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RE: Preliminary Comments on U.S. Department of Energy Class 3 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.
IDEQ Public Notice of Intent 1/26/07 to approve Class 3 Permit Modifications of Volume 14, Docket Number 10HW-0701.

These comments for the public record are submitted jointly by the Environmental Defense Institute (EDI) Inc. and Keep Yellowstone Nuclear Free (KYNF) Inc. We reserve the right to submit supplemental comments due to release resistance of our Freedom of Information Act (FOIA) requests to DOE, EPA and Public Records Requests (PRR) for Idaho National Laboratory RCRA permit information to Idaho Department of Environmental Quality. [1]

[1] Environmental Protection Agency Region 10 denied fee waiver to Environmental Defense Institute's Freedom of Information Act request for INL permit documentation "EPA has determined that the requested records do not meet

Section I: Summary

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

The DOE quickly posted a "Permit Modification Request" (PMR) in August 2006 that has no official public comment provisions. [2] Idaho Department of Environmental Quality (IDEQ) subsequently issued Public Notice: Intent to Approve a Permit Modification Request 1/26/07. [3]

The 45-day comment period (ending 3/12/07) provided by IDEQ 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 "Intent to Approve the Permit Modification" of the more than 640+ pages of the Permit.

The DOE Permit Request submitted to IDEQ includes a new high-level radioactive and hazardous waste processing plant. IDEQ's permit approval is back dated to September 16, 2004 for a "partial-permit (for less than entire facility)". [4] This is the deadliest material on the planet short of nerve-gas. **This new operation is called the Integrated Waste Treatment Unit (IWTU)**. [5]

IDEQ has allowed DOE for many years to "boot-strap" new deadly waste operations like the IWTU onto old Process Equipment Waste Evaporator (PEWE) permits and thereby avoid the otherwise full legal Resource Conservation Recovery Act (RCRA) and Clean Air Act (MACT) permitting process. [6] DOE's IWTU is required as a matter of law to obtain an RCRA and MACT permit as a new major source facility and not be engrafted as a modification onto the current application that is decades old. [7] This is a jurisdictional issue that requires resolution before the IWTU can receive any legitimacy as a RCRA facility. [8]

The IDEQ illegally relies on the decades old RCRA permit (on record) for the Process Equipment Waste Evaporator (PEWE) and attempts to "boot-strap" **new separate operations in separate buildings** into this new permit modification. Current EPA regulations restrict permit modification to **existing** permitted operations. [9] Therefore, IDEQ approval of this new permit modification is bogus because there are no original permits for the IWTU, High-level Liquid Waste Evaporator and Liquid Effluent Treatment & Disposal. These operations needed to obtain individual RCRA permits as new facilities because they

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the threshold test of contributing significantly to the public understanding of the operations or activities of the Federal government." Stephanie Kercheval, FOIA Officer, 2/7/07. EPA requires payment of $750 for processing fees. Idaho Department of Environmental Quality also denied EDI fee waiver for INL permit documentation.

[2] Department of Energy Modified Permit Request 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_waste/ilwms_permit/overview.cfm

[3] Dear Concerned Citizen letter, from Robert E Bullock, Hazardous Waste Permit Coordinator, 1/26/07, with Public Notice: Intent to Approve a Permit Modification Request. For related 12/06 and 1/06 permit documents see; www.deq.idaho.gov/waste/permits_forms/permitting/haz_waste/ilwms/

[4] IDEQ Toni Hardesty, Director Department of Environmental Quality, September 16, 2004.

[5] Permit Modification, Attachment 1, Section B, Facility Description, (Dec. 06). IDEQ reference (1b_facility description).

[6] Code of Federal Regulations (CFR), National Emission Standards for Hazardous Air Pollutants, Maximum Achievable Control Technology (MACT) Standards for Major Sources 40 CFR 63.40 through 63.44

[7] IDEQ Updated Listing of INL RCRA documents 1/17/07, INTEC Permitting, page 29-30, shows the last full RCRA permit for the Process Equipment Waste Evaporator.

[8] 40 CFR 270.42

[9] 40 CFR 270.42(a)(i) Subpart D Changes to Permit. 6/7/05

were not in existence before 1986. [10] Moreover, the deadline for DOE compliance with the Clean Air Act/NESHAP/MACT standards for these operations was 6/29/98. [11]

Section II. IDEQ Fails to Require DOE to Implement Permanent Waste Treatment Solutions Stipulated in the Settlement Agreement

Environmental Defense Institute (EDI) and Keep Yellowstone Nuclear Free (KYNF) have always supported the safe conversion of mixed hazardous and high-level radioactive tank waste inventory that poses a continued threat to the underlying Snake River Aquifer into a safe waste form (direct vitrification). [12] However, IDEQ violates the public interest, court orders and regulatory compliance in the current "Intent to Permit" initiative.

IDEQ has tragically indorsed DOE's IWTU waste treatment plan that provides no long-term solutions to treatment/disposal of the mixed hazardous Sodium-Bearing Waste and high-level waste tank inventory in the INTEC Tank Farm. The IWTU will only generate more of what DOE claims as calcine like waste. In fact the IWTU produces a fine dust powder that will leach more rapidly than does an equal mass of rad-waste-type glass and produces a vast amount of extremely dusty off-gas difficult to capture. The process is prone to agglomeration-related shutdowns which would be extremely difficult to recover.

DOE and IDEQ are taking a grossly misguided route with the less expensive IWTU "Steam Reforming" despite the fact that the existing 4,200 cubic meters of calcine in storage at INTEC also must be processed to meet the Idaho/DOE Consent Order for "road ready" waste disposal. [13] Duratek's bid for vitrification of the INTEC one million gallon tank waste is $79.6 million. [14] This Duratek vitrification process can handle both liquid INTEC tank waste and the existing INTEC 4,200 cubic meters calcine inventory that will be required anyway in the court ordered Consent Order Agreement.

Yet DOE and IDEQ opted for the for the short-term less expensive $35 million "steam reformer" IWTU process whose waste form is least stable for on-site long-term storage over the Snake River Aquifer or permanent disposal.

There is No Disposal Path-Forward for the ITWU Waste

This Permit also violates the Idaho/DOE Settlement Agreement/Consent Order and Notice of Noncompliance requirements for "road-ready" disposable waste that will meet with "waste acceptance criteria" (WAC) for a final disposal site. [15] To-date, the waste product that best meets these WAC requirements is vitrified glass/ceramic. Yet DOE rejected direct vitrification in its Idaho High-Level Waste and Facilities EIS. [16] Moreover, there is no final disposal "path-forward" for the ITWU waste because WIPP Waste Acceptance Criteria specifically "excludes" this waste generated from INTEC Tank

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[10] Construction for the High-Level Liquid Waste Evaporator (HLLWE) at the Idaho National Laboratory 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. See Environmental Defense Institute, et al., Notice of Intent to Sue DOE, 7/9/02, available at; http://environmental-defense-institute.org

[11] 40 CFR 63.42. Also see EPA Office of Inspector General 3/9/05 Evaluation Report "Substantial Changes Needed in Implementation and Oversight of Title V Permits If Program Goals Are to Be Fully Realized"

[12] Environmental Defense Institute Comments on Idaho High-level Waste and Facilities Disposition, Final Environmental Impact Statement, September 2002, DOE/EIS-0287, See www.environmental-defende-institute.org

[13] Idaho High-level Waste &FD Environmental Impact Statement, DOE/EIS-0287D 12/99, pg. 1-11.

[14] Durateck vitrification process bid to DOE/ID

[15] U.S. District Court for the District of Idaho in USA v. Batt, Civil No 91-0054-S-EJL, Consent Order, 10/17/95.

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

Farm. [17] Given the inevitable long-term storage of these wastes at INL (in a USGS recognized flood zone) until a permitted final disposal site is established, only the vitrified glass waste will pose the least significant leach of contaminates hazard into the underlying Snake River Aquifer.

Don Hancock, Southwest Research and Information Center (SRIC) Nuclear Waste Program Director states: "Waste from the [high-level waste] HLW tanks at INL is not bound for WIPP, whether it's called [remote handled] RH or [contact handled] CH TRU. The RH waste that's coming to WIPP is from Argonne-East, not from INTEC.

> "The WIPP permit still has the following prohibition: II.C.3.h. Excluded waste - TRU mixed waste that has ever been managed as high-level waste and waste from tanks specified in Permit Attachment B are not acceptable at WIPP unless specifically approved through a Class 3 permit modification. Such wastes are listed in Table II.C.3.i below.
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> "There are no wastes currently listed in that table, because DOE hasn't requested any class 3 permit modification for such wastes.
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> " WIPP Permit Attachment B, Table B-8, which is referred to, includes 15 HLW tanks at INL.

Thus, before any waste (whatever its classification) from those tanks could come to WIPP, there would have to be a class 3 mod. As you know, there's no timeframe for any decision on such a request. We currently have one class 3 requests to the WIPP permit (regarding panel closure) that has been pending since October 2002. And any attempt to bring any waste from the Hanford, INL, or SC HLW tanks will be very controversial in New Mexico, because SRIC and others believe that such waste is prohibited by the WIPP Land Withdrawal Act." [18]

IDEQ Fails to Consider Fundamental Product, Cost and Process Issues in its Intent to Approve the IWTU Modified Permit.

Former INL site worker and technical consultant, Darryl Siemer, with a PhD in chemistry challenges the IDEQ Notice of Intent permit modification deficiencies on the following grounds;

1) "PRODUCT ACCEPTABLITY: CWI's [CH2M-WG-Idaho] [IWTU] reactor will make the same product - a water soluble "carbonate calcine" - that could have been produced fifteen years ago by INL's already-paid-for calciner (NWCF). In light of the uncertainties regarding ultimate disposal of SBW [sodium bearing waste], why is Idaho championing a process that makes such a product? Since DOE apparently has not yet given Idaho an iron-clad guarantee that the "stabilized" SBW will be shipped offsite, its acceptability as a waste form is important. For example, has the State of New Mexico officially withdrawn its objections to putting INL's tank wastes into the WIPP [Waste Isolation Pilot Program] repository? Is a water soluble calcine ever apt to be deemed acceptable by the people who live near Nevada's YM [Yucca Mt] repository site? If it's not shipped offsite, would such calcine be suitable for indefinite "temporary" storage immediately above the Snake River aquifer? I'm not alone in my opinion that an "acceptable" radioactive waste form would be neither water soluble nor readily dispersible (dust-like).
2) "COST: What's the State's current best-guess of what this project will cost US taxpayers? I seem to recall that the primary driver for steam-reforming was that, back in

[17] Waste Isolation Pilot Project (WIPP) Resource Conservation and Recovery Act (RCRA) Hazardous Waste Facility Permit and Modifications, Attachment B, Waste Analysis Plan, Effective Date, 11/17/06, Table B-8, Waste Tanks Subject to Exclusion, page B-54; states "INEEL -15 Excluded Tanks, Numbers WM-103 through WM-106, and WM-180 through 190."

[18] Don Hancock email to Chuck Broscious, 2/26/07. Hancock is a nationally recognized NGO expert on WIPP.

2002, DOE's then-incoming EM chieftain announced that vitrification would be "too expensive" for INEEL (but still OK elsewhere) [Hanford]. Yesterday, the "INTEC contact" identified in the Notice of Intent informed me that the estimated cost of this project has ballooned from $121 to $460 million during the twenty-three months that CWI has been in charge of INL clean-up. $460 million is 6 times more expensive than DURATEK's bid (2005) to convert SBW to a genuinely competent waste form (glass) and thirteen times more costly than thin-film evaporating it to an equally water soluble but much less "dispersible" salt-cake waste form would be.

3) "PROCESS: Why is the State of Idaho allowing CWI to keep the details of its technology secret? To persons as "familiar with the art" as I happen to be, the fluidized-bed calcination of SBW under strongly reducing ("reforming") conditions is a well-established technology first demonstrated at Argonne fifty years ago. The only genuinely novel features of CWI's technology include the name-change (to "reforming") & the fact that it has somehow managed to convince DOE that calcine would be a good waste form. The spectacular success of that sales pitch required the same official permission to suppress "technical details" that Idaho is now apparently also condoning.

"The mystery of how this all came about might be explained by the fact that in 2001, George Bush appointed Robert G. Card, then a senior vice president of CH2M-Hill (the "C" in CWI refers to CH2M-HILL), undersecretary to the US Department of Energy. (Mr. Card is now safely back with CH2M-Hill.) In a similar vein, the State's abrupt about-face on this issue (up until fairly recently), it wanted DOE to vitrify [sodium bearing waste] SBW.

"In my opinion, this [IDEQ IWTU Permit approval] project absolutely reeks of waste, fraud, & taxpayer abuse. It's also another example of how DOE-management of its 'waste issues' continues to haunt the US nuclear power industry." [19]

Section III. IDEQ's Proposed Permit Violates Environmental Laws

EDI protests DOE's attempt, with IDEQ complicity, to circumvent applicable Resource Conservation Recovery Act (RCRA), Clean Air Act, and Clean Water Act regulations. EDI filed a complaint with EPA challenging the agency's intent to grant Idaho final Hazardous Waste Management Act and Resource Conservation Recovery Act permitting authority based on IDEQ's past and current inadequate enforcement of these crucial environmental laws. [20] EDI also filed a Complaint with EPA Office of Inspector General challenging IDEQ's lax enforcement. See Attachment D for the EPA/Office of Inspector General's critical response. [21]

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[19] Darryl D. Siemer, Ph D Chemist and INL former site worker and INL technical consultant, Idaho Falls, Idaho, 2/10/07 email to Mary Woollen, and Siemer email to Broscious 2/12/07 .

[20] When Petitioners [EDI et al.] ask, "Where are the permits?" EPA and IDEQ pretend that interim status is a substitute for a permit although RCRA requires permitted facilities during their operational lifetimes. Interim status operations have continued for longer periods than permitted operations could have continued. 42 U.S.C. §6925 reflects Congressional intent to limit interim status operations. One only has to read the Rebuttal submitted by Petitioners to realize the large number of legal and factual issues which the EPA has refused to acknowledge or address in its 7/1/02 letter or EPA's earlier Response. Environmental Defense Institute, Keep Yellowstone Nuclear Free and David McCoy Petition to Environmental Protection Agency Inspector General, 7/8/02. See EDI Website http://environmental-defense-institute.org

[21] 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. 2204-P- 00006, 2/5/04.

EDI also filed a Public Records request 12/28/06 with IDEQ for RCRA permit documentation and IDEQ responded stating major portions of the request are **denied** based on "trade secrets and business records." [22] Consequently, the public is deliberately denied by IDEQ access to crucial information essential for developing informed consent. Equally egregious is IDEQ arbitrary and capricious requirement that only public comments on permit modifications related to the IWTU will be considered. This means IDEQ will not consider the fundamental illegal "boot-strapping" permit modification issues are "off-the-table." It's simply unconscionable and illegal for IDEQ to allow DOE to dump these deadly toxins into the atmosphere when DOE refuses to pay for available emission control systems otherwise required under law.

EDI and KYNF's Freedom of Information Act (FOIA) request to EPA Region 10 for documentation on INL RCRA permits are also blocked despite compliance with "in the public interest" requirements of FOIA. EPA officially claims "fee waiver denial" without providing any basis for the denial. [23]

One of the crucial deficiencies of this new IDEQ Permit Modification is that it only addresses hazardous materials and totally ignores radioactive materials released to the atmosphere. The Permit Modification must address compliance with all applicable regulations related to radioactive emissions. [24] This is a crucial issue because during 2003, INTEC (where these waste process plants are located) released 6,002 curies of radioactive emissions to the atmosphere. [25] By any standards, this is an enormous amount of radiation to the environment! 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 hazardous radioactive waste on earth, this is an unacceptable exclusion. This Permit Modification includes the whole ILWMS component units that include:

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

Changing the name of the High-level Liquid Waste Evaporator to Evaporator Tank System does not change the process, but it does make it sound more benign to the public. DOE's naming the Integrated Waste Treatment Unit (IWTU) and classifying it as a "steam reformer" also sounds deliberately innocuous. These name changes are not only used to hide what these operations do, but also to avoid more stringent applicable laws. At issue here is processing the most deadly material in the world that unquestionably deserves the most ardent regulatory scrutiny by IDEQ and EPA.

IDEQ states, "The proposed IWTU is not considered a combustion technology. Although steam reforming is **not subject to the Maximum Achievable Control Technology (MACT)** standards for hazardous waste combustion, the IWTU is designed to meet these standards." [26] This is a clear obfuscation of Clean Air Act regulatory enforcement. IDEQ is required by law to state that the IWTU **SHALL** meet MACT emission standards. [27]

The Integrated Waste Treatment Unit (IWTU) "steam reformer" meets the regulatory definition of a "combustion device" [28] or controlled prophetic high-temperature burn (1,150 degree C). These

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[22] Teri Gregory, IDEQ, Administrative Assistant Waste Management and Remediation Division, 1/24/07

[23] U.S. Environmental Protection Agency Region 10, Freedom of Information Act Request Number 10-RIN-00101-07 Fee Waiver Denial, 2/1/07.

[24] 40 CFR 191.27 (notes 5 and 6) as well as 40 CFR 61 Subpart I.

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

[26] IDEQ Fact Sheet, 1/26/07, page 3.

[27] 40 CFR 63.43

[28] 40 CFR 63.111

combustion temperatures are achieved by adding 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 fine powder like and highly leachable waste product. The McGrill leach studies of the waste show 100% of the radioactive cesium leaches out in two days. [29] This waste powder poses a significant hazard to Idaho's sole source aquifer given the fact that it will be in indefinite long-term storage at INL (in a flood zone) until a final geologic disposal site is permitted. The IWTU replaces the New Waste Calciner incinerator that was not designed to process the remaining "sodium-bearing" high-level liquid waste at the INTEC Tank Farm.

Regardless what DOE calls this new IWTU and other high-level/TRU waste operations, IDEQ must be independently define it by a characterization of the treatment process implemented and the required regulatory emission control standards applied.

"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 Permit Modification 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 [high-level waste] tanks." [30] These are only current 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. [31] 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." [32]

DOE's reported intent to restart reprocessing of spent nuclear fuel (SNF) at INL lends credence to public concerns that the ILWMS and the IWTU are not just dedicated to treating existing high-level waste tank inventories, but also facilitating managing "newly-generated-waste" from reprocessing of SNF. [33]

DOE/IDEQ Permit Modification Discussion of Process Vents

"Process Vent" is a broad regulatory 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 states, "The IWTU is designed [**not required**] to meet Hazardous Waste **Combustor** MACT standards which are more stringent than the emission standards for process vents IDAPA 58.01.05.008 [40 CFR 264 Subpart AA]. Also, steam reforming is not a technology regulated under the

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[29] ,Dr. Pete McGrail, Bechtel National; raw leach data, PNWD-3288, WTP-RPT-097 (Rev.0).

[30] Permit Modification, Attachment 1, page 1-D-134. For the full text of this DOE Permit Modification hereinafter referred to "Permit Modification" referenced herein ; See http://www.deq.idaho.gov/waste/permits

[31] The definition of Transuranic Waste is "radioactive waste that is not classified as high-level radioactive waste and contains more than 100 nano-curies per gram of alpha-emitting transuranic isotopes with half-lives greater than 20 years."

[32] Permit Modification, Attachment 2, Section C, pg. 2-6. (nCi/g = nano Curies per gram) (mrem/hr = millirem per hour)

[33] Permit Modification, Attachment 2, Section C, pg. 12

process vent standards, thus the process vent standards are neither applicable nor appropriate for the IWTU." [34] [emphasis added] IDEQ is complicit in this charade by allowing DOE's obfuscation of the relevant laws.

DOE/IDEQ claim: "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]

However, 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." [36] There are multiple radioactive/hazardous waste stacks for the numerous INTEC Liquid Waste Management System (LWMS) operations as well as other INTEC operations using the same stacks, and regulations require that they cumulatively be included under the "major source" criteria. [37]

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 emission control regulation. Moreover, IDEQ must ensure that DOE is not allowed to use this unfounded exemption. Also see detailed discussion on the IWTU Permit Modification below.

DOE's Permit Modification includes other liquid waste treatment units and claims: "... [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 ETS vents do not meet the definition of a process vent and IDAPA 58.01.05.008 [40 CFR § 264.1031] does not apply." [38]

The IWTU 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 emission control regulation. IDEQ must ensure, in the interest of public health and safety, that DOE is not allowed to use this unfounded exemption.

The above DOE Permit does not implement new: "EPA (2005) recommendations that organics and metal emission limits be increased by factors of 2.8 and 1.45 respectively, to account for potential increases in emissions due to process upset conditions." [39] 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

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[34] IDEQ Fact Sheet, 1/26/07, page 5.

[35] Permit Modification , Attachment 2, Section C, pg. 2-52

[36] "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."

[37] 40 CFR 63.112

[38] Permit Modification, Attachment 2, page 2-52

[39] Permit Modification, Attachment 1, page 1-D-138

during 2003, INTEC released 6,002 curies of radioactive emissions to the atmosphere. [40] By any standards, this is an enormous amount of radiation to the environment!

What confidence can the public attribute to these grossly inappropriately applied standards?

It is now up to the Idaho Department of Environmental Quality to review this DOE Permit Modification Request and issue its findings. 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 misguided priority.

Section IV. INTEC Liquid Waste Management System (ILWMS) Permit Tank Issues

DOE plans to continue using RCRA non-compliant tanks and ancillary service lines and equipment. DOE's Permit only lists about 53 tanks and fails to provide crucial information about each tank. [41] Apparently, all of the functioning tanks are not listed in the Draft Permit.

Twelve of the tanks (listed in the Permit Modification) 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 [42] 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. [43]

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.[44] 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. " [45]

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

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

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

[42] American Society of Mechanical Engineers (ASME)

[43] 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

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

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

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 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 Permit Modification 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 Permit Modification acknowledges secondary containment in waste service piping: "Concrete-embedded transfer lines have been identified at the ILWMS." [46] 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 [47]

DOE's Permit Modification 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." [48]

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." [49] 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

[46] PMR, Attachment 1-D, page 1-D-87
[47] PMR, Attachment 1-D-Process pg. 99
[48] PMR, Attachment 1-D, page 1-D-104
[49] IDEQ email 9/6/06 to Broscious

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

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 Permit than it has taken with previous INL Liquid Waste Management System RCRA Permit Modification and DOE's Modified Permit because of the extreme hazard this remote handled mixed transuranic waste treatment poses to the public. [51] 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 V: DOE/IDEQ Modified Permit Discussion of Process Vents

1. Process Vents

DOE claims in its Permit Modification "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 [52] 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." [53]

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[50] PMR, Attachment 1, page 1-D-72
[51] PMR, Attachment 2 Section C, page 17
[52] Draft Permit, page32 and 33.
[53] PMR, Attachment 2, Section C, page 2-52

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." [54]

"The LET&D facility off-gas system [total organic compounds] TOC emissions are 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 [55] 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 does 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." [56] [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

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[54] 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

[55] DOE Draft Permit, page32 and 33.

[56] PMR page 1-D-138

applicable regulations under the Atomic Energy Act and the Nuclear Waste Policy Act" or other applicable statutes/regulations. **Therefore, DOE cannot claim this exemption.**

1. IWTU Permit Modification 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 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." [57] **Again, current and previous ILWMS Permitting is deficient.**

2. 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 membranes that are 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. " [58]

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.

3. 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**

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[57] 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.

[58] PMR Attachment B page 1-B-10

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 secondary containment extends to the tank sumps.

Table D-1 PEWE Tanks [59]

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 **

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

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 *
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 [60]

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.

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

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*
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.**

4. 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 (Fluorine 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 Permit Modification (PM) acknowledges secondary containment in waste service piping: **"Concrete-embedded transfer lines have been identified at the ILWMS**." [61] 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 PM 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. [62]

DOE's PM 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." [63] **[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 off gas 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 off gas. These condensable liquids are collected in tanks equipped with secondary containment and leak detection devices." [64]

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

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

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

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

[64] PMR page 1-D079

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 is **not** equipped with leak detection devices." [65] "Drip troughs" do not meet RCRA secondary containment requirement of monitored welded stainless steel enclosure for ancillary service lines.

5. IWTU Tanks

Table D-4 [66]

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

[65] PMR page 1-D-99
[66] PMR page 1-D-52

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." [67]

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 and transfers it to the PEWE system for further treatment as discussed previously." [68] "Any remaining **liquids** in the off gas enter the NWCF POG and are removed in mist eliminators, VES-NCC-136 and VES-NCC-116." [69] [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 VI. 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

[67] PMR page 1-D-104

[68] PMR page 1-D-104

[69] PMR page 1-D-105

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 as principal feedstock's;

(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 and if the applicable Release Limits are then the cumulative releases over 10,000 years shall be limited so that the following relationship exists:"

Section VII: 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."

Respectfully submitted
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Attachments A through D

Attachment A

EDI Comment Excerpts on ILWMS RCRA Permit Modification 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 Permit Modification.

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.

[70] 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. [71] 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.

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

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

The PMR claims that only the Liquid Effluent Treatment and Disposal (LET&D) has a "Process vent" for emission release. [72] **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. [73] 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." [74] 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] [75]

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

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

[74] 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.

[75] "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

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

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"

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
    a. Spent Nuclear Fuel Pool Water Filter Back-flush Waste
5. CPP-637 Laboratories
    a. Trybutyl phosphate
    b. Dodecane
    c. Crown ethers
    d. Octanol
    e. Other specialized chemicals
6. Maintenance Services
    a. 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.

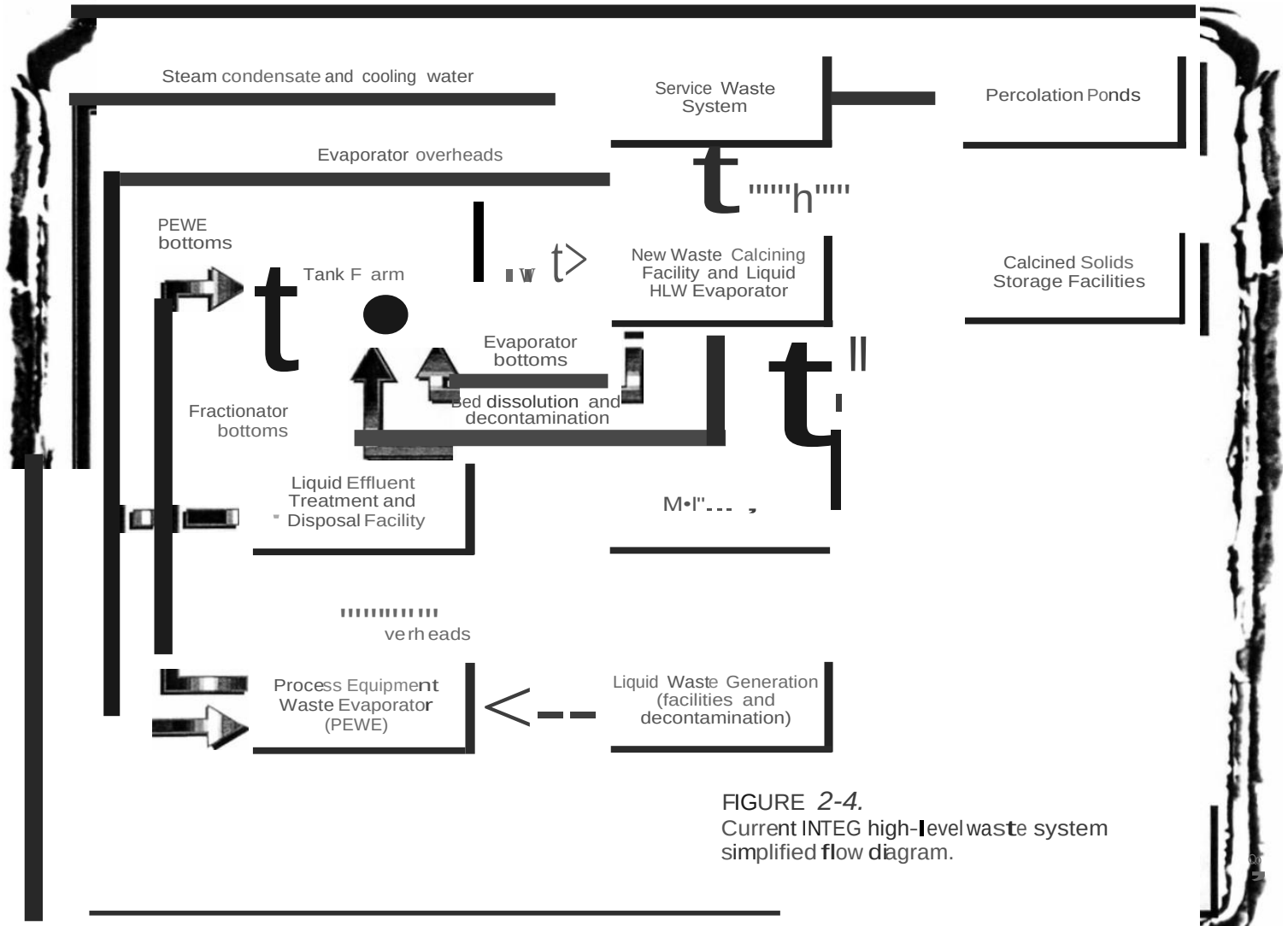

FIGURE *2-4.*
Current INTEG high-level waste system simplified flow diagram.

Attachment D

EPA/Office of Inspector General Evaluation Report, Review of EPA Region 10 Response to Petition Seeking Withdrawal of Authorization for Idaho's Hazardous Waste Program, 2/5/04, page 12, 13, 14, 15

"[W]e identified instances where the Region did not fully assess all allegations. Our limited review of these allegations indicates that where permitting deficiencies were not corrected by DOE, years passed before any followup 13 actions were taken.
Furthermore, we found that compliance with emissions requirements has not been verified and actions were only recently initiated to address waste characterization compliance issues associated with the ILWMS. Our limited review of practices at some facilities does not permit us to conclude that there is a program-wide deficiency in Idaho. However, the results of our review highlight how some of the deficiencies we observed, if known or observed by members of the public, could be taken to indicate much broader and serious program deficiencies, if not addressed directly and timely by Idaho or EPA officials.

We acknowledge Idaho State officials' comments that some of the weaknesses we observed were due to their need to prioritize work. We recognize the need for prioritization. However, IDEQ had a legal requirement to resolve the permit application deficiencies for the Calciner and HLLWE. A RCRA permit provides the legal authority to treat, store, or dispose of hazardous waste and establishes facility specific requirements and conditions which must be met in order to comply with the law. Compliance with the permit is the basic assurance that hazardous waste is handled in a controlled manner that is protective of human health and the environment. IDEQ needs to ensure due dates are established and appropriate followup actions are taken in order to prevent years of delay with resolving permit deficiencies as in the cases of the Calciner and HLLWE.

Recommendations

We recommend that the Region 10 Administrator:
1. Require that IDEQ timely addresses and resolves RCRA permit application deficiencies for the HLLWE. Specifically:
    a. Require IDEQ to take appropriate actions to ensure that information necessary to resolve the application deficiencies for the HLLWE discussed in the June 1994 NOD [Notice of Deficiency] are resolved by the Volume 14 partial permit.
    b. Establish a milestone in IDEQ's annual State Grant Workplan for submission of the Class 3 permit modification for the HLLWE within 180 days of the effective date of the Volume 14 partial permit.
2. Advise IDEQ that NODs issued to resolve RCRA permit application deficiencies are required under 40 CFR Part 124 to include a date for submitting information necessary to address the deficiencies.
3. Require that IDEQ inspections at INEEL include evaluations of the PEWE and its associated tanks to determine compliance with 40 CFR Part 265 Subpart AA emissions requirements. In addition, advise IDEQ that inspections at INEEL continue to include evaluations of the ILWMS to determine compliance with waste characterization requirements specified by 40 CFR Part 265. 14

4. Verify that Recommendations 1 through 3 have been completely implemented

during the Region's next scheduled review of IDEQ's Hazardous Waste Program. Require IDEQ to establish an action plan for any recommendations that have not been completely implemented."

"With regard to Recommendation 3, the Region stated it will require under the State Grant Work plan that IDEQ inspections at the INEEL periodically include evaluations of the ILWMS and its associated units to determine compliance with 40 CFR Part 265 Subpart AA emission requirements. It will also advise IDEQ that inspections at INEEL continue to include evaluations of the ILWMS to determine compliance with waste characterization requirements specified by 40 CFR Part 265.
The Region stated in response to Recommendation 4 that it will track IDEQ performance as part of the State Grant Work plan monitoring process and require IDEQ to develop an action plan for any unimplemented recommendations. In addition, it will review permitting correspondence submitted by INEEL and IDEQ to ensure that both Recommendations 1 and 2 are met. The Region said that it will ensure that Recommendation 3 is met by designating 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.

With respect to the HLLWE, the Region said that the draft report did not acknowledge significant permitting activity associated with the July 1993 permit application and the June 1994 NOD, including the Flourinel and Fuel Storage Facility and ongoing permitting activities at the LET&D. The Region stated that it believes Idaho committed significant resources between the NOD and the present time to permitting units contained in the 1993 permit application."

"We evaluated the engineering calculations included in the Region's March 2002 response to the petition during of our review. These calculations were from the Part B application for the ILWMS. Although the Region commented that these calculations appear to meet the threshold for demonstrating compliance with Subpart AA standards, NODs issued by IDEQ on the permit application found that DOE had not demonstrated whether emissions from all affected process vents could be maintained below regulatory limits. We agree that the NODs requesting information demonstrating that the PEWE is in compliance with Subpart AA requirements do not necessarily demonstrate the unit is not in compliance with the emission standards. However, the NODs show that IDEQ had not obtained sufficient information to verify whether the unit was operating in compliance with the emission standards.

The Region's position that IDEQ was not obligated to verify compliance with waste characterization requirements for the ILWMS is not consistent with the requirements of 40 CFR Part 271. Part 271 specifies that States are required to have inspection and surveillance procedures to determine, independent of information supplied by regulated parties, compliance or noncompliance with program requirements. We agree that the WINCO-1132 and Gilbert Reports referred to by the Region provided information on wastes treated in the ILWMS." [pg 16]

IDEQ said that from 1993 through 1998, DOE advised that the PEWE was a closed-loop, zero emissions unit with no process vents. Therefore, Subpart AA was deemed inapplicable and

inspections for Subpart AA compliance would not have occurred. In 1998, when IDEQ became aware through discussions with the Permitting Program that the PEWE was not a zero emission unit, IDEQ at that time required DOE to conduct a review to confirm compliance with Subpart AA for the PEWE and LET&D. IDEQ has since concluded that the air emissions standards of Subpart AA are being met. IDEQ also stated that despite the absence in inspection records, the Department has conducted a review of this issue on several occasions and has made a compliance determination regarding this provision. It also noted that requesting that DOE provide information as part of its Part B permit application does not suggest that IDEQ had not previously reviewed this for purposes of determining compliance.

In regard to IDEQ's comments on the HLLWE, the report acknowledges that a permit application for the HLLWE and several other units was submitted to IDEQ in July 1993. As discussed in the report, this application was not complete, and IDEQ did not follow up on a NOD requesting information to correct the deficiencies for almost 8 years. We did not evaluate IDEQ's actions to address the deficiencies related to other units included in the July 1993 permit application because they were not included in the scope of our review. As a result, we cannot express an opinion on the IDEQ's permitting actions for these other units."

We disagree with IDEQ's position that its NOV addressing deficiencies with the waste analysis plan for the ILWMS relates to administrative/record keeping requirements. Part 265 specifically requires that the waste analysis plan describe procedures used to characterize wastes prior to treatment, storage, or disposal. The deficiencies with the waste characterization plan for the ILWMS discussed in IDEQ's NOV included insufficient descriptions of sampling methods and waste compatibility determinations. These processes are critical for ensuring hazardous wastes are managed in a manner that is protective of human health and the environment. Our review and conclusions were not based solely on inspection reports and permitting documents. The report clearly discloses that we reviewed IDEQ Hazardous Waste Program permitting, closure, compliance, and enforcement files and interviewed officials in IDEQ's Hazardous Waste Program and State of Idaho's Office of Attorney General. Our review of IDEQ files was comprehensive and included relevant meeting minutes. We also requested that IDEQ provide us with any information supporting its regulatory decisions which was not maintained in the official files. For example, we requested that IDEQ provide information which showed that it had evaluated compliance with the waste characterization requirements for the ILWMS. However, IDEQ did not provide this information during the review or as part of its response to the draft report. [pg 20]

Appendix D-A

Major Petition Allegations

Major Allegations Primary Issues Used to Support Petition Allegations

1. Failure to Exercise Control in Requiring Permits.

a. IDEQ granted DOE years to comply with Part A and B application requirements for the Calciner and Waste Experimental Reduction Facility.

b. IDEQ allows hazardous waste operations at INEEL facilities under consent orders and other non-RCRA categories.

2. Failure to Analyze Applicable Standards for Permitting.

a. IDEQ allows piecemeal permitting to avoid public scrutiny of operations.

b. No permit application has been filed for the HLLWE and it is not included on the Part B application.

3. Continuing Operation of Facilities Under Interim Status Without Permits That Conform to RCRA Requirements.

a. PEWE is a thermal treatment facility but has been incorrectly defined as a tank

treatment unit or other treatment.

b. LET&D is an unpermitted facility.

c. PEWE and LET&D treat F-listed wastes without combustion technology.

d. PEWE and LET&D operate illegally because wastes have not been characterized prior to treatment.

e. Tanks and vessels are not compliant with RCRA permit requirements and have been omitted from the Part B application.

4. Failure to Comply with Public Participation Requirements.

a. IDEQ acceptance of an incomplete Part B application for the PEWE prevents a full public analysis.

b. Secret RCRA quarterly permitting meetings are held with DOE.

5. Failure to Act on Violations of Permits and Program Requirements and to Seek Adequate Enforcement of Penalties.

a. IDEQ allowed the Calciner to operate under thermal treatment requirements because it could not comply with incinerator requirements.

b. IDEQ failed to conduct an adequate inspection for the Specific Manufacturing Capability Facility.

6. Failure to Comply with Terms of the MOA.

a. IDEQ is incapable of administering the program in accordance with Federal statutes.

7. Failure to Initiate Closure Orders for Non-Compliant Operations.

a. Discussed throughout petition with respect to numerous INEEL facilities.

8. IDEQ is under-funded, understaffed, and too closely associated with DOE.

a. IDEQ's programmatic budget is not adequate to oversee INEEL and funding received from DOE creates the impression of collaboration.

EPA Office of Inspector General 3/9/05 Evaluation Report "Substantial Changes Needed in Implementation and Oversight of Title V Permits If Program Goals Are to Be Fully Realized" states:

1. Idaho Department of Environmental Quality needs to improve monitoring.

2. Unless resolved, Title V program inconsistencies will likely continue to hamper industry and State and local agencies' efforts to meet Title V program goals as permits are renewed for another 5 years. [Report No. 2005-P-00010]