investigations Report 98-4065, DOE/ID-22148

[75] USGS 98-4065, page 8

the INEEL and also have expressed that the WSPRO model used has limitations and that an application of more stringent models (two dimensional) is needed to refine and better delineate the extent of possible flooding of the Big Lost River." [76]

USGS estimates the mean 500-year Big Lost River flood rates at 9,680 cf/s (34% greater flow rate than the mean 100 year flood).[77] This 500-year flood would inundate the ICPP and surrounding area. These potential hazards are being ignored when making hazardous mixed radioactive waste internment decisions in these vulnerable areas despite the long-term consequences and the potential for additional aquifer contamination.

Cascading events also are not considered. This is known as a worst case scenario where one event triggers another event. For instance a 500-Year flood plus failure of Mackay Dam (built in 1917) resulting in estimated flows of 9,700 + 54,000 cubic feet per second respectively would be an example of a cascading event. Failure of Mackey Dam is non-speculative in view of the 1976 failure of the Teton Dam of similar construction and the fact that Mackey Dam lies within 11 miles of a major earthquake fault line that produced the 1983 Borah Peak 7.3 magnitude quake. An internal 1986 DOE report that analyzed the impact of Mackey Dam failure scenarios notes that, "Mackay Dam was not built to conform to seismic or hydrologic design criteria," and "the dam has experienced significant under seepage since its construction." [78] This EG&G study acknowledged that the ICPP, Navel Reactors Facility, and the Test Area North (LOFT) facilities would be flooded with at least four feet of water moving at three feet per second.

USGS did not consider cascading events but noted previous studies showing that failure of Mackay Dam alone would result in 6 feet of water at the INEEL Radioactive Waste Management Complex (RWMC) waste burial grounds. Other studies recognized by USGS note that, "Rathburn (1989, 1991) estimated that the depth of water at the RWMC, resulting from a paleo-flood [early] of 2 to 4 million cf/s in the Big Lost River in Box Canyon and overflow areas, was 50-60 feet." "If Mackey Dam failed, Niccum estimated that peak flow at the ICPP would be at 30,000 cfs." [79] Comparing these flow rates with the USGS estimate 100-year mean flow of 6,220 cfs that would flood the north end of the ICPP with four feet of water, and a Mackey Dam failure becomes a real disaster potential with respect to the existing underground waste tanks and underground spent reactor fuel storage at the ICPP.

DOE is relying extensively on the Big Lost River Diversion Dam (located at the western INEEL boundary) to shunt major flood waters away from INEEL facilities. The last comprehensive analysis of this diversion dike system (below the diversion dam) was conducted by USGS in 1986 in a report titled *Capacity of the Diversion Channel below the Flood Control*

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[76] Charles E. Berenbrock, U.S. Geological Survey Hydrologist, March 25, 1999 email to Chuck Broscious

[77] Estimated 100 Year Peak Flows and Flow Volumes in the Big Lost River and Birch Creek at the Idaho National Engineering Laboratory, U.S. Geological Survey, Water Resources Investigations Report 96-4163, page 11 shows flow rates for 5-year, 10-year, 100-year, and 500-year floods

[78] Flood Routing Analysis for a Failure of Mackey Dam, K. Koslow, D. Van Hafften, prepared by EG&G Idaho for U.S. Department of Energy, June 1986, EGG-EP-7184, page 15

[79] USGS 98-4065, page 6

Dam on the Big Lost River at the INEL. In this study USGS estimated a mean flow rate of 9,300 cf/s, 7,200 of which went into the diversion channel and "2,100 cf/s will pass through two low swells west of the main channel for a combined maximum diversion capacity of 9,300 cf/s." "A sustained flow at or above 9,300 cf/s could damage or destroy the dike banks by erosion. Overflow will first top the containment dike at cross section 1, located near the downstream control structure on the diversion dam." [80] This USGS study did not analyze the construction of the diversion dikes but they would likely fail as did the upstream diversion dam, built at the same time, that the Army Corps of Engineers found structurally deficient. "On the basis of a structural analysis of the INEEL diversion dam (U.S. Army Corps of Engineers, written comments, 1997), the dam was assumed incapable of retaining high flows. The Corps indicated that the diversion dam could fail if flows were to exceed 6,000 cf/s. Possible failure mechanisms are: (1) erosion of the upstream face of the dam that results from high-flow velocities and loss of slope protections (rip-rap), (2) overtopping of the diversion dam by flows exceeding the capacity of the diversion channel and culverts, (3) piping and breaching of the diversion dam because of seepage around the culverts, and (4) instability of the dam and its foundation because of seepage."[81]

Failure of the diversion dam and/or the diversion channel dikes would also directly impact the Radioactive Waste Management Complex (RWMC) waste burial grounds. A 1976 USGS report notes, "The burial ground is within 2 miles (3.2 km) of the Big Lost River and the surface is approximately 40 feet (12 m) **lower than the present river channel**. Sediments in the burial ground contain grains and pebbles of limestone and quartzite, suggesting that in recent geologic past, flood waters of the Big Lost River flowed through the burial ground basin. Two eroded notches or 'wind-gaps' in the basalt ridge bordering the west of the burial ground also suggest past Big Lost River floods." "A large diversion system on the Big Lost River was constructed by the AEC to control flood waters by diverting water into ponding Areas A, B, C, and D. The nearest of these, Area B is less than a mile [south] from and about 30 feet (9m) **higher** in elevation than the burial ground." [82]

USGS *Arco Hills SE* and *Big Southern Butte* quadrangle topographic maps clearly show the RWMC flooding vulnerability as do other USGS reports that note, "If [diversion] dike 2 [at ponding Area B] fails, large flows will drain directly toward the solid radioactive waste burial grounds." [83] These vulnerabilities must be taken into consideration when DOE attempts to leave the buried transuranic waste at the RWMC and not exhume and relocate it to a safe permanent repository.

Building dams around the INEEL CERCLA Disposal Facility (ICDF) as was done at the RWMC is not an acceptable flood protection answer because lateral water migration will go

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[80] Capacity of the Diversion Channel Below the Flood Control Dam on the Big Lost River at the Idaho National Engineering Laboratory, US. Geological Survey Water Resources Investigations Report 86-4204, C. M. Bennet, page 1 and 25

[81] USGS 98-4065, page 9

[82] Hydrology of the Solid Waste Burial Ground, as Related to the Potential Migration of Radionuclides, Idaho National Engineering Laboratory, U.S. Geological Survey, Open File Report 76-471, J.Barraclough, August 1976, page 8

[83] Probability of Exceeding Capacity of Flood-Control System at the National Reactor Testing Station, Idaho, U.S. Geological Survey Water Resources Division, P.Carrigan, JR., 1972, page 4

under the dams and local precipitation will be held in exacerbating the leachate conditions. The liner of the ICDF will not be capable of maintaining integrity with the increased hydraulic pressure during a flood because liners are only capable of blocking what minimal surface water may leak past the cap and infiltrate the waste. There are good legitimate reasons why dumps (even municipal garbage dumps) are not allowed by statute in flood zones or above sole source aquifers. Dams by definition are only functional if there is regular maintenance which cannot be assumed once DOE ends institutional control of INEEL in a hundred years. Dumping the waste on top of the ground and mounding the cover over it will result in the cap eroding over the long-term which again is unacceptable. Regulator's contention that there is a degree of efficiency in co-locating the ICDF with the ICPP percolation ponds that they must be remediated along with the "windblown" soil contamination area around the percolation ponds not only defies' common sense but is also illegal.

DOE must designate another location for the ICDF that is not near a flood plain and not over the aquifer. DOE's own study has identified at least two such sites (on the INEEL) where the Lemi Range meets the Snake River Plain. [84] **DOE has not seriously considered these alternative sites as would normally be required under the National Environmental Policy Act (NEPA), stating that the sites were eliminated from consideration due to increased seismic activity. There is no documented evidence of this alternative site analysis. No empirical risk assessment was conducted to compare the relative risk of a location over a sole source aquifer and in a flood plain (ICPP) as opposed to a site with a slightly higher seismic risk not over the aquifer or in a flood zone (Lemi Range terminus). Other credible options include purchasing land contiguous to the northern end of the INEEL site near the terminus of the Bitterroot Range that also would be off the aquifer and not in a flood zone and have more soil cover over the bedrock.**

Another misguided project outlined in DOE's October 1999 Record of Decision is the construction of new ICPP process waste percolation ponds midway between ICPP and Central Facilities Area to the south. For a detailed analysis of this project see the Environmental Defense Institute's *Ground Water Contamination at INEEL Report* available at http://home.earthlink.net/~edinst/

Nuclear Regulatory Commission restrictions prohibiting citing radioactive waste disposal dumps on 100 year flood plains must be observed. [NRC 10 CFR ss 61.50] The reason for these restrictions is because the flood water will leach the contaminates out of the waste and flush the pollution more rapidly into the aquifer. Since these wastes will remain toxic for tens of thousands of years, they must be disposed of responsibly in a safe permanent repository. These issues must be kept in mind also with respect to the ICPP high-level waste tanks that are some forty feet underground as well as the underground spent reactor fuel storage and calcine storage bins at the ICPP. Water acts as a moderator and if the underground spent fuel vaults are flooded, it could cause a criticality. All of these underground high-level waste sites are extremely vulnerable. Former ICPP workers recall stacking sandbags six feet high around the plant during a Spring flood about ten years ago. The added external hydrologic pressure on the high-level

[84] Moriarty, T. P., Feasibility of Locating Dry Storage of Spent Nuclear Fuel on Idaho National Engineering Laboratory Land at a Site That Does Not Overlie the Snake River Aquifer, November 1995

waste tank concrete vaults could collapse the vaults and the tanks inside, and thus release the contents. These risks must be considered when DOE decides to leave the high-level waste tank sediments permanently in place as a cost cutting measure.

The ICDF, siting, engineering design, and waste acceptance criteria (WAC) must be developed with public involvement through a free and open discussion. The legal requirements of the process are spelled out in the National Environmental Policy Act that requires Environmental Impact Statements and public hearings. Only un-containerized wastes that can be compacted during placement should be allowed so as to minimize subsidence caused by container decomposition. Biodegradable, VOC, collapsible, soluble, TRU, or Greater than Class C Low-level, and Alpha-low-level waste must also be excluded from the ICDF dump and sent off-site. Prior to completing the ICDF Title II Design, workshops should be convened for stakeholders to comment on the proposal in addition to the NEPA requirements. Waste Acceptance Criteria maximum contaminate concentration levels must be determined from waste sampling prior to being mixed with any stabilizing materials. In other words, "dilution is not the solution to pollution".

USGS reports identified factors favoring downward waste migration. "In order for waste isotopes to be carried downward by water, four basic requirements are needed: 1.) availability of water, 2.) contact of the water with the waste, 3.) solubility or suspendability of the waste in water, 4.) permeability in the geologic media to allow water flow downward." [85] This USGS report describes in detail how all four conditions are met at INEEL including the solubility factor where they note "Hagan and Miner (1970) leached five different categories of solid waste from Rocky Flats [the main source of plutonium in the RWMC] with ground water from the INEL and Rocky Flats and measured the plutonium concentrations and pH of the leachate. They found the highest Pu-239 concentration in leachates from the acidic-graphite wastes, 62,000 to 80,000 ug/l plutonium or (3.8×10^9 to 4.9×10^9 pCi/L)." [Ibid]

The most reliable indicators of contaminate migration are onsite sampling data. Cesium-137, plutonium-238,-239,-240 were all found at the 240 foot interbeds under the RWMC. [IDO-22056@74] Forty-one % of the samples from the 240 foot interbeds contained radionuclides. [Ibid.@87] Other literature confirmation of plutonium at 240 feet includes: "Radionuclides (including Pu-238.-239.-240, Am-241, Cs-137, Sr-90) have been detected in soils and in sedimentary interbeds to a depth of 240 feet beneath the RWMC, (Hodge et al, 1989)." "Positive values for Pu-238,-239,-240 were detected in samples obtained from the 240 foot interbed in bore hole DO2."[DOE/ID-10183@134-145][DOE/ID/12082(88) @14-16] Radionuclides are also confirmed in the aquifer under the RWMC. [EG&G-WTD-9438@25] USGS water sampling data at the 600 foot levels, expressed in pico curies per liter (pCi/l) show:

Groundwater Sampling Data at 600 Feet Under RWMC Nuclide	Concentration pCi/L	Drinking Water Std. pCi/L
Tritium	10,000.00	20,000.00
Cobalt-57	48.00	1,000.00

[85] USGS 76-471 page 68-69

Cobalt-60	100.00	100.00
Cesium-137	400.00	119.00
Plutonium-238	9.00	7.02
Plutonium-239-240	0.14	62.10
Americium-241	15.00	6.34
Strontium-90	10.00	8.00

[IDO-22056 @66] * The drinking water standard for gross alpha (total of all alpha emitters) is 15 pCi/l.

For more information on the contaminate migration from INEEL buried waste at the RWMC see EDI *Citizens Guide to INEEL* page 130 available on request.

Conclusion:

ICDF site selection is illegal under statutes Nuclear Regulatory Commission (NRC) rules that prohibit siting of radioactive waste dumps in 100 year flood plains (10 CFR 61.50) which the agencies are obliged to conform to if their commitment to Applicable or Relevant and Appropriate Requirement (ARAR) is genuine

This particular argument revolves around the fundamental definition of the 100-yr flood zone. USGS conducted an extensive study in 1998 that defined the upper and lower 95% confidence level on the flow rates for a 100-year flood.

1. The upper rate is estimated at 11,600 cfs and the lower rate is 3,150 cfs
2. USGS chose for some unknown reason (perhaps pressure from DOE) to plot only the mean flow rate (average between upper and lower) of 6,220 cfs
3. USGS assumptions base on previous Army Corps of Engineers and other EG&G studies that the Diversion Dam would fail with flows in excess of 6,000 cfs so the diversion dam was mostly discounted.
4. USGS ploting of the mean 100 year flow rate does **not define the flood zone.** It only shows where the likely areas that will be effected during an average flood. This mean plot should never be used for making major facility siting decisions.
5. The appropriate definition of the 100 year flood zone is to plot the upper bound 95% confidence level flow rate, which USGS attempted to convince DOE to fund, but were refused funding.
6. No credible empirical rationale can be presented to define the 100 year flood zone based on the plotting of the mean flow rate as DOE and the regulators are doing.
7. Given that the upper bound 95% confidence level flow rate is nearly twice what the mean flow rate .....this is a significant spread.

The apparent top of the ICDF berm is about 10 feet above the USGS plotted mean of the 100 year flood at INTEC. Absent a through USGS study that plots the upper level flow rate and the resultant flooding given the near level topography of the INTEC environs, there is a lot of uncertainty about whether the berm is high enough.

Additional uncertainty is the ability of the berm to survive the three feet per second rush

of the flood and the erosion that would be expected to occur.

The ten foot berm would also be expected to erode over time from natural wind and precipitation which would eliminate that minimal flood barrier. Who is going to be around in 200 years to maintain that berm? If the berm was breached, is the liner adequate to maintain integrity with a hydriodic head of nearly 50 feet?

500 year flood MEAN is estimated at 9,600 cfs.....Claims of 1,000 year durability of ICDF mandates inclusion of the 500 year flood impact. Cascading event of Macky Dam.....++ 54,000 cfs

Cost benefit analysis did not take into account long term impact on the potential further contamination of the sole source Snake River Aquifer and how it would affect health and safety not to mention agriculture.

Attachment III

July 9, 2002

Sent via Certified Mail

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60 Day Notice of Intent to Sue Over DOE's Failure to Comply with the Resource Recovery and Conservation Act, (42 U.S.C. § 6901 et seq); the Clean Water Act (33 U.S.C. § 1251 et seq.); the Clean Air Act (42 U.S.C. § 7401 et seq.); Safe Drinking Water Act (42 U.S.C. 300 F, et seq.); the National Environmental Policy Act (42 U.S.C. § 4332 et seq.); the

floodplain/wetlands requirements of 10 CFR 1021 et seq.; DOE Orders 5400.1, 5400.5; Plaintiffs' rights to Due Process under the U.S. Constitution and the Administrative Procedures Act, 5 U.S.C. §§ 701-706 (APA) in operation of facilities at the Idaho National Engineering and Environmental Laboratory (INEEL) including the High Level Liquid Waste Evaporator (HLLWE), the Process Equipment Waste Evaporator (PEWE), the Liquid Effluent Treatment and Disposal facility (LET&D), New Waste Calcining Facility (NWCF), Tank Farm Facility (TFF), the Service Waste System (SWS), the two Percolation Ponds, ancillary equipment and injection well at located at INTEC.

Dear Sirs/Madame ,

The Environmental Defense Institute, Inc. (EDI), Keep Yellowstone Nuclear Free, Inc. (KYNF), both non-profit public interest organizations, and David B. McCoy, resident of Idaho Falls, ID, (collectively "Plaintiffs") hereby give Notice of Intent to Sue to the U.S. Environmental Protection Agency (EPA) , the Idaho Department of Environmental Quality (IDEQ) and the U.S. Department of Energy (DOE) pursuant to the above statutes.

The Resource Conservation and Recovery Act (RCRA) requires permitted operations for hazardous waste treatment, storage, and disposal facilities. None of the above cited INEEL facilities located at the Idaho Nuclear Technology and Environmental Center (INTEC) operate with a RCRA permit. As shown below, the above cited INTEC facilities present an imminent and substantial danger to the public health and environment. With respect to the cited INTEC facilities, DOE has knowingly and systematically violated RCRA, the Clean Water Act (CWA), the Clean Air Act (CAA), the National Environmental Policy Act (NEPA), Executive Orders and DOE Orders.

I. Summary of Issues

Construction for the High-Level Liquid Waste Evaporator (HLLWE) at the Idaho National Engineering and Environmental Laboratory (INEEL) was initiated in 1993 and operation of the HLLWE as a new facility began in 1996. The HLLWE has processed over 4 million gallons of high level radioactive liquid and mixed hazardous wastes without a RCRA permit. DOE is required but has failed to submit an application for a RCRA permit for the HLLWE. The HLLWE has operated at all times without a RCRA permit and without interim status.

The whole purpose of obtaining state and federal permits for a new facility in advance of construction and operation is to protect the public and environment from the operations of facilities which have not received proper scientific and regulatory scrutiny. The HLLWE has failed to comply with the RCRA requirements for new facilities. DOE failed to obtain a prerequisite RCRA permit 180 days before beginning construction.

Moreover, DOE has never complied with the statutory requirements to have obtained interim status for the HLLWE because the HLLWE was not "in existence" by July 3, 1986, i.e., under construction, in operation, or with unavoidable contractual commitments. Interim status is granted only by statutory compliance. Interim status cannot be conferred by a permitting agency, consent order or by merely listing a facility on the Part A application as DOE did for the HLLWE.

The LET&D was also a new facility that required a RCRA permit prior to its construction

and operation. The LET&D never met statutory requirements to qualify for interim status because the LET&D was not in existence by 7/3/86. DOE failed to obtain a RCRA permit in advance of construction and operation of the LET&D.

The public has been denied opportunity for notice and meaningful hearings for the HLLWE and LET&D, prior to their construction and operation as new facilities, including the right to review plans, comment, receive written responses, review a draft permit and challenge the draft.

DOE failed to provide proper notice in the Federal Register for the HLLWE, the LET&D and the PEWE, required because they are actions within the floodplain. 10 CFR 1022 et seq. Floodplain requirements mandate an environmental impact statement and consideration of alternatives to constructing hazardous waste treatment, storage and disposal facilities in the floodplain above the Snake River Plain aquifer.

Public notice requirements of RCRA (40 CFR 124 et seq.), the CWA, the CAA, the Administrative Procedures Act (APA) and U.S. Constitution have been openly flaunted by the DOE. DOE conducts secret meetings with the Idaho Department of Environmental Quality in violation of state and federal Open Meetings Act. (5 U.S.C.§ 552b; Idaho Code 67-2341 et seq.).

Numerous protections provided for in 40 CFR Subparts 264 and 265 were denied the public, including but not limited to, characterization of wastes, testing, monitoring, reporting and other technical requirements **prior to** operation of the HLLWE, LET&D and other cited INTEC facilities.

Numerous INTEC facilities operate with no RCRA permit.

II **Violations**

The HLLWE and the above cited facilities release hazardous waste to the atmosphere via the Main Stack and other vents at INTEC or by spills, leaks and disposals, violating the Clean Air Act and RCRA.

The HLLWE and the above cited facilities release hazardous waste to the groundwater via the Service Wastewater System (SWS), or by spills, leaks and disposals, violating the Clean Water Act and RCRA. Groundwater test wells at INTEC show the presence of toxic waste contaminants from INTEC hazardous waste facilities operations, including, but not limited to, the HLLWE.

The groundwater at INTEC is contaminated in violation of the Safe Drinking Water Act.

1. RCRA Violations

DOE has failed to protect the public from the operation of RCRA non-permitted INTEC facilities. DOE has gone so far as to claim that the INTEC facilities are "unpermittable." At great peril to the public health and environment, DOE has knowingly proceeded to operate the INTEC facilities despite DOE knowledge that the facilities cannot qualify for permits.

DOE has failed to initiate closure for the INTEC facilities which it claims are unpermittable. Closure plans do not exist for numerous of these INTEC facilities, including the HLLWE, which is a violation of RCRA.

DOE submits partial applications which do not encompass the facilities which are related to each other in the INTEC hazardous waste operations.

INTEC facilities such as the PEWE, NWCF, Tank Farm Facility, Percolation Ponds, SWS have operated longer on a purported interim status than would have been permissible under RCRA if the facilities held full RCRA permits. Interim status has been used by DOE as a legal mirage to attempt to give a nonexistent legitimacy to hazardous waste processing operations at INTEC that clearly require RCRA permits. Statutorily, interim status is not a permit. Interim status cannot be conferred by a consent order. A RCRA permit is required during the operational lifetime of a facility. Consent orders do not constitute a RCRA permit. Interim status expired in 1992 for mixed hazardous and radioactive treatment, storage, and disposal facilities which did not obtain final approval for a RCRA part B application. Congress provided no exception to the 1992 cut-off date in the event of regulatory changes.

RCRA is a 'cradle to grave' system for hazardous waste management that requires that the facilities which receive hazardous waste for processing and facilities to which the wastes are sent for further processing, storage or disposal must all have a RCRA permit. All of these above cited INTEC facilities send hazardous wastes to and from each other. None of the above cited facilities have a RCRA permit and sending and receiving hazardous wastes to non-permitted facilities violates RCRA.

The New Waste Calcine Facility (NWCF) operated a mixed hazardous and high-level radioactive waste incinerator without a RCRA permit sending and receiving wastes to and from the HLLWE, LET&D, PEWE, TFF, SWS, Percolation Ponds and INTEC injection well. The NWCF and its related INTEC facilities have released thousands of tons of hazardous air pollutants and radionuclides into the environment.

The NWCF ("Calciner") is an incinerator, but DOE operated it as though it were a thermal treatment system which denied the public the higher protections required for an incinerator. DOE processed inorganic substances with the NWCF in violation of known prohibitions against incineration of inorganic substances. Upon information and belief, although the NWCF Calciner is currently in stand down mode, DOE plans to revive calcination of wastes but has failed to inform the public of those plans as required by RCRA.

The PEWE accepts certain hazardous wastes which are required under federal law to be treated by other types of processes. DOE has failed to characterize PEWE waste feed and monitor PEWE emissions. The PEWE is a thermal treatment facility using evaporators, but DOE mischaracterizes the PEWE as a "tank treatment" operation to avoid the regulations which apply to thermal treatment units. Additionally, as a fractionation unit, the LET&D is similarly subject to thermal treatment regulations, but DOE is characterizing the LET&D as "tank treatment."

Many tanks and vessels integrally associated with the HLLWE, PEWE, and LET&D are not compliant with RCRA permit requirements, are not seismically qualified, structurally inadequate, lack secondary containment, and exceed their design life. DOE has only recently submitted a RCRA Part B Application for the PEWE and LET&D, but have received no permit and currently these facilities operate without a permit.

The HLLWE and LET&D are respectively an evaporator and fractional distillation unit and DOE is failing to require the specific protections provided by RCRA and the Clean Air Act for protecting the public and environment from the type of dangerous emissions of hazardous waste to the atmosphere from the HLLWE and the LET&D. Characterization of wastes processed and monitoring for emissions is not in compliance with RCRA or CAA requirements.

The Tank Farm Facility and the numerous tanks and connecting service piping associated

with INTEC hazardous waste operations are not in compliance with numerous RCRA requirements, including but not limited to, requirements for permits, characterization, and requirements contained in 40 CFR 264/265 Subpart J. RCRA requires that wastes sent to a facility such as the HLLWE must be characterized prior to treatment. The high-level tank farm wastes have not been adequately characterized. This was a problem encountered with the NWCF Calciner and among the reasons the Calciner could not be permitted.

The tanks and connecting service lines (ancillary equipment) at INTEC fail to meet numerous RCRA design requirements, including but not limited to, requirements for double containment, seismicity, inspection protection against leaks, corrosion, waste analysis and monitoring. Numerous tanks are well past their design lifetime. The tanks at INEEL have spilled, leaked and disposed hazardous wastes into the groundwater and the atmosphere.

Public notification and early opportunity for public comment requirements of the RCRA Expanded Public Participation Rule have also been violated by the construction and operation of the HLLWE prior to informing the public of DOE plans. (40 CFR 124 et seq.). DOE continues to operate the HLLWE without submitting an application, holding hearings, and informing the public of its operations.

By failing to obtain a RCRA and other federal permits required for the HLLWE and the other INTEC facilities, DOE fails to comply with the requirements of DOE Order 5400.1 which requires compliance with environmental protection, safety and health requirements for DOE operations.

By failing to obtain a RCRA and other permits required for the HLLWE and the other INTEC facilities, DOE fails to comply with DOE Order 5400.5 which sets forth requirements of radiation protection of the public and the environment.

2. **Clean Air Act**

DOE's INEEL facility is in violation of the Clean Air Act, 42 U.S.C. § 7401 et seq. and the national emissions standards for emissions of radionuclides, at 40 CFR Part 61. INEEL has failed to evaluate every release source for radionuclides by using the approved EPA computer model to determine doses received by the public 40 CFR 61.93(a). INEEL failed to carry out comprehensive inventory necessary to identify each point that has the potential to deliver more than 1% of the effective dose equivalent standard. 40 CFR 61.93(b)(4). The evaluation of emissions potential is to be performed by estimating the dose without taking any credit for any emissions controls on the effluent stream. The results of this modeling are needed to determine which release points must be continuously monitored or monitored periodically to confirm continuing low emissions. 40 CFR 61.93

INEEL has failed to install stack monitoring equipment on all its regulated point sources. 40 CFR 61.93. INEEL has failed to conduct and comply with the appropriate quality assurance programs. INEEL has not adhered to the "compliance and reporting" requirements, it has failed to calculate the highest effective dose equivalent in accordance with standards described in subparagraphs (a) through (d) above and as required by 40 CFR 61.94.

DOE has failed to file a true, accurate and complete annual report as required by 40 CFR 61.94. The lack of monitoring equipment at all regulated sources, the absence of appropriate quality assurance, and the failure to include the appropriate data and to perform the appropriate

computer modeling make the annual report incomplete and inaccurate.

DOE public official certification that monitoring data is true, accurate and complete is materially false and the certifications are untrue, in violation of 40 CFR 61.94.

The cited INTEC facilities release hazardous waste pollutants to the air via the INTEC Main Stack or by uncontrolled emissions to the atmosphere by leaks, spills and disposals in violation of the requirements of the Clean Air Act. These RCRA non-permitted INTEC facilities also release hazardous wastes to soil and groundwater because of numerous spills, leaks and disposals. DOE fails to use best available technologies to protect the public and environment from hazardous waste spills and disposals to soil, air and water.

No Clean Air Act Title V permit exists for the INTEC facilities. A State of Idaho Permit to Construct an Air Pollution Source (PTC) was not obtained by DOE for the LET&D until 1999, well after the LET&D began operations. No PTC has been obtained for the HLLWE by DOE although the HLLWE has operated since 1996.

Additional CAA violations include: (1) Failure of DOE to comply with Maximum Achievable Control Technology (MACT) standards 40 CFR 63 Subpart DD for INEEL and the Idaho Nuclear Technology and Engineering Center (INTEC) formerly the Idaho Chemical Processing Plant (ICPP); (2) Failure of DOE to comply with Maximum Achievable Control Technology (MACT) requirements for INEEL as an industrially operated Publicly Owned Treatment Works/Federally Owned Treatment Works (POTW/FOTW) (40 CFR 63.1580 et seq.) and (3) as a prospective "Major Source Category" under "Site Remediation" (40 CFR 63.112).

The INTEC Facilities at the INEEL are an Offsite Waste and Recovery Operation. DOE has failed to comply with the Provisions of 40 CFR 63 Subpart DD for which sets standards for the Control of Hazardous Air Pollutants from Off-site Waste and Recovery Operations.

DOE has failed to apply requirements of the National Emission Standards for Hazardous Air Pollutants for Source Categories to the INEEL. DOE's INEEL facility is a Publicly Owned Treatment Works/Federally Owned Treatment Works (POTW/FOTW) which is a major source of hazardous air pollutant emission such that INEEL must meet the requirements or criteria for development and implementation of a pretreatment program. (40 CFR Subpart VVV)

DOE made "major modifications" to the NWCF without obtaining required permits under the Clean Air Act's Prevention of Significant Deterioration (PSD) or New Source Review (NSR) provisions. DOE has failed to comply with Best Available Control Technology or Maximum Achievable Control Technology for the NWCF and other INTEC facilities by installing adequate air pollution control devices.

3. Clean Water Act

The CWA specifically prohibits the discharge of any pollutants into the waters of the United States, except in those cases where the discharger has first acquired a National Pollutant Discharge Elimination System discharge permit ("NPDES permit"). 33 U.S.C. §§ 1311(a), 1342. See also 40 CFR 122.

The RCRA non-permitted INTEC facilities release hazardous waste pollutants to the soil and groundwater through the Service Waste System. Because the groundwater is hydrologically linked to aquifer of the Snake River, a navigable body of the United States, a National Pollution Discharge Elimination System (NPDES) permit is required.

INEEL does not have a NPDES permit at INTEC and is in violation of the Clean Water

Act. All the INTEC facilities are point sources for which a NPDES permit is required. The discharge of pollutants into waters of the United States in the absence of an NPDES permit is expressly within the contemplation of the CWA's citizen suits provision. 33 U.S.C. §§1365(f). Pursuant to 33 U.S.C. § 1365(b) we are hereby providing notice of intent to sue.

The INTEC Percolation Ponds, in addition to lacking a NPDES permit, fail to meet RCRA requirements to have liners and are contaminating the groundwater. Interim status has expired for the Percolation Ponds. Although no RCRA permit was obtained for the ponds, these ponds continue to receive 1.5 to 2.5 millions gallons of waste water per day from the Service Waste System, further contaminating the groundwater and driving a plume of hazardous wastes and radionuclides into the aquifer. The Percolation Ponds are an open dump and violate Land Disposal Restrictions.

DOE has not complied with DOE Order 5400.5, issued in 1993, which prohibits discharge of liquid effluents to contaminated soil columns under the existing Percolation Ponds.

The Service Waste System deliberately dilutes the INTEC waste stream in violation of RCRA prohibition against dilution.

Upon information and belief, an INTEC hazardous waste injection well which has received hazardous waste and which has no RCRA permit, is still available for use and has failed to begin RCRA closure.

These RCRA non-permitted INTEC facilities are integrally related to each other. The public has not had opportunity to review the INTEC facilities in relation to each other in a National Environmental Policy Act (NEPA) mandated Environmental Impact Statement prior to the construction and operation of the facilities in the floodplain. The cumulative human health and environmental effects of the operation of these facilities and alternatives thereto have not been considered.

Although a RCRA Part B application is currently pending before the Idaho Department of Environmental Quality for the PEWE and the LET&D, the HLLWE, as an integral part of the INEEL Liquid Waste Management System, is **not** part of that application. DOE segments applications so that the public can never grasp what the entire picture is for intended operations. The human health and environmental consequences cannot be reviewed for the facilities in relation to each other.

Plaintiffs request that all non-permitted INTEC operations stand down and begin RCRA closure because the facilities have no permits.

4. **National Environmental Policy Act of 1969**

DOE has not supplied the necessary information or complied with the requirements to obtain and receive permits under RCRA, the CWA, the CAA and no adequate environmental impact statement has been provided for these facilities in accord with NEPA.

NEPA requires that federal agencies evaluate the environmental impacts of all major federal actions affecting the quality of the human environment. 42 U.S.C. § 4332(2)(c). Current operation of the HLLWE and the related facilities is in violation of NEPA because no reasonably thorough discussion and sufficiently detailed analysis, consideration of alternatives, environmental costs, or balancing of the economic and technological benefits has been prepared for the HLLWE and facilities from which it receives hazardous wastes and to which the HLLWE sends hazardous wastes. An irreversible and irretrievable commitment of resources for the cited

INTEC facilities has been made in the absence of an Environmental Impact Statement.

Additionally, Executive Orders 11988, 11990 and 10 CFR 1022 et seq. require that federal agencies implement the Floodplains/wetlands requirements through existing procedures such as those established to implement the National Environmental Policy Act of 1969.

DOE has failed to address the requirements of10 CFR 1022 et seq. to consider environmental consequences and alternatives for remediation to the HLLWE and other actions in the floodplain.

Under the floodplains/wetlands requirements the public is entitled to, but has been denied, the opportunity to participate in all the environmental considerations with respect to actions in the floodplains *before* DOE proceeds with action. DOE proceeded with the federal action to build and operate the HLLWE and other INTEC facilities, without first providing the opportunity for public notice and opportunity for comment as mandated in the floodplains/wetlands requirements.

Flooding at INTEC may well cause further contamination of the Snake River Plain sole source aquifer. DOE's flood studies are contradictory, inadequate and contain numerous disclaimers. Floodplain information does not comply with 40 CFR 270.14 et seq, 10 CFR 1022 et seq. and/or NEPA requirements.

No contingency plans exist for safe removal of hazardous wastes from INTEC in the eventuality of flooding. The human health and environmental effects of simultaneous flooding of INTEC facilities has not been considered. Underground tanks can be floated. Calcine bin sets and other underground mixed high-level radioactive and hazardous waste storage units are vulnerable to flooding. Topographic maps for the INTEC facilities are inadequate and not in compliance with legal requirements. Terrorist events which could cause flooding at INTEC have not been considered with protections established.

Because the 1999 INEEL High-Level Waste Environmental Impact Statement (HLW/EIS) has not been finalized and no Record of Decision exists, DOE is under a current duty, to the extent possible, to apply the requirements of 10 CFR 1022 to the HLLWE and other proposed actions in the floodplains/wetlands. 10 CFR 1022.5(b).

The HLLWE and the other cited INTEC facilities are a critical action as defined by 1022.4(c) involving highly volatile, toxic or water reactive materials in the floodplain. No 500-year flood analysis has been performed for the HLLWE, the Tank Farm, PEWE, Percolation Ponds and Service Waste System. No adequate NEPA or 10 CFR 1022 analysis exists for floodplain issues linking the hazards to these facilities in relation to each other.

III Intent to Sue

Environmental Defense Institute, Inc., (EDI), Keep Yellowstone Nuclear Free, Inc., and David B. McCoy have previously furnished the IDEQ, EPA, DOE and U.S. Attorney General a Notice of Intent to Sue (NOI) for the NWCF and WERF incinerators. EDI and McCoy also issued a NOI on the PEWE and related facilities. The HLLWE and other INTEC facilities were specifically cited in the NOI for the PEWE as well as in the NOI for the NWCF, and other documents filed by Plaintiffs such as: 1.) A complaint to the EPA and DOE Inspector Generals requesting an investigation of DOE/ID RCRA permitting practices; 2.) A Petition to EPA

Region 10 requesting that IDEQ RCRA enforcement authority be revoked; 3.) A Petition to EPA Office of Enforcement and Compliance Assurance for review of INEEL CAA violation; 4.) A Petition to IDEQ on INTEC Debris Processing Permit deficiencies. The NOIs along with all attachments for the NWCF and the PEWE, and petitions/complaints and attached documents filed with the U. S. EPA Inspector General, EPA/Region 10, EPA/OECA, and IDEQ, are hereto incorporated by EDI, KYNF and David B. McCoy in their entirety by reference thereto for this NOI.

Plaintiffs hereby put you on notice of their intent to sue pursuant to the above and related statutes. Plaintiffs will seek the appropriate relief for violations of the statutes, including without limitation, an injunction against the continuing operation of all non-complying sources until those facilities are in full compliance with requirements of law, an injunction requiring immediate and full compliance with governing statutes and all associated permitting, operating monitoring and reporting requirements. Plaintiffs will seek the maximum statutory penalties allowable for each day's violation per source under each of the statutes. Costs, attorney fees and expert witness fees will be sought.

For more information please contact:

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