Back to Contents

RCRA PART B PERMIT APPLICATION

FOR THE

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY

Volume 14
INTEC Liquid Waste Management System

Section F
Procedures to Prevent Hazards

October 2003

CONTENTS

APPENDICES

ACRONYMS

CFA	Central Facilities Area
CFR	Code of Federal Regulations
CPP	Chemical Processing Plant
DCS	Distributed Control System
DOE	Department of Energy
EP/RCRA CP	Emergency Plan Resource Conservation and Recovery Act Contingency Plan
HEPA	high-efficiency particulate air
IDAPA	Idaho Administrative Procedures Act
INEEL	Idaho National Engineering and Environmental Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
LET&D	Liquid Effluent Treatment and Disposal
NE-ID	Department of Energy, Idaho Operations Office
PEWE	Process Equipment Waste Evaporator
RCRA	Resource Conservation and Recovery Act
TFT	Tank Farm Tank
TSDF	treatment, storage, or disposal facility
WAC	waste acceptance criteria
WWH	Westside Waste Holdup

F. PROCEDURES TO PREVENT HAZARDS

The Process Equipment Waste Evaporator (PEWE) and the Liquid Effluent Treatment and Disposal (LET&D) systems are designed and operated to minimize exposure of the general public, operating personnel, and the environment to hazardous waste stored and treated at the Idaho Nuclear Technology and Engineering Center (INTEC). The Idaho National Engineering and Environmental Laboratory (INEEL) provides procedures, equipment, and structures to prevent, mitigate, or respond to environmental or human hazards. An inspection plan and schedule are followed for the PEWE system and LET&D facility, ensuring these facilities and their associated equipment are properly maintained and operated as mandated in the Idaho Administrative Procedures Act (IDAPA) and the Code of Federal Regulations (CFR).

F-1. Security

Specific security measures taken for INTEC include fencing, warning signs, keycard access or personnel sign-in, and building locks.

F-1a. Security Procedures and Equipment [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR §§ 264.14 and 270.14(b)(4)]

A security system, physical control procedures, and equipment control access to INTEC. A security force operates the security system.

The security force's operations are consistent with NE-ID directives and orders on access control. The DOE operates a personnel security clearance program to ensure that employees who are required to have a clearance to perform their duties are evaluated and cleared consistently with NE-ID security policies.

Fencing surrounds INTEC. Guarded gates, uniformed guards with two-way radios, 24-hour camera surveillance, motion detectors, and perimeter lighting are also used at INTEC. There are internal communication devices, such as a telephone system in occupied buildings at INTEC. The same communication devices are used for communication outside of the plant. The INTEC also has a plant-wide voice paging system that is used to announce critical information regarding security and safety.

F-1a(1) 24-Hour Surveillance System [IDAPA 58.01.05.008; 40 CFR § 264.14(b)(1)]

Security at INTEC is provided by trained security guards, who monitor the entry and egress of people and material from the INTEC facility. The main INTEC guard gate at the west side of INTEC is staffed with guards 24 hours a day, seven days a week. There are other gates into INTEC, and they are either locked or staffed with guards. There are surveillance cameras, motion detectors, and good lighting throughout INTEC. The guards also perform other security functions within the plant premises, including patrolling the perimeter fence and areas throughout INTEC on a 24-hour basis.

F-1a(2) Barrier and Means to Control Entry [IDAPA 58.01.05.008; 40 CFR § 264.14(b)(2)(i)]

The treatment, storage, or disposal facilities (TSDFs) at INTEC are enclosed within a fence. All gates into INTEC are either locked or manned with security guards.

F-1a(2)(a) Barrier

The INTEC facility is located approximately 42 air miles west of the largest nearby population area, Idaho Falls, Idaho. The entire INTEC facility area is enclosed within a fence. The fence has guarded or locked gates. Gates are staffed by guards and equipped with surveillance cameras. There is a guard gate used by construction equipment and personnel. The number of guard gates may change, as a result of construction or other activities at INTEC.

F-1a(2)(b) Means to Control Entry [IDAPA 58.01.05.008; 40 CFR § 264.14 (b)(ii)]

To enter INTEC, employees must have an INEEL security badge. Employees insert their badge into a device that reads the badge, allowing them to pass through a turnstile or they sign an entry log. All uncleared personnel (e.g., vendors, visitors, delivery personnel, and tour groups) require an escort into INTEC and must sign a visitors entry log.

CPP-604 PEWE System and TFT

For purposes of Section F, Procedures to Prevent Hazards, the PEWE system and the CPP-604 Tank Farm Tanks (TFT) system will be addressed jointly, as both regulated systems are located within the same building, CPP-604.

The Resource Conservation and Recovery Act (RCRA) regulated units in CPP-604 are located in cells or vaults. Access to these cells and vaults are limited due to radiological controls. Personnel access to the condensate collection cell, the EVAP-WL-161 evaporator cell, the EVAP-WL-129 evaporator cell, and the feed pump cell is gained through the condensate collection cell door. The cell door is normally locked limiting access. The facility entrance access has a sign that limits access to authorized personnel.

Access to the VES-WL-132 vault, the VES-WL-133 vault, the VES-WM-100 vault, and the VES-WM-101/VES-WM-102 vaults is limited by high-density reinforced concrete hatch covers, which weigh greater than 1 ton each. The hatch covers can be removed only with the use of a crane.

CPP-641 Tanks

The three CPP-641 tanks (VES-WL-103, VES-WL-104, and VES-WL-105) are located in two underground vaults north of CPP-641. The instrumentation, motor control center, sample station, and valves are located inside CPP-641. A ladder in CPP-641 provides access to the VES-WL-103 vault. Access to both vaults is limited, but can be gained by removing hatches and concrete plugs located north of CPP-641. The building entrance has a sign that limits access to authorized personnel.

CPP-601 Deep Tanks

Access to the cells is through hatch covers, which are only removed during maintenance operations.

The pumps for the Deep Tanks are located in pump pits adjacent to the cells. Access to the pump pits is restricted because the pump pits are high contamination areas and high radiation areas. The door to the Deep Tanks Control Room has a sign limiting access to authorized personnel. The doors to the pump pit are kept locked, and the area supervisor controls the keys.

CPP-1618 LET&D

The Liquid Effluent Treatment and Disposal (LET&D) facility tanks and fractionators are located in two cells within Building CPP-1618. Access is gained through doors on the main level of the building. The doors to the building have signs limiting access to authorized personnel only. The cell doors are kept locked, and the area supervisor controls the keys.

Nitric Acid Recycle Tank Vault

VES-NCR-171 and VES-NCR-173 are located in the CPP-659 Annex. Access is gained through doors on the main level of the building. The door to the building has signs limiting access to authorized personnel only. The door is kept locked, and the area supervisor controls the keys.

F-1a(3) Warning Signs [IDAPA 58.01.05.008; 40 CFR § 264.14(c)]

Warning signs that are visible and legible from at least 25 ft are posted at facility entrances. Entrances into RCRA storage or treatment areas have, at a minimum, signs reading "**DANGER**--Unauthorized Personnel Keep Out."

F-2. INSPECTION SCHEDULE

Surveillance and preventive maintenance programs are in place to ensure the proper and safe operation of the PEWE system and the LET&D facility. These programs will provide a mechanism for early detection, prevention, and expeditious correction of conditions that may cause or lead to the release of hazardous materials to the environment or that may pose a threat to human health.

All RCRA deficiencies noted during inspections are documented. Corrective action is initiated and tracked to completion.

The following subsections describe the key elements of the inspection program for the PEWE and LET&D systems. This program will address the inspection requirements necessary to prevent, detect, or respond to threats to human health or environmental hazards posed by this facility.

F-2a General Inspection [IDAPA 58.01.05.012 and 58.01.05.008; 40 CFR §§ 270.14(b)(5), 264.15(a) and (b), and 264.33]

The portions of the ILWMS addressed by this permit application will be inspected for malfunctions, deterioration, operator error and discharges which may be causing or may lead to: (1) releases of hazardous waste constituents to the environment, or (2) a threat to human health. These inspections will be conducted often enough to identify problems in time to correct them before they harm human health or the environment.

This section discusses various operating practices and inspections employed to prevent hazards, and ensure safe operation of the PEWE system and LET&D facility. Level sensors and indicators that are used for leak detection are calibrated annually to ensure reliability of the instrumentation.

CPP-604 PEWE System and TFT

The PEWE system and the CPP-604 TFT system are instrumented and alarmed to maintain proper operation and to detect system upsets. The strip charts and other paper copies of data generated by the process instrumentation are maintained at INTEC or other INEEL storage facilities for the lifetime of the units. Operations personnel monitor the system instrumentation and alarms for process changes and to verify that no errors have been made. They are required to read and record values from the Distributed Control System (DCS). They are also required to read and record values on the inspection forms from the instrumentation. Examples of the inspection forms currently used are provided in Appendix F-1. Although the format of the forms is subject to change, inspections will remain the same.

The inspection records are maintained in the RCRA inspection log. The originals are retained for the life of the regulated unit and stored at INTEC or other INEEL storage locations. These records include the time and date of the inspection, the printed name and signature of the inspector, notation of observations made, and the date and nature of any repairs or other remedial actions.

CPP-641 Tanks

The Westside Waste Holdup (WWH) tanks are instrumented and alarmed to maintain proper operation and to detect system upset. The strip charts and other paper copies of data generated by the process instrumentation are maintained for the lifetime of the units. Operations personnel perform operational tank surveillance in addition to the required RCRA inspections. They are required to read and record values from instruments. The operational forms provide additional information. Examples of the inspection forms currently used are provided in Appendix F-1. Although the format of the forms is subject to change, inspections will remain the same.

The inspection records are maintained in the RCRA inspection log. The originals are retained for the life of the regulated unit and stored at INTEC or other INEEL storage locations. These records include the time and date of the inspection, the printed name and signature of the inspector, notation of observations made, and the date and nature of any repairs or other remedial actions.

CPP-601 Deep Tanks

The WG/WH system is monitored by instruments and alarms that detect system upset. The strip charts and other paper copies of data generated by the process instrumentation are maintained for the lifetime of the units. Operations personnel respond to any abnormal conditions or alarms in CPP-601. They are required to read and record values from instruments in the CPP-601 operating corridor. The operational forms provide additional information not required by the RCRA forms. Examples of the inspection forms currently used are provided in Appendix F-1. Although the format of the forms is subject to change, inspections will remain the same.

The inspection records are maintained in the RCRA inspection log. The originals are retained for the life of the regulated unit and stored at INTEC or other INEEL storage locations. These records include the time and date of the inspection, the printed name and signature of the inspector, notation of observations made, and the date and nature of any repairs or other remedial actions.

CPP-1618 LET&D

The LET&D system is monitored by instruments and alarms that detect system upset. Copies of data generated by the process instrumentation are maintained for the lifetime of the units. Operations personnel will respond to any abnormal conditions or alarms. They are required to read and record values from the DCS. Examples of the inspection forms currently used are provided in Appendix F-1. Similar forms containing the same substantive information may be used to document these inspections.

The inspection records are maintained in the RCRA inspection log. The originals are retained for the life of the regulated unit and are stored at INTEC or other INEEL storage locations. These records include the time and date of the inspection, the name of the inspector, notation of observations made, and the date and nature of any repairs or other remedial actions.

Nitric Acid Recycle System

The CPP-659 Annex is monitored by instruments and alarms that detect system upset. Copies of data generated by the process instrumentation are maintained for the lifetime of the units. Operations personnel will respond to any abnormal conditions or alarms. They are required to read and record values from the DCS. These operational forms provide additional information not required by the RCRA forms. Examples of the inspection forms currently used are provided in Appendix F-1. Similar forms containing the same substantive information may be used to document these inspections.

The inspection records are maintained in the RCRA inspection log. The originals are retained for the life of the regulated unit and stored at INTEC or other INEEL storage locations. These records include the time and date of the inspection, the printed name and signature of the inspector, notation of observations made, and the date and nature of any repairs or other remedial actions.

F-2a(1) Types of Problems [IDAPA 58.01.05.008; 40 CFR § 264.15(b)(3)]

The inspection schedules for the units that comprise the ILWMS, including the scope of the inspections performed and the types of problems noted, are summarized in Appendices F-2 through F-6.

F-2a(2) Frequency of Inspection [IDAPA 58.01.05.008; 40 CFR § 264.15(b)(4)]

The frequency of inspections or observations, and the inspecting organization are listed in the schedules in Appendices F-2 through F-6.

If a problem is found during an inspection surveillance or performance of a preventive maintenance inspection or action in progress, it is reviewed and confirmed by the applicable supervision or systems engineer. If the deficiency warrants immediate attention, shift supervision will be informed, and if necessary, the affected process will be immediately shut down. All items observed during an inspection that require repair, replacement, corrective action, or other attention are documented on the associated record sheet and tracked until final resolution. If the responsible supervision determines the need, an engineering evaluation will be conducted to determine whether operations can proceed, repairs must be made, or materials must be replaced. Engineering and Operations personnel work together to decide whether or not a remedial action is required and to plan the required action. Remedial actions are investigated, documented, and tracked to completion.

CPP-604 PEWE System and TFT

The CPP-604 PEWE system and the TFTs, VES-WM-100, VES-WM-101 and VES-WM-102, are equipped with instruments and alarms to detect system upsets or operator error. The frequency of the CPP-604 inspections is listed in the inspection schedules (Appendix F-2). Manufacturer specifications, process knowledge, and equipment history determine the frequency of instrument and alarm calibration and maintenance.

Operations personnel review and initial the previous daily or monthly inspection logs and take note of previous observations for which corrective actions are necessary, before conducting further inspections. They read and/or record values on inspection forms from the instrumentation. While taking the readings, the operator is able to confirm that the instruments are operating. Per operating procedures, any parameter found to be outside of its operating range requires that the operator check the operability of the instruments as well as the status of the process and inform the shift supervisor. The shift supervisor will take appropriate action to correct the situation.

CPP-641 Tanks

The CPP-641 tanks are equipped with instruments and alarms to detect system upsets or operator error. The frequency of the CPP-641 inspections is listed in the inspection schedules (Appendix F-3). Manufacturer specifications, process knowledge, and equipment history determine the frequency of instrument and alarm calibration and maintenance.

Operations personnel review and initial the previous daily or monthly inspections log, and take note of previous observations for which corrective actions are necessary, before conducting further inspections. While taking the readings, the operator confirms that the instruments are operating. Per operating procedures, any reading found to be outside of its operating range requires that the operator check the operability of the instruments as well as the status of the process and inform the shift supervisor. The shift supervisor will take appropriate action to correct the situation.

CPP-601 Deep Tanks

The CPP-601 Deep Tanks are equipped with instruments and alarms to detect system upsets or operator error. The frequency of the CPP-601 inspections is listed in the inspection schedules (Appendix F-4). Manufacturer specifications, process knowledge, and equipment history determine the frequency of instrument and alarm calibration and maintenance.

Operations personnel review and initial the previous daily or monthly inspections log and take note of previous observations for which corrective actions are necessary before conducting further inspections. While taking the readings, the operator confirms that the instruments are operating. Per operating procedures, any reading found to be outside of its operating range requires that the operator check the operability of the instruments as well as the status of the process and inform the shift supervisor. The shift supervisor will take appropriate action to correct the situation.

CPP-1618 LET&D Feed Tank

The CPP-1618 system is monitored to detect system upsets or operator error. The frequency of the inspections is listed in the inspection schedules (Appendix F-5). Manufacturer specifications, process knowledge, and equipment history determine the frequency of instrument and alarm calibration and maintenance.

Operations personnel review and initial the previous daily or monthly inspections log, and take note of previous observations for which corrective actions are necessary, before conducting further inspections. While taking the readings, the operator confirms that the instruments are operating. Per operating procedures, any reading found to be outside of its operating range requires that the operator check the operability of the instruments as well as the status of the process and inform the shift supervisor. The shift supervisor will take appropriate action to correct the situation.

Nitric Acid Recycle System

The CPP-659 Annex is monitored to detect system upsets or operator error. The frequency of the inspections is listed in the inspection schedules (Appendix F-6). Manufacturer specifications, process knowledge, and equipment history determine the frequency of instrument and alarm calibration and maintenance.

Operations personnel review and initial the previous daily or monthly inspections log, and take note of previous observations for which corrective actions are necessary, before conducting further inspections. While taking the readings, the operator confirms that the instruments are operating. Per operating procedures, any reading found to be outside of its operating range requires that the operator check the operability of the instruments as well as the status of the process and inform the shift supervisor. The shift supervisor will take appropriate action to correct the situation.

F-2b Specific Process Inspection Requirements

F-2b(2) Tank System Inspection [IDAPA 58.01.05.008; 40 CFR § 264.195]

F-2b(2)(a) Certification for Tank Repairs

A professional engineer will certify tank systems being permitted at INTEC when major repairs are made per 40 CFR § 264.196(f).

F-2b(2)(b) Tank System External Corrosion and Releases (IDAPA 58.01.05.008; 40 CFR § 264.195)

The PEWE systems, CPP-659 Annex, and the LET&D facility are secondarily contained in vaults and cells that are constructed of concrete, with a stainless steel lining or compatible coating or lining. The associated ancillary equipment is also equipped with adequate secondary containment.

The ILWMS is monitored using instrumentation to detect leaks from the system daily. Visual inspections are limited to infrequent occasions during equipment maintenance and repair. Radiation levels prevent visual inspections of these items on a daily basis. Complete inspections of the cells/vaults will be conducted when the cell is first entered for maintenance or repairs and repeated at least weekly when such activities are prolonged.

CPP-604 PEWE System and TFT

These cells were designed for radiation shielding and to isolate the tanks from the environment. Direct inspection during normal operation is not possible because the high radiation fields prevent personnel entry.

CPP-604 is monitored and operated through panel-mounted instrumentation and the Waste Processing DCS. If there is a spill, a leak, or a process parameter outside of its normal range, an alarm is sounded in the Waste Processing Control Room. The operator acknowledges the alarm and the situation is investigated and remedied.

Visual inspection in the CPP-604 cells and vaults is not performed on a daily basis, due to radiation levels; however, visual inspections will be performed during maintenance turnarounds in the vaults/cells. The extent of visual inspections will depend on radiation levels in the cells or vaults. The purpose of visual inspection is to look for deterioration of tanks, piping, and secondary containment.

The RCRA overfill and leak detection daily inspections are accomplished by monitoring process and sump instruments that detect spills or leaks within a cell or vault.

CPP-641 Tanks

These cells were designed to provide radiation shielding and to isolate the tanks from the environment. Direct inspection during normal operation is not possible because the radiation fields prevent personnel entry.

CPP-641 is remotely monitored and operated through panel-mounted instrumentation. If there is a spill, a leak, or a process parameter outside its normal range, an alarm is sounded in CPP-641. The operator acknowledges the alarm and the situation is remedied. The sumps have alarms to indicate the presence of liquid.

Visual inspection of the CPP-641 cells and vaults is not performed on a daily basis, due to possible radiation levels; however, visual inspections will be performed during maintenance turnarounds in the vaults/cells. The extent of visual inspections will depend on radiation levels in the cells or vaults. The purpose of visual inspection is to look for deterioration of tanks, piping, and secondary containment.

The RCRA overfill and leak detection daily inspections are accomplished by monitoring instruments that detect spills or leaks within a cell or vault.

CPP-601 Deep Tanks

These cells were designed to provide radiation shielding and to isolate the tanks from the environment. Direct inspection during normal operation is not possible because the high radiation fields prevent personnel entry.

The tanks in the WG/WH system are inspected indirectly for leaks and spills by monitoring the level and volume instruments. Sumps located in each cell have level detection instruments and audible alarms to indicate the presence of liquid on the floor.

Visual inspection in the CPP-601 cells and vaults is not performed on a daily basis, due to high radiation levels; however, visual inspections will be performed during maintenance turnarounds in the vaults/cells. The extent of visual inspections will depend on radiation levels in the cells or vaults. The purpose of visual inspection is to look for deterioration of tanks, piping, and secondary containment.

The RCRA overfill and leak detection daily inspections are accomplished by monitoring instrumentation that detects spills or leaks within a cell or vault.

CPP-1618 LET&D

The cells were designed to provide radiation shielding and to isolate the fractionators and tanks from the environment. Direct inspection during normal operation is not possible because the radiation fields prevent personnel entry.

The LET&D is monitored and operated through the DCS. If there is a spill, leak, or process parameter outside of its normal range, an alarm is sounded. The operator acknowledges the alarm and the situation is investigated and remedied.

Visual inspection is not performed on a daily basis, because of radiation levels, but will be performed during maintenance turnarounds in the cell. The extent of visual inspections will depend on radiation levels in the cell. The purpose of visual inspection is to look for deterioration of tanks, piping, and secondary containment.

The RCRA overfill and leak detection daily inspections are accomplished by monitoring process and sump instrumentation that detects spills or leaks within a cell.

Nitric Acid Recycle System

The CPP-659 Annex is monitored and operated through the DCS. If there is a spill, leak, or process parameter outside of its normal range, an alarm is sounded. The operator acknowledges the alarm and the situation is investigated and remedied.

Visual inspection is not performed on a daily basis, because of radiation levels, but will be performed during maintenance turnarounds in the cell. The purpose of visual inspection is to look for deterioration of tanks, piping, and secondary containment.

The RCRA overfill and leak detection daily inspections are accomplished by monitoring process and sump instrumentation that detects spills or leaks within a cell.

F-2b(2)(d) Tank System Overfilling Control Equipment [IDAPA 58.01.05.008; 40 CFR § 264.195(a)]

CPP-604 PEWE System and TFT

While conducting the daily inspection, the readings for tank levels are taken and compared to previous readings to determine if any spills or leaks have occurred. Any monitor reading found to be outside its operating parameters would prompt the operator to check the operability of the instruments as well as the status of the process and to inform the shift supervisor; remedial action will be taken. Additionally, alarms are provided to indicate conditions such as leaks or high liquid levels.

CPP-641 Tanks

While conducting the daily inspection, the readings for tank levels are taken and compared to previous readings to determine if any spills or leaks have occurred. Any monitor reading found to be outside its operating parameters would prompt the operator to check the operability of the instruments as well as the status of the process and to inform the shift supervisor; remedial action would be taken. Additionally, alarms are provided to indicate conditions such as leaks or high liquid levels.

CPP-601 Deep Tanks

While conducting the daily inspection, the readings for tank levels are taken and compared to previous readings to determine if any spills or leaks have occurred. Any monitor reading found to be outside its operating parameters would prompt the operator to check the operability of the instruments as well as the status of the process and to inform the shift supervisor; remedial action would be taken. Additionally, alarms are provided to indicate conditions such as leaks or high liquid levels.

CPP-1618 LET&D

While conducting the daily inspection, the readings for tank levels are taken and compared to previous readings to determine if any spills or leaks have occurred. Any monitor reading found to be outside its operating parameters would prompt the operator to check the operability of the instruments as well as the status of the process and to inform the shift supervisor; remedial action would be taken. Additionally, alarms are provided to indicate conditions such as leaks or high liquid levels.

Nitric Acid Recycle System

While conducting the daily inspection, the readings for tank levels are taken and compared to previous readings to determine if any spills or leaks have occurred. Any monitor reading found to be outside its operating parameters would prompt the operator to check the operability of the instruments as well as the status of the process and to inform the shift supervisor; remedial action would be taken. Additionally, alarms are provided to indicate conditions such as leaks or high liquid levels.

F-2b(2)(e) Tank System Monitoring and Leak Detection Equipment [IDAPA 58.01.05.008; 40 CFR § 264.195(b)(2)]

CPP-604 PEWE System and TFT

Information is recorded on the daily inspection form for all regulated tanks. The PEWE system and CPP-604 TFT system operators review the previous daily inspection log and take note of any ongoing corrective actions before conducting further inspections. While taking the readings, the operator confirms that the instruments are operating properly. Any monitor reading found to be outside its operating parameters would prompt the operator to check the operability of the instruments as well as the status of the process and to inform the shift supervisor; remedial action would be taken.

CPP-641 Tanks

Information is recorded on the daily inspection forms for all regulated tanks. The WWH system operators review the previous daily inspection log and take note of any ongoing corrective actions before conducting further inspections. While taking the readings, the operator confirms that the instruments are operating properly. Any monitor reading found to be outside its operating parameters would prompt the operator to check the operability of the instruments as well as the status of the process and to inform the shift supervisor; remedial action would be taken.

CPP-601 Deep Tanks

Information is recorded on the daily inspection forms for all regulated tanks. The system operators review the previous daily inspection log and take note of any ongoing corrective actions before conducting further inspections. While taking the readings, the operator confirms that the instruments are operating properly. Any monitor reading found to be outside its operating parameters would prompt the operator to check the operability of the instruments as well as the status of the process and to inform the shift supervisor; remedial action would be taken.

CPP-1618 LET&D

Information is recorded on the daily inspection form for all regulated tanks. The LET&D operators review the previous daily inspection log and take note of any ongoing corrective actions before conducting further inspections. While taking the readings, the operator confirms that the instruments are operating properly. Any monitor reading found to be outside its operating parameters would prompt the operator to check the operability of the instruments as well as the status of the process and to inform the shift supervisor; remedial action would be taken.

Nitric Acid Recycle System

Information is recorded on the daily inspection form for all regulated tanks. The operators review the previous daily inspection log and take note of any ongoing corrective actions before conducting further inspections. While taking the readings, the operator confirms that the instruments are operating properly. Any monitor reading found to be outside its operating parameters would prompt the operator to check the operability of the instruments as well as the status of the process and to inform the shift supervisor; remedial action would be taken.

F-2b(2)(f) Tank System Cathodic Protection [IDAPA 58.01.05.008; 40 CFR § 264.195(c)]

The tanks and waste transfer lines have adequate RCRA compliant secondary containment; therefore, cathodic protection is not required and this section is not applicable.

The INEEL has installed a cathodic protection system at the INTEC as a best management practice. The cathodic protection system was originally installed to protect utility lines (e.g., carbon steel). The cathodic protection system later was modified to include the RCRA compliant ILWMS waste transfer secondary containment system. Since the cathodic protection system was installed as a best management practice and was not regulatory driven, the ILWMS cathodic protection system is exempt from RCRA requirements.

F-2b(2)(g) Tank Condition Assessment [IDAPA 58.01.05.008; 40 CFR § 264.195(b)(1)]

CPP-604 PEWE System and TFT

During maintenance turnarounds in the associated vaults/cells, an assessment of the regulated tanks will be performed. The assessment will consist of visual inspections of the exterior of the tanks for leaks, corrosion, and deterioration of tanks and secondary containment. The results of these inspections are documented in the facility's inspection records. The records are maintained at INTEC or other INEEL storage locations.

CPP-641 Tanks

During maintenance turnarounds in the associated vaults/cells, an assessment of the regulated tanks will be performed. The assessment will consist of visual inspections of the exterior of the tanks for leaks, corrosion, and deterioration of tanks and secondary containment. The results of these inspections are documented in the facility's inspection records. The records are maintained at INTEC or other INEEL storage locations.

CPP-601 Deep Tanks

During maintenance turnarounds in the associated vaults/cells, an assessment of the regulated tanks will be performed. The assessment will consist of visual inspections of the exterior of the tanks for leaks, corrosion, and deterioration of tanks and secondary containment. The results of these inspections are documented in the facility's inspection records. The records are maintained at INTEC or other INEEL storage locations.

CPP-1618 LET&D

During maintenance turnarounds in the associated cell, an assessment of the regulated tank will be performed. The assessment will consist of visual inspections of the exterior of the tank for leaks, corrosion, and deterioration of tank and secondary containment. The results of these inspections are documented in the facility's inspection records. The records are maintained at INTEC or other INEEL storage locations.

Nitric Acid Recycle System

During maintenance turnarounds in the associated cell, an assessment of the regulated tank will be performed. The assessment will consist of visual inspections of the exterior of the tank for leaks, corrosion, and deterioration of tank and secondary containment. The results of these inspections are documented in the facility's inspection records. The records are maintained at INTEC or other INEEL storage locations.

F-3 WAIVER OR DOCUMENTATION OF EMERGENCY PREPAREDNESS AND PREVENTION REQUIREMENTS

F-3a Equipment Requirements [IDAPA 58.01.05.012 and 58.01.05.008; 40 CFR §§ 270.14(b) and 264.32]

F-3a(1) Internal Communications [IDAPA 58.01.05.008; 40 CFR § 264.32(a)]

CPP-604

The CPP-604 building is equipped with communication devices (i.e., telephones, two way radios, alarm systems, etc.) capable of summoning emergency assistance. The personnel involved in the operation have immediate access to emergency communication devices.

CPP-641

The CPP-641 building is equipped with communication devices (i.e., telephones, two-way radios, alarm systems, etc.) capable of summoning emergency assistance. The personnel involved in the operation have immediate access to emergency communication devices.

CPP-601

The CPP-601 building is equipped with communication devices (i.e., telephones, two-way radios, alarm systems, etc.) capable of summoning emergency assistance. The personnel involved in the operation have immediate access to emergency communication devices.

CPP-1618

The CPP-1618 building is equipped with communication devices (i.e., telephones, two-way radios, alarm systems, etc.) capable of summoning emergency assistance. The personnel involved in the operation have immediate access to emergency communication devices.

Nitric Acid Recycle System

The CPP-659 building is equipped with communication devices (i.e., telephones, two-way radios, alarm systems, etc.) capable of summoning emergency assistance. The personnel involved in the operation have immediate access to emergency communication devices.

F-3a(2) External Communications [IDAPA 58.01.05.008; 40 CFR § 264.32(b)]

The INTEC communication devices provide direct access to external emergency response agencies.

F-3a(3) Emergency Equipment [IDAPA 58.01.05.008; 40 CFR § 264.32(c)]

The contingency plan, located in Section G of this permit application, identifies evacuation routes and locations of safety equipment for the PEWE system, the LET&D facility, and CPP-659.

CPP-604 PEWE System and TFT

Safety and emergency equipment located at CPP-604 is listed below:

- Fire sprinkler system
- Portable fire extinguishers
- Safety showers and eyewashes
- Spill control cabinets
- Plant voice paging and evacuation alarm system
- Communication devices.

For building fire protection, CPP-604 has a fire sprinkler system, which is a heat-activated detection system. This system is connected to alarms at the INEEL Fire Department located at the Central Facilities Area (CFA). Portable fire extinguishers located throughout the building are inspected monthly.

A seal is placed on the door of the spill cabinet. Monthly inspections check the seal. If the seal has not been altered, it is noted on the checklist and no inventory is performed. If the seal has been altered, an inventory of the cabinet is performed. If equipment is missing or out of date it is replaced immediately. Inspections are recorded on appropriate forms. At least annually the spill cabinets are opened, inventoried, and restocked, as necessary, to ensure shelf life of contents.

CPP-641 Tanks

The portable fire extinguisher located outside the door of CPP-641 is inspected monthly. The plant voice paging and evacuation alarm system can be heard inside the building.

Communication devices are inspected daily. If any equipment is missing, it is replaced immediately. Inspections are recorded on appropriate forms.

CPP-601 Deep Tanks

The emergency/safety equipment associated with the WG/WH area include the following:

- Portable fire extinguishers
- Safety showers and eyewashes
- Spill control cabinet
- Plant voice paging and evacuation alarm system
- Communication devices.

A seal is placed on the door of the spill cabinet. Monthly inspections check the seal. If the seal has not been altered, it is noted on the checklist and no inventory is performed. If the seal has been altered, an inventory of the cabinet is performed. If equipment is missing or out of date it is replaced immediately. Inspections are recorded on appropriate forms. At least annually the spill cabinets are opened, inventoried, and restocked, as necessary, to ensure shelf life of contents.

CPP-1618

Safety and emergency equipment located at CPP-1618 is listed below:

- Fire sprinkler system
- Portable fire extinguishers
- Safety showers and eyewashes
- Spill control cabinets

- Plant voice paging and evacuation alarm system
- Communication devices.

For building fire protection, CPP-1618 has a fire sprinkler system, which is a heat-activated detection system. This system is connected to alarms at the INEEL Fire Department located at the CFA. Portable fire extinguishers located throughout the building are inspected monthly.

A seal is placed on the door of the spill cabinet. Monthly inspections check the seal. If the seal has not been altered, it is noted on the checklist and no inventory is performed. If the seal has been altered, an inventory of the cabinet is performed. If equipment is missing or out of date it is replaced immediately. Inspections are recorded on appropriate forms. At least annually the spill cabinets are opened, inventoried, and restocked, as necessary, to ensure shelf life of contents.

Nitric Acid Recycle System

Safety and emergency equipment located at CPP-659, Room 415 are listed below:

- Fire sprinkler system
- Portable fire extinguishers
- Safety showers and eyewashes
- Spill control cabinets
- Plant voice paging and evacuation alarm system
- Communication devices.

For building fire protection, CPP-659 has a fire sprinkler system, which is a heat-activated detection system. This system is connected to alarms at the INEEL Fire Department located at the CFA. Portable fire extinguishers located throughout the building are inspected monthly.

A seal is placed on the door of the spill cabinet. Monthly inspections check the seal. If the seal has not been altered, it is noted on the checklist and no inventory is performed. If the seal has been altered, an inventory of the cabinet is performed. If equipment is missing or out of date it is replaced immediately. Inspections are recorded on appropriate forms. At least annually the spill cabinets are opened, inventoried, and restocked, as necessary, to ensure shelf life of contents.

F-3a(4) Water For Fire Control [IDAPA 58.01.05.008; 40 CFR § 264.32(d)]

Two insulated fire water supply tanks with capacities of 600,000 gal each supply the INTEC fire water system. Water is pumped from wells to maintain the tanks at maximum volume. Pumps are located on the outlets of these tanks to supply water for hose streams and automatic sprinklers at adequate volume and pressure. The pumps are supplied with standby power from a power generator.

F-4. PREVENTIVE PROCEDURES, STRUCTURES, AND EQUIPMENT

F-4a. Unloading Operations [IDAPA 58.01.05.012; 40 CFR § 270.14(b)(8)(i)]

Transfers of hazardous waste to and from CPP-604 are conducted through piping systems. Wastes generated at other INEEL or off-Site facilities may be introduced to the ILWMS via the CPP-1619 Truck Unloading Bay through tanker trucks or containers. Unloading operations at this facility are controlled by standard operating procedures. During unloading operations, a portable HEPA air mover is required to filter particulate and radioactive emissions. An intake for the air mover is located near the unloading hose connections in the CPP-1619 unloading bay. A stainless-steel drip pan is used to collect possible leaks during unloading. Personnel will inspect for evidence of improper connections before beginning the transfer or acceptance of waste at CPP-1619. Waste staging areas will be inspected for leaks or spills when waste is being received.

Hazards in unloading and staging operations will be minimized through the following:

- Waste handling areas are controlled to provide adequate space to allow unobstructed movement of waste transfer equipment and personnel.
- Operations personnel will be present at all times during unloading or staging operations; therefore, any spilled or leaked material will be immediately detected and contained. Spill response will be in accordance with the INEEL Emergency Plan Resource Conservation and Recovery Act Contingency Plan (EP/RCRA CP), except for incidental spills, which would be immediately cleaned up.
- Personnel will be trained as noted in Section H of this permit application.

F-4b. Run-off [IDAPA 58.01.05.012; 40 CFR § 270.14(b)(8)(ii)]

Buildings CPP-604, CPP-641, CPP-649, CPP-659 Annex, CPP-1618, and CPP-601 are fully enclosed buildings that prevent run-off from hazardous waste handling areas to other areas or the environment. Buildings CPP-601, CPP-604, CPP-641, CPP-649, CPP-659, and CPP-1618 are inside the flood plain boundaries as postulated in the Koslow and Van Haaflen, 1986, Flood Routing Analysis for a Failure of Mackay Dam, EGG-EP-7184. The INEEL emergency plan provides for establishing plans for the protection of buildings and equipment as necessary during flooding conditions. This could include sand bagging or building berms, dikes, or trenches.

Appendices F-7, F-8, and F-9 contain Engineering Design Files EDF-1747, EDF-2613, and EDF-2470. These EDFs discuss the effects of hydrostatic and hydrodynamic forces as a result of hypothetical flooding on the ILWMS. These studies demonstrate that the facilities would withstand the floodwaters.

F-4c. Water Supplies [IDAPA 58.01.05.012; 40 CFR § 270.14(b)(8)(iii)]

Contamination of water supplies by spills of mixed waste is prevented by building features such as high-density concrete base, stainless-steel lining, epoxy-coated walls, sloped floors, trenches, drains, double-encased piping, and liquid collection tanks, as well as various means of leak detection. See Section B, Facility Description, for typical building construction details.

CPP-604 PEWE System and TFT

Groundwater contamination caused by spills from the PEWE system and TFT is prevented by secondary containment provided by the process vaults and cells.

CPP-641 Tanks

Groundwater contamination caused by spills from CPP-641 is prevented by secondary containment provided by the process vaults. The vaults are constructed of concrete with a compatible epoxy coating and have sloped floors to contain leaks and spills.

CPP-601 Deep Tanks

Groundwater contamination caused by spills from CPP-601 is prevented by secondary containment provided by the process vaults. The vaults are constructed of concrete, are equipped with a stainless steel lining, and have sloped floors to contain leaks and spills.

CPP-1618 System

Groundwater contamination caused by spills from the LET&D is prevented by secondary containment provided by the process cells. The cells are constructed of concrete with a stainless steel liner, and the floor slopes to a sump or drain.

Nitric Acid Recycle System

Groundwater contamination caused by spills from the CPP-659 Annex is prevented by secondary containment provided by the cell. The cell is constructed of concrete with a stainless steel liner, and the floor slopes to a sump.

F-4d. Equipment and Power Failure [IDAPA 58.01.05.012; 40 CFR § 270.14(b)(8)(iv)]

Some components of the ILWMS are supplied with redundant equipment. If equipment should fail on these systems, it would have minimal effect on the operating unit, since the redundant equipment would be started and the operation stabilized. The failed equipment would then be investigated to determine the cause of the failure, and repairs would be initiated. If a system that did not have redundant equipment were to fail, the operating unit would be secured.

Upon total loss of electrical power, ILWMS equipment that manages hazardous and mixed wastes is designed to shut down in a manner that protects employees, equipment, human health, and the environment.

Cranes and hoists are considered non-critical equipment and are not supplied with emergency standby power. This type of equipment is designed to fail in place. Movement will be suspended until power is restored.

The DCS is designed with battery backup to maintain operability and to ensure safe shutdown.

CPP-604 PEWE System and TFT

The Evaporator Feed Collection Tank (VES-WL-133), the Process Condensate Surge Tank (VES-WL-131) and the Process Condensate Collection Tanks (VES-WL-106, VES-WL-107, and VES-WL-163) are all equipped with two redundant transfer pumps.

The PEW evaporators (EVAP-WL-129 and EVAP-WL-161) and associated heat exchangers are identical and may be operated independently or in parallel.

PEW evaporator bottoms can be stored/treated in either VES-WL-101 or VES-WL-111.

CPP-601 Deep Tanks

There are a total of four Deep Tanks (VES-WG-100, VES-WG-101, VES-WH-100, and VES-WH-101) that are essentially redundant systems. Each tank is equipped with sparge flow instruments, level instrumentation, one transfer jet, and one transfer pump.

Sufficient redundancy exists such that a receiving tank is available for collection. Loss of a sparge flow or level instrument may require an operator to switch collection to another tank, but would not require total cessation of operations.

If a system that does not have redundant equipment was to fail, the operating process would be shut down and not operated again until the failure was repaired.

CPP-1618 LET&D Facility

The LET&D fractionators (FRAC-WLL-170 and FRAC-WLK-171) and associated heat exchangers are identical.

The Acid Fractionator Bottoms Tank (VES-WLL-195) is equipped with two redundant transfer pumps.

F-4e. Personnel Protection Equipment [IDAPA 58.01.05.012; 40 CFR § 270.14(b)(8)(v)]

Operations are conducted according to written procedures. Eyewash stations, safety showers, respirators and protective clothing are available throughout the PEWE system, the LET&D facility, and CPP-659.

F-4f. Releases to the Atmosphere [IDAPA 58.01.05.012; 40 CFR § 270.14(b)(8)(vi)]

CPP-604 PEWE System and TFT

In the event of a release to the vault from VES-WM-100, -101, or -102, the offgas would be contained in the vault until the hatch covers located in the sample corridor in CPP-604 were removed. Any release would then be removed by the offgas system that maintains a slight vacuum on the sample corridor to a high-efficiency particulate air (HEPA) filter system before being released to the atmosphere through the INTEC Main Stack.

In the event of a release to the rest of the vaults and cells associated with the PEWE system, the offgas would be removed by the offgas system that maintains a slight vacuum on the vaults and cells. The offgas would then be routed to a HEPA filter system before being released to the atmosphere through the INTEC Main Stack.

CPP-641 Tanks

In the event of a release to the VES-WL-103 vault, the offgas would vent to the building and then be released to the atmosphere. In case of a release to the VES-WL-104 and VES-WL-105 vault, the offgas would remain in the vault until the hatch covers are removed and then be released to the atmosphere.

CPP-601 Deep Tanks

In the event of a release to any one of the cells, the building ventilation system will remove any offgases containing hazardous constituents to a HEPA filter system before being released to the atmosphere through the INTEC Main Stack.

CPP-1618

In the event a release to the cells associated with the LET&D, the offgas would be removed by the building ventilation system that maintains a slight vacuum on the cells. The building ventilation is then routed to the ventilation APS HEPA filter system before being released to the atmosphere.

Nitric Acid Recycle System Vault

In the event of a release to any one of the cells, the building ventilation system will remove any offgas containing hazardous constituents to a HEPA filter system before releasing it to the atmosphere.

F-5. PREVENTION OF REACTION OF IGNITABLE, REACTIVE, AND INCOMPATIBLE WASTES [IDAPA 58.01.05.008 AND 58.01.05.012; 40 CFR §§ 264.17(A) AND 270.14(B)(9)]

To prevent reaction of potentially incompatible wastes in the PEWE system or LET&D facility, waste acceptance criteria (WAC) have been established for wastes that are to be transferred to the PEWE system, see Section C-2f of this permit application. For the CPP-604 TFT system, CPP-601 Deep Tanks, and the WWH tanks, waste must be characterized per procedure, to ensure waste compatibility before it can be transferred to the system.

APPENDIX F-1

Example Inspection Forms

FORM INTEC-4000X (08/31/99)
REV. 2

RCRA INSPECTION INDEX

Insp. Date	Form Number Used and Title	Remedial Actions	Date Completed	Sent to Records (Signature/Date)
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		
		Y N		

Form INTEC-4004
07/03/03
Rev. 19
Page 1 of 10

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

This data sheet is the current revision date per the current Form Index.

____
Signature/Date

Previous Week's Inspection Checked (Initials): ____________________

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous week's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table (Initials): ________________

Date: **Through**

Area/Item	Normal Condition	Off Spec. Condition	Wed	Thu	Fri	Sat	Sun	Mon	Tue
Time:									
INTEC Perimeter Fence									
"No Trespassing" signs posted at guard gates and on the fence around INTEC. Signs are visible and legible from at least 25 ft.	Yes	No	NA	NA	NA	Yes/No	NA	NA	NA
First Level									
Hazardous liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Phone/paging functional?(1)	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
"Danger–Unauthorized Personnel Keep Out" signs posted at doors to process areas?(2)	Yes	No	NA	NA	NA	Yes/No	NA	NA	NA
Second Level Corridors									
Hazardous liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Hazardous liquids on utility corridor floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Phone/paging functional?(1)	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Third Level Corridors									
Hazardous liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Phone/paging functional? (1)	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Loading and Unloading Docks									
North Dock: Presence of hazardous solid or liquid waste spills?(3)	No	Yes	No/Yes/NA	No/Yes/NA	No/Yes/NA	No/Yes/NA	No/Yes/NA	No/Yes/NA	No/Yes/NA
East Dock: Presence of hazardous solid or liquid waste spills?(3)	No	Yes	No/Yes/NA	No/Yes/NA	No/Yes/NA	No/Yes/NA	No/Yes/NA	No/Yes/NA	No/Yes/NA

(1) Check designated phone.
(2) See list on page 2.
(3) This inspection is required daily only when loading/unloading is occurring.

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

Doors which should be posted with "Danger-Unauthorized Personnel Keep Out" signs:

South side of NWCF:

1. Personnel access door from Acid Recycle Storage Tank Enclosure (Room 443) to outside
2. Vehicle access roll-up door from Decon Vehicle Entry (Room 417) to outside ramp.

West side of NWCF:

1. Personnel access door from Decon Vehicle Entry (Room 417) to outside
2. Personnel access door from Decon Hot Shop (Room 442) to outside.

East side of NWCF:

1. Personnel access door from Emergency Generator Room (432) to outside
2. Personnel emergency exit door from Stair No. 1 to outside
3. Freight roll-up door from elevator to east loading dock
4. Double door from vestibule (Room 431) to each loading dock.

North side of NWCF:

1. Double door from Decon Solution Makeup Room (429) to north loading dock
2. Vehicle access roll-up door from Crane Maintenance Area (Room 428) to north loading dock
3. Personnel access door from Calcium Nitrate Addition Room (427) to north loading dock
4. Freight roll-up door from Calcium Nitrate Addition Room (427) to north loading dock
5. Double door from Decon Exhaust Air Plenum Room (431) to outside ramp
6. Personnel emergency exit door from Corridor 424 to Tank Farm
7. Personnel access door from Equipment Decon Room (418) to Glycol Chiller Units.

Inside NWCF, first level:

1. Personnel access door from Lunchroom to Decon Shift Office (Room 415)
2. Personnel access door from Corridor 441 to Crane Maintenance Area (Room 428)
3. Personnel access door from Corridor 411 to Stair No. 3
4. Personnel access door from Corridor 411 to Decon Area
5. Personnel access door from Corridor 409 to Elevator Entry (Room 430)
6. Personnel access door from Corridor 409 to Stair No. 1.

Form INTEC-4004
07/03/03
Rev. 19
Page 3 of 10

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

Fire Systems-MIP Panel No. 10

Event No.	Location	Normal Condition	Off Spec. Condition	Wed	Thu	Fri	Sat	Sun	Mon	Tue
1103604	INTEC-659, Water Flow-400 Level East	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103605	INTEC-659, Water Flow-300 Level East	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103606	INTEC-659, Water Flow-200 Level East	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103607	INTEC-659, Water Flow-Calciner Exhaust Plenum Room 423	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103608	INTEC-659, Water Flow-300 Level West	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103609	INTEC-659, Water Flow-Calciner Supply Plenum Room 601	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103610	INTEC-659, Water Flow-Decon Exhaust Plenum	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103611	INTEC-659, Water Flow-Calciner Exhaust Plenum	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103612	INTEC-659, Heat Detector/Water Flow Decon Cell #308	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103613	INTEC-659, Heat Detector/Water Flow Filter Cell #309	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103614	INTEC-659, Manual Discharge/Water Flow-Calciner Cell	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103615	INTEC-659, Heat Detector-400 Level Calciner Plenum Room 423-North	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103616	INTEC-659,Heat Detector-400 Level Calciner Plenum Room 423-South	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103701	INTEC-659, Heat Detector-400 Level Decon Plenum Room 426-North	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103702	INTEC-659, Heat Detector-400 Level Decon Plenum Room 426-South	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103703	INTEC-659, Control Panel Alarm Decon and Filter Cell	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103704	INTEC-659, Manual Fire Alarm-400 Level North Area	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103705	INTEC-659, Manual Fire Alarm-400 Level South Area	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103706	INTEC-659, Manual Fire Alarm-300 Level West Area	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103707	INTEC-659, Manual Fire Alarm-200 Level South Area	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103708	INTEC-659, Smoke Detector/Halon System Discharge-400 Level-Control Room	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103709	INTEC-659, Smoke Detector/Manual Fire Alarm	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103714	Butterfly Valve FWV-NCM-15–Room 433–Sprinkler System Isolation	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103715	Butterfly Valve FWV-NCM-14–Room 432–Sprinkler System Isolation	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103716	OS&Y Valve FWV-NCO-8–Corridor 318–Sprinkler System Isolation	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103801	OS&Y Valve FWV-NCO-12–Corridor 318–Sprinkler System	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On

Form INTEC-4004
07/03/03
Rev. 19
Page 4 of 10

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

Fire Systems-MIP Panel No. 10 (cont.)

Event No.	Location	Normal Condition	Off Spec. Condition	Wed	Thu	Fri	Sat	Sun	Mon	Tue
1103802	PIVS FWV-UTI-6505 and FWV-UTI-6507-West of INTEC-659–Sprinkler System Isolation–Tank Farm	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103803	Butterfly Valve FWV-NCD-16–Corridor 303–Sprinkler System Isolation	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103804	OS&Y Valve FWV-NCC-5–Calciner Plenum Room 423–Sprinkler System Isolation	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103805	Butterfly Valve FWV-NCC-1–Calciner Plenum Room 423-Sprinkler System Isolation	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103806	Butterfly Valve FWV-NCD-13–Corridor 303-Sprinkler System Isolation	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103807	Butterfly Valves FWV-NCD-19 and FWV-NCD-20–Corridor 303–Filter Handling/Decon Cells Deluge System Isolation	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103810	PIV FWV-UTI-6513–East of INTEC-659-Sprinkler System Isolation	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103811	INTEC-659, Smoke Detector-400 Level	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103812	Fire Alarm Control Panel–Control Room	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103815	INTEC-659, Manual Fire Alarm-Acid Recycle Exit Door	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103901	INTEC-694, Foam System-Solvent Storage Tanks	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103902	INTEC-1607, Water Flow	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103909	Butterfly Valves FWV-NCD-24 and FWV-NCD-25–Decon Plenum Room 426-Deluge System Isolation	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103910	Butterfly Valves FWV-NCC-14 and FWV-NCC-15–Calciner Plenum Room 423–Deluge System Isolation	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103911	Butterfly Valve FWV-NCO-10–Corridor 318–Calciner Cell Deluge System Isolation	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103912	INTEC-659, Manual Fire Alarm-400 Level East	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103913	INTEC-659, Manual Fire Alarm-300 Level East/North	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103914	Control Panel Trouble–Calcine Cell Panel	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
1103915	Control Panel Trouble–Decon/Filter Cell Panel	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On

Form INTEC-4004
07/03/03
Rev. 19
Page 5 of 10

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

Area/Item	Normal Condition	Off Spec. Condition	Wed	Thu	Fri	Sat	Sun	Mon	Tue
Calciner Cell									
New leaks observed in cell?(4) (6) (8)	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
NCC-105–New cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
NCC-107–New cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Piping–New cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Floor–New cracks, gaps, or deterioration visible?(14)	No	Yes	No/Yes						
Off-Gas Cell									
New leaks observed in cell?(5) (7)	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Tanks or piping–New cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Floor–New cracks, gaps, or deterioration visible?(14)	No	Yes	No/Yes						
Filter Cell and Valve Cubicle									
New leaks observed in cell?(9) (10) (11)	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Piping–New cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Floor–New cracks, gaps, or deterioration visible?(14)	No	Yes	No/Yes						
Liquid Sample Cell									
New leaks observed in cell?(13)	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Piping–New cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Floor–New cracks, gaps, or deterioration visible?(14)	No	Yes	No/Yes						
Flowmeter Cubicle									
New leaks observed in cell?(12)	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Piping–New cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Floor–New cracks, gaps, or deterioration visible?(14)	No	Yes	No/Yes						

Footnotes 4 through 13 are items that have been previously identified. The operation of the Calciner process has been terminated; do not re-report these items unless new leaks are observed.

4. Leak located on the upper flange to HV-107-2 on the fines column. Leak is occasional. Only seen during blasting of column. Identified on May 4, 1999.
5. Leak located on HV109-1C in the Off-Gas Cell. Leak is occasional – when P105-1C ~25" WC vacuum. Leak stopped when vacuum was increased approximately 20 minutes later. Identified on August 19, 1999.
6. Leak located in the Calciner Cell; leak was observed after acid was added to NCC-105. Estimated leak rate is ~3 drips per minute. Component leaking is unknown. Identified on February 16, 2000.
7. Leak located on PSS-208-2-1 in the Off-Gas Cell. Component does not appear to be leaking at this time, however there are signs of prior leakage (stalactite). Identified on March 22, 2000.

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

8. Leak located high in the Calciner Cell from the fines column. Observed 7 or 8 nickel-size chunks blown to the floor when blasting using HAAF-110419. Identified on May 4, 1999.
9. HV 102-3. No evidence of leak but leak was identified in the past. See Form INTEC-4004 dated April 3, 2002.
10. HV 103-4. Evidence of leak on valve. See Form INTEC-4004 dated April 3, 2002.
11. LV 101-1. Evidence of leak on valve. See Form INTEC-4004 dated April 3, 2002.
12. #1 Flow-meter. Evidence of leak on floor. Component leaking is unknown. See Form INTEC-4004 dated April 3, 2002.
13. Liquid Sample Cell. Evidence of leakage. Component leaking is unknown. See Form INTEC-4004 dated April 3, 2002.
14. The areas of the floor that are visible from the shielding windows are inspected. The entire floor is inspected only when a cell entry is made.

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

Vessel	Instrument	Normal Range	Off Spec. Condition	Wed	Thu	Fri	Sat	Sun	Mon	Tue
Tank Farm Encasement	LSH-102-2C	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
VES-NCC-101 Volume	VOL101C	0–4,950 gal	>4,950 gal							
VES-NCC-102 Volume	VOL102C	0–3,460 gal	>3,460 gal							
VES-NCC-103 Volume	VOL103C	0–3,460 gal	>3,460 gal							
VES-NCC-104 Volume	VOL104C	0–68 gal	>68 gal							
Air Lift Pit Sump (Local)	LI-552-1	0–8 in.	>8 in.							
Blend and Hold Cell Drain	L-215C	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
VES-NCC-108 Volume	VOL108C	0–1,700 gal	>1,700 gal							
Off-Gas Cell Drain	L-207C	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
Absorber Cell Drain Line	L-206C	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
Decon Holdup Collection Tank Cell Drain	L-219C	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
VES-NCC-119 Volume	VOL119C	0–5,000 gal	>5,000 gal							
VES-NCC-122 Volume	VOL122C	0–3,800 gal	>3,800 gal							
Hot Sump Tank Cell Sump (Local)	LI-551-1	0–10 in.	>10 in.							
VES-NCR-171	L171-1C	0–109.5 in. WC	>109.5 in. WC							
Acid Recycle Sump	L174-1C	0–4 in. WC	>4 in. WC							
LET&D to Acid Recycle Leak Detection	MJAH-174-1C	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
VES-NCR-171 to Valve Box Leak Detection	MJAH-174-2C	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
VES-NCC-150 Volume	Q150-1C	0–2,500 gal	>2,500 gal							
VES-NCC-152 Volume	Q152-1C	0–170 gal	>170 gal							

Form INTEC-4004
07/03/03
Rev. 19
Page 8 of 10

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

Record the following information for leaks of hazardous materials from NWCF systems:

Date/time of leak discovery	
Location of leak: System/Cell	
Component leaking (valve, fitting, etc.)	
Estimated leak volume or rate	
Continuous or occasional leak? If occasional, when does leak occur?	
Comments:	

Date/time of leak discovery	
Location of leak: System/Cell	
Component leaking (valve, fitting, etc.)	
Estimated leak volume or rate	
Continuous or occasional leak? If occasional, when does leak occur?	
Comments:	

Date/time of leak discovery	
Location of leak: System/Cell	
Component leaking (valve, fitting, etc.)	
Estimated leak volume or rate	
Continuous or occasional leak? If occasional, when does leak occur?	
Comments:	

Form INTEC-4004
07/03/03
Rev. 19
Page 9 of 10

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

Day	Inspector's Name (Print)	Inspector's Signature	Inspection Completed Date	Nature of Any Repairs or Other Remedial Actions	Repairs/Remedial Actions Completed or Not Required Supervision Signature/Date
Wed					
Thu					
Fri					
Sat					
Sun					
Mon					
Tue					

Form Review	Wed	Thu	Fri	Sat	Sun	Mon	Tue
Supervision Initials:							

Comments:

Form INTEC-4004
07/03/03
Rev. 19
Page 10 of 10

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments

Form INTEC-4005
07/03/03
Rev. 20
Page 1 of 3

RCRA PEW TANK OVERFILL AND DAILY LEAK INSPECTIONS

This data sheet is the current revision date per the current Form Index.

Signature/Date

Previous Week's Inspection Checked (Initials): ____________

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous week's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): ____________

Date: ____________ Through ____________

				Time:							
Vessel	**Instrument**	**Normal Range**	**Off Spec. Condition**	**Base**	**Wed**	**Thu**	**Fri**	**Sat**	**Sun**	**Mon**	**Tue**
VES-WL-135	L-WL-135-1	0–12 in. WC	>12 in. WC								
SU-WL-135	L-WL-135-2	0–5 in. WC	>5 in. WC								
VES-WL-136	L-WL-136-1	0–12 in. WC	>12 in. WC								
SU-WL-136	L-WL-136-2	0–19 in. WC	>19 in. WC								
VES-WL-137	L-WL-137-1	0–18 in. WC	>18 in. WC								
SU-WL-137	L-WL-137-2	0–23 in. WC	>23 in. WC								
VES-WL-138	L-WL-138-1	0–18 in. WC	>18 in. WC								
SU-WL-138	L-WL-138-2	0–23 in. WC	>23 in. WC								
VES-WL-139	L-WL-139-1	0–12 in. WC	>12 in. WC								
SU-WL-139	L-WL-139-2	0–19 in. WC	>19 in. WC								
SU-WL-140	L-WL-140-1	0–9 in. WC	>9 in. WC								
VES-WL-142	L-WL-142-1	0–12 in. WC	>12 in. WC								
SU-WL-142	L-WL-142-2	0–19 in. WC	>19 in. WC								
SU-WL-143	L-WL-143-1	0–11 in. WC	>11 in. WC								
VES-WL-144	L-WL-144-1	0–18 in. WC	>18 in. WC								
SU-WL-144	L-WL-144-2	0–23 in. WC	>23 in. WC								
SU-WL-145	L-WL-145-1	0–11 in. WC	>11 in. WC								
SU-WL-146	L-WL-146-1	0–10 in. WC	>10 in. WC								
SU-WL-147	L-WL-147-1	0–11 in. WC	>11 in. WC								
SU-WL-148	L-WL-148-1	0–11 in. WC	>11 in. WC								
VES-WL-106	Q-WL-106	0–4,100 gal	>4,100 gal								
VES-WL-107	Q-WL-107	0–4,100 gal	>4,100 gal								
VES-WL-163	Q-WL-163	0–4,100 gal	>4,100 gal								
VES-WL-134	LRA-WL-134	0–85%	>85%								
VES-WL-101	LRA-WL-101	0–85%	>85%								
VES-WL-102	Q-WL-102	4,000–16,500 gal	<4,000 gal >16,500 gal								
WL-101/102 Sump	L-WL-101/102S	0–24 in. WC	>24 in. WC								
VES-WL-133	Q-WL-133-2	1,000–18,200 gal	<1,000 gal >18,200 gal								
VES-WL-132	L-WL-132-1	>2 – <8 in. WC	<2 or >8 in. WC								
WL-132/133 Sump	L-WL-132/133S	0–20 in. WC	>20 in. WC								
VES-WM-100	LRA-WM-100	0–75%	>75%								
WM-100 Sump	LRA-WM-100S	0–15 in. WC	>15 in. WC								
VES-WM-101	LRA-WM-101	0–75%	>75%								

Form INTEC-4005
07/03/03
Rev. 20
Page 2 of 3

RCRA PEW TANK OVERFILL AND DAILY LEAK INSPECTIONS

Date: ____________ Through ____________

Vessel	Instrument	Normal Range	Off Spec. Condition	Base	Wed	Thu	Fri	Sat	Sun	Mon	Tue
			Time:								
VES-WM-102	LRA-WM-102	0–65%	>65%								
WM-101/102 Sump	LRA-WM-101/102S	0–15 in. WC	>15 in. WC								
VES -WL-109	LRA-WL-109	20–80%	<20% >80%								
VES-WL-111 (1)	L-WL-111	0–34 in. WC	>34 in. WC								
VES -WL-161	L-WL-161	0–75 in. WC	>75 in. WC								
VES -WL-131	LRC-WL-131	10–90%	<10% >90%								
VES-WL-129	LRCA-WL-129	0–70%	>70%								
Pump pit sump	L WL-528	0–10 in. WC	>10 in. WC								
VES -WL-150	L-WL-150-1	0–35 in. WC	>35 in. WC								
SU-WL-153	L-WL-153	0–4 in. WC	>4 in. WC								

Form Review	Wed	Thu	Fri	Sat	Sun	Mon	Tue
Supervision Initials:							

Day	Inspector's Name (Print)	Inspector's Signature	Inspection Completed Date	Nature of Any Repairs or Other Remedial Actions	Repairs/Remedial Actions Completed or Not Required Supervision Signature/Date
Wed					
Thu					
Fri					
Sat					
Sun					
Mon					
Tue					

(1) VES-WL-111 is not in service.

NOTE: *Leakage occurred while performing transfer between VES-WM-102 to VES-WL-133 per component checkout test C40V8.3. Administratively took transfer line out of service on May 23, 2001.*

Form INTEC-4005
07/03/03
Rev. 20
Page 3 of 3

RCRA PEW TANK OVERFILL AND DAILY LEAK INSPECTIONS

Comments: ____

____

____

____

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments:

Form INTEC-4006
07/03/03
Rev. 14
Page 1 of 3

RCRA PEW DAILY FACILITY INSPECTIONS

This data sheet is the current revision date per the current Form Index.

____
Signature/Date

Previous Week's Inspection Checked (Initials): ____________

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous week's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): ______________

Date: ________ Through __________ Time:

Area/Item Yes/No	Normal Condition	Off Spec. Condition	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Operating Corridor									
Process liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Telephone works? (1)	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Pipe Corridor									
Process liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Telephone works? (1)	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Access Corridor									
Process liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Telephone works? (1)	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Entrance to INTEC-605									
"Danger–Unauthorized Personnel Keep Out" sign posted?	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes/No	N/A
INTEC-605									
Process liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes

(1) Check designated phone.

Form Review	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Supervision Initials:							

Day	Inspector's Name (Print)	Inspector's Signature	Inspection Completed Date	Nature of Any Repairs or Other Remedial Actions	Repairs/Remedial Actions Completed or Not Required Supervision Signature/Date
Mon					
Tue					
Wed					
Thu					
Fri					
Sat					
Sun					

Form INTEC-4006
07/03/03
Rev. 14
Page 2 of 3

RCRA PEW DAILY FACILITY INSPECTIONS

Comments: ____

____

____

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments

Record the following information for leaks of hazardous materials from process systems:

Date/time of leak discovery	
Location of leak: System/Cell	
Component leaking (valve, fitting, etc.)	
Estimated leak volume or rate	
Continuous or occasional leak? If occasional, when does leak occur?	
Comments:	

Date/time of leak discovery	
Location of leak: System/Cell	
Component leaking (valve, fitting, etc.)	
Estimated leak volume or rate	
Continuous or occasional leak? If occasional, when does leak occur?	
Comments:	

Form INTEC-4006
07/03/03
Rev. 14
Page 3 of 3

RCRA PEW DAILY FACILITY INSPECTIONS

Instrument	Normal Range	Off-Spec. Condition
LRCA-WL-129	40–70%	<40 or >70%
DRA-WL-129	0–70%	<0 or >70%

If the PEW evaporators did not operate or no off-spec. conditions occurred during the day, note this in the instrument section and sign the operator signature block. Supervision must also sign. A new sheet is to be started each week on Monday day shift. Insert previous week's sheet in the PEW RCRA Inspection Logbook.

	Time	Instrument	Observation	Remedial Actions Taken	Date Complete	Operator's Signature	Shift Supervisor Signature
Mon	0530						
	1730						
Tue	0530						
	1730						
Wed	0530						
	1730						
Thu	0530						
	1730						
Fri	0530						
	1730						
Sat	0530						
	1730						
Sun	0530						
	1730						

Comments: ______________________________

FORM INTEC-4008X (06/21/99)
REV. 6

RCRA WG/WH FACILITY, OVERFILL, AND LEAK DAILY INSPECTIONS

This data sheet is the current revision date per the current Form Index:

____
Signature / Date

Previous Weeks Inspection Checked (Initials)______________

Date______________ Through______________

			Time							
Vessel	**Instrument**	**Normal Range**	**Off Spec. Condition**	**MON**	**TUE**	**ED**	**THU**	**FRI**	**SAT**	**SUN**
VES-WG-100	L-WG-100 (% level)	0 to 90%	LR>90%							
VES-WG-101	L-WG-101 (% level)	0 to 90%	LR>90%							
VES-WH-100	L-WH-100 (% level)	0 to 90%	LR>90%							
VES-WH-101	L-WH-101 (% level)	0 to 90%	LR>90%							
WG vault sump	L-WG-102 (% level)	0 to 42%	LR>42%							
WH vault sump	L-WH-102 (% level)	0 to 50%	LR>50%							
Pipe trench sump	L-WT-101 (% level)	0 to 32%	LR>32%							
WG/WH vault VOG	PDR-WG/WH VOG%	30% to 49.5%	>49.5%							

Equipment	**Normal Condition**	**Off Spec. Condition**	**MON**	**TUES**	**WED**	**THU**	**FRI**	**SAT**	**SUN**
Controlled admittance signs in place?	YES	NO							
Intercom working?	YES	NO							
Liquid on control room floor?	NO	YES							
Any leakage outside PEW inlet header (4"-PW-AR-151713)?	NO	YES							
Any leakage outside PEW discharge line (3"-PLA-110205)?	NO	YES							

Form Review	**MON**	**TUES**	**WED**	**THU**	**FRI**	**SAT**	**SUN**
Supervision initials:							

Day	**Inspector's Name (Print)**	**Inspector's Signature**	**Inspection Completed Date**	**Nature Of Any Repairs Or Other Remedial Actions**	**Repairs/Remedial Actions Complete Or Not Required Supervision Signature/Date**
MON					
TUE					
WED					
THU					
FRI					
SAT					
SUN					

Comments: ____

____

FORM INTEC-4017X (06/21/99)
REV. 3
Page 1 of 2

RCRA WG/WH MONTHLY EMERGENCY EQUIPMENT CHECKS

This data sheet is the current revision date per the current Form Index:

____
Signature / Date

Previous Month's Inspection Checked (Initial) _______ Date __________ Time __________

SAFETY SHOWER/EYEWASH FOUNTAIN

Check for leaks, accessibility, supply valve open, and current PM tag.

Area	Location	Equipment Nos.	Requirements Met?	Problem(s) Found
WG/WH	Control Room	SSW-WA-017 EFN-WA-017	YES / NO	

SPILL CONTROL CABINET

Place ✓ if minimum quantity (or greater) is present. Notify supervision of any usage so that cabinet can be restocked.

Item	Minimum Quantity Required	PM Area - South End
Non-rad acid suits (green)	6 pair	
Acid boots	6 pair (2 > size 12)	
Rad acid suits (yellow)	6	
Acid gloves (neoprene)	12 pair	
Face shields	4	
Plastic buckets	2	
Spill control pillows	24	
HF spill control pillows	24	
Dolomite clay or Spill-X (w/scoop)	500 pounds	
Hazardous material bags	1 case	
Safety rope	1 spool	
Signs (5 total)	4 Caution-Acid Spill 1 Caution-Chemical Spill	
pH paper	2 boxes	
Duct tape	2 rolls	
Shovel (flat head)	1	
Pocket knife	1	
Smear paper and envelopes	1 box	
Pencils, grease pencils	2 each	
Paper pad	1	
Radiological tags/signs	5 each	
Radiation rope or ribbon	1 spool	
Seal number for cabinet (seal must be changed after each inventory).		

FORM INTEC-4017X (06/21/99)
REV. 3
Page 2 of 2

Equipment/Item Inspected	Types of Problems/Inspection Items	Observations	Nature of Any Repairs or Other Remedial Actions	Completion Date for Repairs/ Remedial Actions
Safety showers/eyewashes	Leaks, accessibility, supply valve open, PM tag current			
Spill control cabinet	Equipment inventory			

Comments:____

Inspector's Name (Print) ____________________

Inspector's Signature ____________________

Inspection Completed: Shift Supervisor's Signature ____________________

Remedial Actions Completed
or Not Required: Shift Supervisor's Signature ____________________

RCRA WG/WH CELL INSPECTIONS

This data sheet is the current revision date per the current Form Index.

______________________ Signature/Date

Previous Inspection Checked (Initials) __________ Cell Inspected ______________________ Date ________ Time ________

Equipment/Area Inspected	Types Of Problems/Inspection Items	Observations	Nature Of Any Repairs Or Other Remedial Actions	Completion Date For Repairs/Remedial Actions
Sump	Erosion, cracks, debris, settling, spills			
Sump jet	Debris			
Concrete floor (stainless lined)	Cracks, deterioration, uneven settling, spills			
Concrete walls (stainless lined)	Cracks, deterioration, settlement			
Concrete walls	Cracks, deterioration, settlement, paint			
Tank exteriors	Corrosion, erosion, leaks, discoloration, buckles, bulges			
Piping	Corrosion, erosion, leaks, loose or corroding connections			
Valves	Leaks (internal and external), corrosion			
Ladders	Corroded, damaged, poor structural stability			
Hatchways	Leaks, deterioration, corrosion			
Diversion boxes	Leaks, corrosion, loose connections, deterioration			

Comments: ____

Inspector's Name ______________________
Inspector's Signature ______________________
Inspection Completed: Shift Supervisor's Signature ______________________
Remedial Action Completed
or Not Required: Shift Supervisor's Signature ______________________

FORM INTEC-4019X (08/10/99)
REV. 3

RCRA WG/WH PUMP PIT INSPECTIONS

This data sheet is the current revision date per the current Form Index:

____
Signature / Date

Previous Inspection Checked (Initials) _________

Pump Pit Inspected ____________________ Date _______________ Time_______________

Equipment/Area Inspected	Types Of Problems/Inspection Items	Observations	Nature Of Any Repairs Or Other Remedial Actions	Completion Date For Repairs/Remedial Actions
Pumps	Leaking, corrosion, loose connections, deterioration			
Concrete walls (stainless lined)	Cracks, deterioration, settlement			
Concrete floor (stainless lined)	Cracks, deterioration, uneven settling, spills			
Piping	Corrosion, erosion, leaks, loose or corroding connections			
Valves	Leaks (internal and external), corrosion			
Ladder	Corroded, damaged, poor structural stability			
Lights	Not operating, broken, burned out			
Floor drain	Plugged			
Grating	Corroded, poor structural stability, damaged			

Comments: ____

____

____

____

Inspector's Name (Print) ____________________________

Inspector's Signature ____________________________

Inspection Completed: Shift Supervisor's Signature ____________________________

Remedial Actions Completed
or Not Required: Shift Supervisor's Signature ____________________________

Form INTEC-4025
07/03/03
Rev. 13
Page 1 of 2

RCRA PEW/TANK FARM MONTHLY FACILITY INSPECTIONS

This data sheet is the current revision date per the current Form Index.

____
Signature/Date

Previous Week's Inspection Checked: ____________ Date: ______________ Time: ____________

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous month's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): __________

PEW

Safety Showers and Eyewashes: Check for leaks, accessibility, supply valve open, and (if applicable) that heat trace is on.

Item	Bldg.	Location	Equipment No.	Passed Test		Problem(s) Found
1	604	WO Area, Center	SSW/EFN-WO-51	Yes	No	
2		Pipe Corridor, Center	SSW/EFN-WL-52	Yes	No	
3		Access Corridor, Northeast	SSW/EFN-WL-50	Yes	No	
4	1619	North Wall	SSW/EFN-SAB-1	Yes	No	

Fire Extinguishers: Check for damage, seal, accessibility, and gauge indication in green (if equipped). (If problems are noted, contact Utility Support.)

Item	Bldg.	Location	Passed Test		Problem(s) Found
5	604	Switch Gear Room	Yes	No	
6		Pipe Corridor north wall	Yes	No	
7		Sample Corridor entry	Yes	No	
8		Access Corridor north wall	Yes	No	
9		Access Corridor south wall	Yes	No	

Tank Farm

Fire Extinguishers: Check for damage, seal, accessibility, and gauge indication in green (if equipped). (If problems are noted, contact Utility Support.)

Item	Bldg.	Location	Equipment No.	Passed Test		Problem(s) Found
10	618	North Wall	FE-WM-1	Yes	No	
11	628	Northwest Wall	FE-WM-2	Yes	No	
12	638	Outside Northwest Wall	FE-WM-3	Yes	No	

Spill Control Equipment Inventory

Instructions: The cabinet is located in the INTEC-604 WO area.
Place ✓ if minimum quantity (or greater) is present. Notify supervision of any usage so that cabinet can be restocked.
If seal no. is the same and the seal has not been broken, an inventory need not be taken.

Item	Quantity Required	Inventory
Acid Boots **(1)**	6 pair (at least two pair size 15 or larger)	
Disposable Acid Suits **(1)**	6	
Dolomite	5 gallon bucket	
Duct Tape (white) **(1)**	2 rolls	
Face Shields	4	
Flat Head Shovel	1	
Grease Pencils and Pencils	2 ea.	
Hazardous Material Pigs	12	
Hazardous Waste Bags **(1)**	12	
Neoprene Acid Gloves **(1)**	12 pair	
pH Paper	2 boxes	
Plastic Buckets	2	
Radiation Rope or Ribbon	At least 25 feet	
Radiological Tags or Signs	5 ea.	
Safety Rope	At least 25 feet	
Signs	4 "Danger-Acid Spill" and 1 "Chemical Spill"	
Smear Paper and Envelopes	1 box	
Spill Control Pillows	24	
	Previous Inspections Seal Number for Cabinet	
	Seal Number for Cabinet	

(1) Replace these items every January and July.

Form INTEC-4025
07/03/03
Rev. 13
Page 2 of 2

RCRA PEW/TANK FARM MONTHLY FACILITY INSPECTIONS

Item No.	Action(s) Taken to Correct Problem(s) Found	Action Date	Completion Date

Comments: ____________________

____

____

____

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments

Inspector's Name (Print): ____________________

Inspector's Signature: ____________________

Inspection Completed; Shift Supervisor's Signature: ____________________

Remedial Actions Completed or Not Required;
Shift Supervisor's Signature: ____________________

Form INTEC-4038
07/03/03
Rev. 10
Page 1 of 2

RCRA WESTSIDE WASTE FACILITY (INTEC-641) DAILY INSPECTIONS

This data sheet is the current revision date per the current Form Index.

____
Signature/Date

Previous Week's Inspection Checked (Initials): ____________ Date: ________ Through: ________

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous week's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): ____________

Day	Time	Normal Condition	Off-Spec. Condition	LRA-WL-103	LRA-WL-104	LRA-WL-105	Normal Condition	Off-Spec. Condition	Sump 950 Alarm	Sump 951 Alarm
			Base Line					Base Line	Off/On	Off/On
Mon	2100	0–70%	>70%				Off Alarm	On Alarm	Off/On	Off/On
Tue	2100	0–70%	>70%				Off Alarm	On Alarm	Off/On	Off/On
Wed	2100	0–70%	>70%				Off Alarm	On Alarm	Off/On	Off/On
Thu	2100	0–70%	>70%				Off Alarm	On Alarm	Off/On	Off/On
Fri	2100	0–70%	>70%				Off Alarm	On Alarm	Off/On	Off/On
Sat	2100	0–70%	>70%				Off Alarm	On Alarm	Off/On	Off/On
Sun	2100	0–70%	>70%				Off Alarm	On Alarm	Off/On	Off/On

Equipment	Normal Value	Off Spec. Value	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Telephone operational?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
"Danger – Unauthorized Personnel Keep Out" signs posted?	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes/No	N/A
Fire Extinguisher – FE-WM-4 (accessible, no damage, seal in place, and gauge indication in green if equipped)	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes/No	N/A

Form Review	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Supervision Initials:							

Day	Inspector's Name (Print)	Inspector's Signature	Inspection Completed Date	Nature of Any Repairs or Other Remedial Actions	Repairs/Remedial Actions Completed or Not Required Supervision Signature/Date
Mon					
Tue					
Wed					
Thu					
Fri					
Sat					
Sun					

Form INTEC-4038
07/03/03
Rev. 10
Page 2 of 2

RCRA WESTSIDE WASTE FACILITY (INTEC-641) DAILY INSPECTIONS

Comments: ____

____

____

____

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments

Form INTEC-4039
07/03/03
Rev. 8
Page 1 of 2

RCRA WASTE PROCESSING VAULT AND VALVE BOX INSPECTIONS

This data sheet is the current revision date per the current Form Index.

____
Signature/Date

Previous Inspection Checked (Initials): __________ Vault Inspected: ______________ Date: ____________ Time: ________

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): ____________________

Equipment/Area Inspected	Types of Problems/Inspection Items	Observations	Nature of Any Repairs or Other Remedial Actions	Completion Date for Repairs/Remedial Actions
Sump	Erosion, cracks, debris, settling, spills			
Sump jet	Steam leaks, debris			
Concrete floor (stainless lined)	Cracks, deterioration, uneven settling, spills			
Concrete walls (stainless lined)	Cracks, deterioration, settlement			
Concrete floor (epoxy painted)	Cracks, deterioration, uneven settling, spills			
Concrete walls (epoxy painted)	Cracks, deterioration, settlement			
Concrete walls	Cracks, deterioration, settlement, paint			
Tank exteriors	Corrosion, erosion, leaks, discoloration, buckles, bulges			
Piping	Corrosion, erosion, leaks, loose or corroding connections			
Valves	Leaks (external), corrosion			
Diversion boxes	Leaks, corrosion, loose connections, deterioration			
Ladder	Corroded, poor structural stability, damaged			
Pumps	Leaking, corrosion, loose connections, deterioration			

Comments: ____

Form INTEC-4039
07/03/03
Rev. 8
Page 2 of 2

RCRA WASTE PROCESSING VAULT AND VALVE BOX INSPECTIONS

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments

Inspector's Name (Print): ______________________________

Inspector's Signature: ______________________________

Inspection Completed; Shift Supervisor's Signature: ______________________________

Remedial Actions Completed or Not Required; Shift Supervisor's Signature: ______________________________

Form INTEC-4053
07/03/03
Rev. 13
Page 1 of 2

RCRA LET&D MONTHLY INSPECTIONS

This data sheet is the current revision date per the current Form Index.

____
Signature/Date

Previous Month's Inspection Checked (Initials): ____________ Date: ____________ Time: ____________

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous month's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): ____________

Fire Extinguishers: Check for accessibility, damage, seal, and gauge indication in green (if equipped). If problems are noted, contact Utilities Support.

Item	Level	Location	Passed Test		Problem(s) Found
1	1	East Door	Yes	No	
2		West Door	Yes	No	
3	2	East Door	Yes	No	
4		West Door	Yes	No	
5	3	East Door	Yes	No	
6		West Door	Yes	No	

Safety Showers and Eyewashes: Check for leaks, accessibility, and supply valve open.

Item	Level	Location	Equipment No.	Passed Test		Problem(s) Found
7	1	Sample Room	SSW/EFN-WLJ-97	Yes	No	
8	2	Center	SSW/EFN-WLQ-98	Yes	No	
9	3	Center	SSW/EFN-WLR-99	Yes	No	

SPILL CONTROL EQUIPMENT INVENTORY SHEET

Instructions:

1. Cabinets are located in the vestibule on level 1, and on the south central wall on level 2.
2. Place □ if minimum quantity (or greater) is present. Notify supervision of any usage so that cabinet can be restocked.
3. If seal no. is the same and the seal has not been broken, an inventory need not be taken.
4. The quantities listed are minimum requirements. Replacements should be obtained before levels reach the minimum required.

Item	Quantity Required	Level 1	Level 2
Acid Boots (at least two pair must be size 15 or bigger) **(1)**	6 Pair		
Disposable Acid Suits **(1)**	6		
Acid Gloves (neoprene) **(1)**	12 pair		
Face Shields	4		
Plastic Buckets	2		
Spill Control Pillows	24		
Dolomite	5 gallon bucket		
Hazardous Material Pigs	12		
Hazardous Waste Bags **(1)**	12		
Safety Rope	25 feet		
Signs (5 total)	4 "Danger-Acid Spill" signs and 1 "Chemical Spill" sign		
pH Paper	2 boxes		
Duct Tape (white) **(1)**	2 rolls		
Shovel (flat head)	1		
Smear Paper and Envelopes	1 box		
Pencils, Grease Pencils	2 each		
Radiological Tags/Signs	5 each		
Radiation Rope or Ribbon	25 feet		
	Previous Inspections Seal Number for Cabinet		
	Seal Number for Cabinet		

(1) Replace these items every January and July.

Form INTEC-4053
07/03/03
Rev. 13
Page 2 of 2

RCRA LET&D MONTHLY INSPECTIONS

Item No.	Action(s) Taken To Correct Problem(s) Found	Action Date	Completion Date

Comments: ____

____

____

____

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial Was Identified	Deficiency Description/Comments

Inspector's Name (Print): ______________________________

Inspector's Signature: ______________________________

Inspection Completed; Shift Supervisor's Signature: ______________________________

Remedial Actions Completed or Not Required;
Shift Supervisor's Signature: ______________________________

Form INTEC-4055
07/03/03
Rev. 15
Page 1 of 3

RCRA LET&D DAILY FACILITY INSPECTIONS

This data sheet is the current revision date per the current Form Index.

Signature/Date

Previous Week's Inspection Checked (Initials): ______________

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous week's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): __________

Date: ____________ Through ______________

Area	Item	Normal Condition	Off Spec. Condition	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Time:							
First Level	"Danger–Unauthorized Personnel Keep Out" signs posted?	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes/No	N/A
	Process liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
	Liquid in Sample Room leak detection bottle? (1)	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
	Telephone functional?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Second Level	Process liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
	Liquid in leak detection bottle on north middle wall? (1)	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
	Telephone functional?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Third Level	Process liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
	Telephone functional?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

(1) If liquid is found in any leak detection bottle, treat the liquid as a leak of process solution until it is proved otherwise.

Form INTEC-4055
07/03/03
Rev. 15
Page 2 of 3

RCRA LET&D DAILY FACILITY INSPECTIONS

	DCS Tag Number	Normal Range	DCS Alarm/Off-Spec. Condition	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Tank Levels	L-WLK-197-2	0–20 in. WC	>20 in. WC							
	L-WLK-171-1	0–36 in. WC	>36 in. WC							
	L-WLL-170-1	0–36 in. WC	>36 in. WC							
	L-WLL-195-2	0–25 in. WC	>25 in. WC							
Sump Levels	L-WLK-171-39	<17 in. WC	≥17 in. WC							
	L-WLL-170-38	<17 in. WC	≥17 in. WC							
	L-WLL-169-1	<7 in. WC	≥7 in. WC							

Form Review	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Supervision Initials:							

Day	Inspector's Name (Print)	Inspector's Signature	Inspection Completed Date	Nature of Any Repairs or Other Remedial Actions	Repairs/Remedial Actions Completed or Not Required Supervision Signature/Date
Mon					
Tue					
Wed					
Thu					
Fri					
Sat					
Sun					

Comments: ____

Form INTEC-4055
07/03/03
Rev. 15
Page 3 of 3

RCRA LET&D DAILY FACILITY INSPECTIONS

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments:

Form INTEC-9123
07/03/03
Rev. 0
Page 1 of 2

RCRA HLW CELL INSPECTIONS

This data sheet is the current revision date per the current Form Index.

____
Signature/Date

Previous Inspection Checked (Initial): ____________

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): ____________

Facility: ________________ Cell Inspected: ________________ Date: __________ Time: __________

An inspection of the area will be conducted when the cell must be entered and repeated at least weekly for prolonged activities.

Equipment/Area Inspected	Types of Problems/Inspection Items	Observations	Nature of Any Repairs or Other Remedial Actions	Completion Date for Repairs/Remedial Actions
Sump	Erosion, cracks, debris, settling, spills			
Sump jet	Steam leaks, debris			
Concrete floor (stainless lined)	Cracks, gaps, deterioration, uneven settling, spills			
Concrete walls (stainless lined)	Cracks, gaps, deterioration, settlement			
Concrete floor (epoxy painted)	Cracks, gaps, deterioration, uneven settling, spills, paint			
Concrete walls(1)	Cracks, deterioration, settlement, paint			
Tank exteriors	Corrosion, erosion, leaks, cracks, gaps, discoloration, buckles, bulges			
Piping	Corrosion, erosion, leaks, cracks, gaps, loose or corroded connections			
Valves	Leaks (internal and external), corrosion			
Cell door	Deterioration, corrosion, will not close			
Pumps (if any)	Corrosion, erosion, leaks, deterioration, loose connections			
Filter unit exterior	Deterioration, corrosion, bulges, buckles, leaks			
Used HEPA filters	Corrosion, deterioration			

(1) The WL-161, Condensate, and Pump Pit Cells at INTEC-604 are known to have defects in the concrete walls above the stainless-steel liner. When these cells are inspected, compare the photos located in an album in the Waste Processing control room to the current condition. If no change is noted, write NO CHANGE in the Observations section. No remedial actions will be necessary. If additional deterioration is noted, write this observation down and forward to the facility support engineer for further evaluation. Remedial action for this observation will be evaluated and repairs completed, if warranted.

Form INTEC-9123
07/03/03
Rev. 0
Page 2 of 2

RCRA HLW CELL INSPECTIONS

Comments: ____

____

____

____

____

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments

Inspector's Name (Print): ______________________________

Inspector's Signature: ______________________________

Inspection Completed; Shift Supervisor's Signature: ______________________________

Remedial Actions Completed or Not Required; Shift Supervisor's Signature: ______________________________

Form INTEC-9124
07/03/03
Rev. 0
Page 1 of 2

RCRA HLW MONTHLY VOICE PAGING/EVACUATION SYSTEM INSPECTIONS

This data sheet is the current revision date per the current Form Index.

____
Signature / Date

Previous Inspection for this Facility Checked (Initials): ________________ Date: __________ Time: __________

The Open RCRA Remedial Tracking Book Index for this form has been compared to the previous month's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): ________

Facility(1): ______________________________

Inspection Performed: Voice Paging/Evacuation System Operational Yes/No(1)(2)

NOTE: *The Voice Paging System and the Evacuation System use the same speakers.*

(1) Areas that need to be inspected are:

Facility	Areas to Check
NWCF	All levels in the facility (including the Decon area)
Waste Side	Tank Farm, INTEC-604, LET&D, INTEC-641, INTEC-1683

(2) Although individual speakers may not be inspected, any speaker found not to be operating properly must be listed in the "Remedial Action" table below.

List items not operating properly (if any):

Item Not Operating Properly	Nature of any Repairs or Other Remedial Actions	Completion Date for Repairs/Remedial Actions

Comments: ____
____
____
____

Form INTEC-9124
07/03/03
Rev. 0
Page 2 of 2

RCRA HLW MONTHLY VOICE PAGING/EVACUATION SYSTEM INSPECTIONS

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments

Inspector's Name (Print): ______________________

Inspector's Signature: ______________________

Inspection Completed; Shift Supervisor's Signature: ______________________

Remedial Actions Completed or NOT Required;
Shift Supervisor's Signature: ______________________

APPENDIX F-2

CPP-604 Inspection Schedule

CPP-604 Example Inspection Schedule

Equipment Inspected	Types of Problems or Observations	Frequency	Inspecting Organization
MONITORING EQUIPMENT INSPECTION			
Panel-Mounted Instrumentation	Pens not inking, not operating, erratic readings	Daily	Shift Operations
Distributed Control System (DCS)	Internal automatic diagnostics	Daily	Shift Operations
FIRE PROTECTION SYSTEM INSPECTIONS			
Fire Sprinkler System	System Damage, Water Pressure, Leaks	Monthly	Life Safety Systems
Portable Fire Extinguishers	Physical Damage, Charge (if equipped), Accessibility and Sealed	Monthly	Shift Operations
EMERGENCY EQUIPMENT INSPECTIONS			
Safety Showers and Eyewashes	Supply Valve is Open, Accessibility, Check for Leaks	Monthly	Shift Operations
Spill Control Cabinets	Broken Seals, Inventory Equipment	Monthly	Shift Operations
Plant Voice Paging and Evacuation Alarm System	Operation, Coverage	Monthly	Shift Operations
Communication Devices	Operation at Each Building Level	Daily	Shift Operations
FACILITY INSPECTIONS			
Access Warning Signs	Missing, Damaged, or Obstructed Signs	Daily	Shift Operations
CPP-604 SYSTEM INSPECTIONS			
VES-WL-132, VES-WL-133 VES-WL-109, VES-WL-131 VES-WL-129, VES-WL-161 VES-WL-134, VES-WL-106 VES-WL-107, VES-WL-163 VES-WL-111, VES-WM-100 VES-WM-101, VES-WM-102 VES-WL-101, VES-WL-102 PWL tanks	Out of Spec Level	Daily	Shift Operations
Vault/Cell Sump Liquid Monitors	Alarm Condition	Daily	Shift Operations
Cell inspections	Per Form 4026	Initial Cell Entry	Shift Operations

APPENDIX F-3

CPP-641 Inspection Schedule

CPP-641 Example Inspection Schedule

Equipment Inspected	Types of Problems or Observations	Frequency	Inspecting Organization
MONITORING EQUIPMENT INSPECTION			
Local Instruments	Pens not inking, not operating, erratic readings	Once per shift	Shift operations
FIRE PROTECTION SYSTEM INSPECTION			
Portable fire Extinguisher	Charge (if equipped), Accessibility, Physical Damage, Sealed	Daily	Shift operations
EMERGENCY EQUIPMENT INSPECTIONS			
Plant voice paging and evacuation alarm system	Coverage, operations	Monthly	Shift operations
Communication Devices	Operation	Daily	Shift operations
FACILITY INSPECTION			
Access warning sign	Sign not in place, damaged or obstructed	Daily	Shift operations
VES-WL-103, VES-WL-104, VES-WL-105	Out of Spec Level	Daily	Shift operations
Vault/cell sump liquid monitor	Alarm conditions	Daily	Shift operations
Vault inspections	Per Form 4039	Initial Vault Entry	Shift Operations

APPENDIX F-4

CPP-601 Inspection Schedule

CPP-601 Example Inspection Schedule

Equipment Inspected	Types of Problems or Observations	Frequency	Inspecting Organization
MONITORING EQUIPMENT INSPECTION			
Local Instruments	Pens not inking, not operating, erratic readings	Daily	Shift operations
FIRE PROTECTION SYSTEM INSPECTION			
Portable fire Extinguisher	Charge (if equipped), Accessibility and sealed	Daily	Shift operations
EMERGENCY EQUIPMENT INSPECTIONS			
Plant voice paging and evacuation alarm system	Operation, Coverage	Monthly	Shift operations
Intercom System	Operation	Daily	Shift Operations
Communication Devices	Operation	Daily	Shift operations
FACILITY INSPECTION			
Access warning sign	Missing, damaged or obstructed	Daily	Shift operations

APPENDIX F-5

CPP-1618 Inspection Schedule

CPP-1618 Example Inspection Schedule

Equipment Inspected	Types of Problems or Observations	Frequency	Inspecting Organization
MONITORING EQUIPMENT INSPECTION			
Distributed Control System (DCS)	Internal automatic diagnostics	Daily	Shift Operations
FIRE PROTECTION SYSTEM INSPECTIONS			
Fire Sprinkler System	System Damage, Water Pressure, Leaks	Monthly	Life Safety Systems
Portable Fire Extinguishers	Physical Damage, Charge (if equipped), Accessibility and Sealed	Monthly	Shift Operations
EMERGENCY EQUIPMENT INSPECTIONS			
Safety Showers and Eyewashes	Supply Valve is Open, Accessibility, Check for Leaks	Monthly	Shift Operations
Spill Control Cabinets	Broken Seals, Inventory Equipment	Monthly	Shift Operations
Plant Voice Paging and Evacuation Alarm System	Operation, Coverage	Monthly	Shift Operations
Communication Devices	Operation at Each Building Level	Daily	Shift Operations
SECURITY INSPECTIONS			
Access control signs	Missing, Damaged or Obstructed Signs	Daily	Shift Operations
CPP-1618 SYSTEM INSPECTIONS			
VES-WLL-197, VES-WLL-195, VES-WLK-171, VES-WLL-170	Out of Spec Level	Daily	Shift Operations
Feed Solution	TOC, Aluminum:Fluoride Ratio	Each feed batch	Shift Operations
Cell inspections	Per Form 4026	Initial cell entry	Shift Operations
First, Second and Third Levels	Process liquid on the floor	Daily	Shift Operations
Cell Sump Liquid Monitors	Alarm Condition	Daily	Shift Operations
Leak Detection Bottles	Liquid in Bottle	Daily	Shift Operations

APPENDIX F-6

CPP-659 Annex Inspection Schedule

CPP-659 Example Inspection Schedule

Equipment Inspected	Types of Problems or Observations	Frequency	Inspecting Organization
MONITORING EQUIPMENT INSPECTION			
Distributed Control System (DCS)	Internal automatic diagnostics	Daily	Shift Operations
FIRE PROTECTION SYSTEM INSPECTIONS			
Fire Sprinkler System	System Damage, Water Pressure, Leaks	Monthly	Life Safety Systems
Portable Fire Extinguishers	Physical Damage, Charge (if equipped), Accessibility and Sealed	Monthly	Shift Operations
EMERGENCY EQUIPMENT INSPECTIONS			
Safety Showers and Eyewashes	Supply Valve is Open, Accessibility, Check for Leaks	Monthly	Shift Operations
Spill Control Cabinets	Broken Seals, Inventory Equipment	Monthly	Shift Operations
Plant Voice Paging and Evacuation Alarm System	Operation, Coverage	Monthly	Shift Operations
Communication Devices	Operation at Each Building Level	Daily	Shift Operations
SECURITY INSPECTIONS			
Access control signs	Missing, Damaged or Obstructed Signs	Daily	Shift Operations
CPP-659 ANNEX SYSTEM INSPECTIONS			
VES-NCR-171 VES-NCR-173	Out of Spec Level	Daily	Shift Operations
Vault/Cell Sump Liquid Monitors	Alarm Condition	Daily	Shift Operations

APPENDIX F-7

EDF-1747, Hydrodynamic and Structural Analysis of Flood Hazards at CPP-659
During a Peak Flow in the Big Lost River

Document ID: EDF-1747
Revision ID: 0

Engineering Design File

Hydrodynamic and Structural Analysis of Flood Hazards at CPP-659 During a Peak Flow in the Big Lost River

Prepared for:
U.S. Department of Energy
Idaho Operations Office
Idaho Falls, Idaho

INEEL
Idaho National Engineering & Environmental Laboratory
BECHTEL BWXT IDAHO, LLC

Form 412.14
10/05/99
Rev. 02

Hydrodynamic and Structural Analyses of Flood Hazards at CPP-659 During A Peak Flow in the Big Lost River

The following Engineering Design File (EDF) were prepared under the responsible charge of the Professional Engineer as indicated by the seal and signature provided on this page. The Professional Engineer is registered in the State of Idaho to practice Civil and Structural Engineering.

PROFESSIONAL ENGINEER
REGISTERED
4003
1/17/2001
STATE OF IDAHO
SCOTT ALAN JENSEN

431.02
06/29/2000
Rev. 07

ENGINEERING DESIGN FILE

Functional File No. ________
EDF No. 1747
Page 1 of 13

1. Project File No.: ____________ 2. Project/Task: CPP-659 Flood Hazard Analysis

3. Subtask: Hydrodynamic and Structural Analyses of Flood Hazards at CPP-659

4. Title: Hydrodynamic and Structural Analyses of Flood Hazards at CPP-659 During a Peak Flow in the Big Lost River

5. Summary: This summary briefly describes the problem to be addressed, gives a summary of the analyses performed in addressing the problem, and states the results, conclusions, and recommendations.

A study performed by the INEEL in 1986 estimated the flow volumes and water-surface elevations which occur during a peak flow in the Big Lost River at the INEEL. The INEEL study assumed that the 100-year peak flow and failure of Mackay Dam occur simultaneously, and estimated that the peak flow is equal to 28,500 ft^3/s at the diversion dam in the southwestern part of the INEEL. Building CPP-659—the New Waste Calcining Facility—lies within this hypothetical flood plain boundary based on the computed water elevation. The purpose of this analysis is to provide information to Idaho DEQ, in order to ensure compliance with RCRA regulations that require determination of hydrodynamic and hydrostatic forces expected to occur at the site and a description of flood protection devices at the facility and how these will prevent washout. The analysis consists of three parts: (1) A hydrodynamic analysis to compute the pressure exerted on the building by flood water; (2) A field investigation and structural analysis to determine whether the concrete foundation of CPP-659 can withstand the presence of flood water and to assess the likelihood of water infiltration; (3) A hydraulic analysis to examine the potential for sediment transport and erosion.

The results of this analysis lead to the following conclusions. Hydrostatic and hydrodynamic forces due to flood water above grade are negligible in comparison to lateral earth pressure. However, the weight of water in saturated soil considerably increases the lateral earth pressure. The lateral earth pressure of saturated soil was computed and shown to be 2 times larger than the pressure of dry soil. However, the strength of the below-grade retaining walls is adequate to support the increase in lateral earth pressure which may occur as a consequence of the flood postulated by the INEEL. Another major factor affecting the structural adequacy of the building is the method of construction, particularly the methods used to prevent water infiltration during a flood. A field investigation showed that construction of CPP-659 follows many of the methods described in the ACI Manual of Concrete Practice to assure a watertight structure. However, some minor water seepage was observed during the field investigation. Water accumulation is insignificant, which indicates that the rate of seepage is very low. Water that may seep into CPP-659 through pipe or utility penetrations is handled by flood protection devices that are designed to route water to the hot sump or valve cubicle so that water does not come into direct contact with waste piles or containerized hazardous wastes stored in the building. In particular, the flood protection devices are designed to preclude washout of hazardous waste from the building. Furthermore, a hydraulic analysis indicates that sediment transport and erosion at CPP-659 may occur. However, the likelihood of erosion is reduced by flood control devices that divert water to storage basins, asphalt and concrete that cover the gravel sediment found in the stream bed, and structures such as roads and buildings that slow and divert the flow.

6. Distribution (complete package): P. E. Murray, MS 3760; N. C. Hutten, MS 3428; S. A. Davies, MS 3650; S. A. Jensen, MS 3650; S. L. Austad, MS 3650
Distribution (summary package only): None

7. Review (R) and Approval (A) Signatures:

	R/A	Printed Name/Organization	Signature	Date
Author	R	P. E. Murray/6790	P. E. Murray	1/17/01
Reviewer	R	S. A. Jensen/6780	SA Jensen	1/17/2001
Project Manager	A	N. C. Hütten/7312	N. C. Hutten	1/17/2001
Project Engineer	R	S. A. Davies/6710	Stuart Davies	1/17/01
Engineering Supervisor	A	S. L. Austad/6780	SAustad	1/17/2001

Introduction

In 1986, the INEEL published a report containing calculated flow volumes and water-surface elevations which occur during a peak flow in the Big Lost River at the INEEL (1). The INEEL study included the assumption that the 100-year peak flow and failure of Mackay Dam occur simultaneously, and thereby estimated that the peak flow in the Big Lost River is equal to 28,500 ft^3/s at the INEEL diversion dam. However, there are conflicting scientific opinions regarding the magnitude of the 100-year peak flow in the Big Lost River, and the INEEL Natural Phenomena Hazards Committee is currently addressing this issue. Presently, the water surface profile associated with a 28,500 ft^3/s flow is considered to be an upper bound on potential flooding at the INEEL. The particular water surface profile obtained from the INEEL study is used as a basis for the present analysis.

In the INEEL study, 57,740 ft^3/s was estimated to occur at Mackay Dam. The flow is attenuated downstream, and the INEEL diversion dam located in the southwestern part of the INEEL was estimated to receive 28,500 ft^3/s. The diversion dam was assumed to be unable to retain that flow, and so a large part of the discharge flows onto the site. The remaining water was assumed to flow through the diversion channel and into spreading areas. A hydraulic model was used to compute the flow volumes and water elevations within a 18 mile reach downstream of the diversion dam. Building CPP-659—the New Waste Calcining Facility at INTEC—lies within the hypothetical flood plain boundary that is based on computed water elevations given in the 1986 INEEL report (1).

The purpose of this engineering analysis is to provide information to Idaho DEQ regarding the hydrodynamic and structural effects of a peak flow. This analysis is performed to ensure compliance with RCRA regulations (2) that require an "engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site as a consequence of a 100-year flood," and "structural or other engineering studies showing the design of operational units and flood protection devices at the facility and how these will prevent washout." In the RCRA regulations (2), the term "washout" is defined as "the movement of hazardous waste from the active portion of a facility as a result of flooding."

This analysis is performed to ensure compliance with the following specific requirements stemming from application for a RCRA permit for mixed hazardous waste treatment in CPP-659 and to address issues presented in the DEQ letter received 9/27/00 requesting this study:

1. A description of building CPP-659 construction parameters which prevent run-on to the units described in the Volume 18 Part B permit application;
2. A professional engineer (PE) certification that CPP-659 could withstand hydrodynamic or hydrostatic forces applied to the building as a result of the hypothetical 100-year flood event described in the 1986 INEEL report (1);
3. PE certification that the design of operational units and/or flood protection devices in CPP-659 are adequate to prevent washout;
4. A discussion of the controls within the building that provide protection against washout.

This analysis consists of three parts:

1. Hydrodynamic and hydrostatic analyses were used to compute the pressure exerted on the building by stationary and moving flood water;
2. A field investigation and structural analysis are used to determine whether the concrete foundation of CPP-659 can withstand the presence of flood water and to assess the likelihood of water infiltration;
3. A hydraulic analysis is used to examine the potential for erosion and washout of hazardous waste.

Background

Peak Flow Analysis

Koslow and Van Haaften (1) examined the consequences of a failure of Mackay Dam and performed a hydraulic analysis to determine the extent of the flood plain for several scenarios. Their analysis included a predicted 100-year flood and simultaneous piping failure at Mackay Dam, which leads to a breach of the dam, overtopping of the INEEL diversion dam, and flooding of the INEEL site. This scenario results in a peak flow released from the dam that was calculated to be 57,740 ft^3/s. This flow between Mackay Dam and the INEEL is attenuated by storage, agricultural diversion, and channel infiltration. The calculated flow at the INEEL diversion dam is 28,500 ft^3/s. Since the diversion dam is unable to retain the high flow, most of the flood water is assumed to flow onto the site.

Flow Routing Analysis

The peak flow estimated by Koslow and Van Haaften (1) was used in a flow routing analysis to determine the extent of the flood plain at the INEEL site. The geometry of the channel was determined from USGS topographical maps, and the Big Lost River stream bed was examined to determine surface roughness. The Bernoulli equation for ideal flow and the Manning relation for energy loss in open channels were used to compute the peak flow and water elevation at each cross-section. The INTEC site was surveyed by INEEL engineers to determine building and ground elevations. All vertical elevations are in reference to the National Geodetic Vertical Datum of 1929 (NGVD29). Of particular interest in this study is Building CPP-659 located at the INTEC facility. The leading edge of the flood wave is estimated to arrive at INTEC approximately 17.1 hours after breach of the dam. The peak flow is attenuated to 24,870 ft^3/s, and the peak water velocity is estimated to be 2.2 ft/s. Since the area surrounding INTEC is very flat, flood water will spread easily and so the flood plain is wide and shallow. The elevation of the stream bed is 4911 feet and the calculated water elevation is 4916 feet. The lowest ground elevation at CPP-659 is 4912.1 feet and occurs at the east side of the building. These results suggest that the depth of flood water may reach 4 feet at the building's foundation. Therefore, a water depth equal to 4 feet is used in the following hydrodynamic and hydrostatic analyses.

Koslow and Van Haaften (1) also performed an analysis to examine the potential for overland flooding due to localized heavy rain and snowmelt. It was found that localized flooding due to a 25-year peak rainfall and simultaneous snowmelt lead to a peak flow equal to 32 ft^3/s. This runoff can be accommodated by the drainage basin at INTEC and flood control devices such as culverts, dikes, and ditches. Meanwhile, flood water may collect in low-elevation areas at

INTEC. The following hydrodynamic and hydrostatic analyses of 4 feet of water at the foundation of CPP-659 may also be used to assess the effect of overland flooding due to localized precipitation.

Hydrostatic and Hydrodynamic Analyses

Hydrostatic Forces

The results of the INEEL study (1) were used to determine that the depth of flood water may reach 48 inches at the CPP-659 building foundation during a peak flow in the Big Lost River streambed adjacent to INTEC. At a depth of 48 inches, the hydrostatic pressure on the foundation is

$$P_{water} = \gamma_{water} \cdot d = 62.4 \frac{lb}{ft^3} \cdot 4\ ft = 249.6 \frac{lb}{ft^2},$$

where P_{water} is the hydrostatic pressure, γ_{water} is the weight of water, and d is the water depth. The resultant force per unit width of foundation is

$$F_{water} = \frac{1}{2} P_{water} \cdot d = 499.2 \frac{lb}{ft},$$

where F_{water} is the resultant force that occurs at a height above grade equal to $d/3$, as is shown in Fig. 1.

The lateral earth pressure of saturated soil includes the effect of water pressure and soil pressure. The at-rest earth pressure due to the weight of soil is

$$P_{soil} = K_o(\gamma_{sat} \cdot H - \gamma_{water} \cdot H) = 0.375 \cdot \left(135 \frac{lb}{ft^3} - 62.4 \frac{lb}{ft^3}\right) \cdot H = 27.2 \frac{lb}{ft^3} \cdot H,$$

where P_{soil} is the earth pressure, γ_{sat} is the weight of saturated soil, H is the soil depth, and K_o is the earth pressure coefficient. The at-rest earth pressure coefficient was obtained from the relation

$$K_o = 1 - \sin\phi,$$

where ϕ is the angle of internal friction which is equal to 43° according to the NWCF soils report (3). The weight of saturated soil at NWCF is assumed to be equal to the weight of dense, mixed-grain sand given by Peck et al (4). The resultant force per unit width is

$$F_{soil} = \frac{1}{2} P_{soil} \cdot H = 13.6 \frac{lb}{ft^3} \cdot H^2,$$

where F_{soil} is the resultant force that occurs at a height equal to $H/3$ from the base of the retaining wall. The hydrostatic pressure due to the presence of water is

ENGINEERING DESIGN FILE

$$P_{\text{wet soil}} = \gamma_{\text{water}} \cdot H = 62.4\frac{\text{lb}}{\text{ft}^3} \cdot H,$$

where $P_{\text{wet soil}}$ is the hydrostatic pressure. The resultant force per unit width of retaining wall is

$$F_{\text{wet soil}} = \frac{1}{2} P_{\text{wet soil}} \cdot H = 31.2\frac{\text{lb}}{\text{ft}^3} \cdot H^2,$$

where $F_{\text{wet soil}}$ is the resultant force that occurs at a height equal to $H/3$ from the base of the retaining wall. The total resultant force per unit width of retaining wall is

$$F_{\text{total}} = F_{\text{soil}} + F_{\text{wet soil}} = 44.8\frac{\text{lb}}{\text{ft}^3} \cdot H^2,$$

where F_{total} is the total resultant force that occurs at a height equal to $H/3$ from the base of the retaining wall, as is shown in Fig. 1.

In the case of dry soil, the resultant force per unit width of retaining wall is

$$F_{\text{dry soil}} = \frac{1}{2} \cdot K_o \cdot \gamma_{\text{dry}} \cdot H^2 = \frac{1}{2} \cdot 0.375 \cdot 118\frac{\text{lb}}{\text{ft}^3} \cdot H^2 = 22.1\frac{\text{lb}}{\text{ft}^3} \cdot H^2.$$

The density of dry soil is given in the NWCF soils report (3).

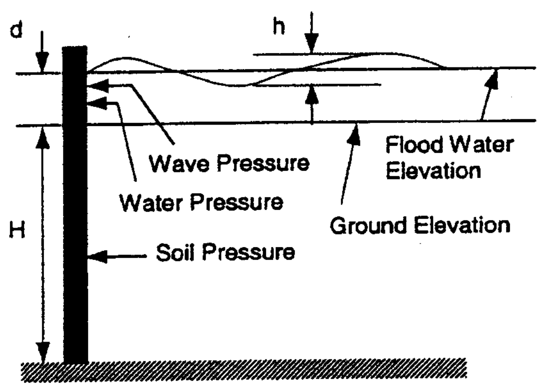


Fig. 1. Various forces acting on a retaining wall during a flood.

Hydrodynamic Forces

The force of moving flood water is calculated by considering the impact of shallow water waves caused by a high wind. A graph that shows the relation between wind velocity, water depth, wave height, and wave period is given in Fig. 10-16 on page 10-36 in Brater and King (5). Assuming a wind velocity equal to 60 mph and a water depth equal to 4 feet, the graph shows that the wave height is 2.0 feet and the wave period is 3.4 seconds. The relation between wave period and wavelength of shallow water waves is

$$\frac{L}{T} = \sqrt{g \cdot d},$$

where L is the wavelength, T is the wave period, d is the water depth, and g is the gravitational acceleration. Assuming a water depth equal to 4 feet and a wave period equal to 3.4 seconds, the wavelength is

$$L = T\sqrt{g \cdot d} = 3.4\,\text{s}\sqrt{32.2\frac{\text{ft}}{\text{s}^2} \cdot 4\,\text{ft}} = 38.6\,\text{ft},$$

and the wave velocity is

$$\frac{L}{T} = \frac{38.6\,\text{ft}}{3.4\,\text{s}} = 11.35\frac{\text{ft}}{\text{s}}.$$

In comparison, the velocity of flood water as estimated by Koslow and Van Haaften (1) is 2.2 ft/sec. Therefore, the velocity of moving flood water is small in comparison to the velocity of wind-generated waves.

The resultant force per unit width of retaining wall, which is caused by wind-generated waves, is calculated from an empirical relation described on page 10-41 in Brater and King (5). Assuming a wave height equal to 2.0 feet, the pressure exerted by the wave is

$$P_{wave} = \gamma_{water} \cdot h = 62.4\frac{\text{lb}}{\text{ft}^3} \cdot 2.0\,\text{ft} = 124.8\frac{\text{lb}}{\text{ft}^2}.$$

According to Fig. 10-21 on page 10-42 in Brater and King (5), the pressure distribution is uniform from the ground to the still-water height, and hydrostatic from the still-water height to a height above still water equal to $1.66 \cdot h$. Assuming a water depth equal to 4 feet, the force of the wave is

$$F_{wave} = P_{wave}\left(d + 0.5 \cdot 1.66 \cdot h\right) = 124.8\frac{\text{lb}}{\text{ft}^2}\left(4\,\text{ft} + 0.5 \cdot 1.66 \cdot 2.0\,\text{ft}\right) = 706.4\frac{\text{lb}}{\text{ft}},$$

and occurs at a height above grade equal to 2.9 feet, as is shown in Fig. 1.

The results of these calculations show that the hydrostatic and hydrodynamic forces are small in comparison to the lateral earth pressure. Furthermore, hydrostatic and hydrodynamic forces have a negligible effect on the overturning moment. However, a substantial increase in the earth pressure occurs when the soil becomes saturated—the dry soil force is equal to $22.1 \cdot H^2$ lb/ft and the saturated soil force is equal to $44.8 \cdot H^2$ lb/ft. Since the topmost 40 feet of soil at the NWCF is mostly sandy gravel that is dry and permeable (3), the assumption of saturated soil may be very conservative. Therefore, the calculated earth pressure is an upper bound on the actual earth pressure that would occur during a flood.

Structural Analysis

The second and third levels of CPP-659 are below grade and contain an inner cell structure encased in a 4 feet thick shielded concrete wall. The cell structure is surrounded by corridors and various utility rooms. The retaining walls on the second and third levels support gravel backfill and are 1 1/3 to 2 feet thick concrete. The first level is 3 feet above grade and contains a maintenance area leading to the cell structure and an outer office area built on gravel backfill. The exterior retaining wall supporting the first level is 1 1/6 feet thick concrete.

The structural features of the concrete foundation at CPP-659 were examined during a field investigation. The following features were examined: footing and foundation structures; type of concrete used during construction; soil grading and drainage systems; exterior wall construction, including joints and the method of sealing penetrations; openings such as doorways that enable water to easily infiltrate; the use of water stops and sealant to prevent water infiltration; and the occurrence of water seeping through cracks and penetrations. The ACI Manual of Standard Practices (6) provides guidance on construction of watertight concrete structures. The result of the field investigation shows that construction of the NWCF follows many of these standard practices, though some minor water seepage was observed.

The following list of construction practices were used to assure a watertight foundation and to provide adequate drainage during a flood.

(1) The retaining walls that support lateral earth pressure were made using high-density, low-permeability concrete.

(2) Soil surrounding the foundation is graded to slope away from the building.

(3) All joints are fitted with carbon steel water stops to prevent water infiltration.

(4) The first level is at an elevation higher than the flood water elevation.

(5) Visible cracks in the above-grade, exterior concrete foundation were not observed.

(6) Water entering the building drains to the hot sump tank located below the third level.

The following list of observations suggest the potential for water infiltration during a flood, particularly seepage caused by water infiltration through pipe penetrations and other openings. The field study investigated the potential for water infiltration through the utility piping tunnel, tank farm waste pipe, concrete hatches, doorways and other openings.

(1) All the INTEC utility piping is carried in an underground tunnel that sometimes contains water because the tunnel has manholes that provide an opening for runoff. Despite the presence of level alarms and a pump in the utility tunnel, the water in the utility tunnel occasionally seeps into the utility corridor located at the second level of CPP-659. Seepage occurs through pipe penetrations into the utility corridor. Seeping water is collected by a floor drain in the utility corridor and flows into VES-NCC-122—the non-fluoride hot sump tank. This tank has a maximum capacity of 4300 gallons and is equipped with level monitoring and control equipment. If seeping water enters the building as a result of a prolonged flood event, VES-NCC-122 can be sampled and its contents transferred to VES-

WL-133—the Process Equipment Waste Evaporator (PEWE) feed tank. The contents of tank VES-NCC-122 can also be transferred to VES-NCC-119—the fluoride hot sump tank—or the Tank Farm Facility if the PEWE cannot accept the liquid. Water is transferred through steam jets that have a capacity equal to 20 gal/min each.

(2) A 3 inch stainless steel pipe carrying waste from the tank farm is the only pipe that penetrates the inner cell structure. This pipe is encased in a larger pipe that is well sealed, and water infiltration through the pipe penetration has not been observed. If flood water enters the building at this location, the flood protection devices are designed to route water to a sump in the valve cubicle which is equipped with leak detection devices. From this sump the water may be pumped to a variety of other tanks, such as VES-NCC-119, VES-NCD-123, and VES-NCD-129. These tanks are equipped with level monitors and overflow alarms.

(3) Concrete hatches located in the maintenance area at the first level lead to the cell structure. These hatches are not watertight, but flood water will not reach the maintenance area since the first level is at an elevation equal to 4917 feet, which is 1 foot higher than the flood level.

(4) The lowest elevation of an entry into the building is a doorway on the north side, which is at an elevation equal to 4914.3 feet. This is 1.7 feet less than the flood water elevation. The doorway leads to the first level, which is at an elevation equal to 4917 feet. The exterior retaining wall at this doorway is located 20 feet from the closest retaining wall on the second and third levels. If a person enters the exterior door at the north side of CPP-659, he must walk up steps to an elevation of 4917 feet to reach the first level, and then walk 20 feet toward the center of the building to be above the second level. Therefore, water entering the exterior doorway may only infiltrate the gravel backfill underneath because there is no path for water to infiltrate the levels below grade.

Another important consideration is the ability of the retaining walls to withstand lateral earth pressure. In the section on hydrodynamic analysis, the at-rest lateral earth pressure of saturated soil was computed and shown to be 2 times larger than the pressure of dry soil. This particular flood hazard affects all below-grade retaining walls that support backfill. The structural design of the second and third levels of CPP-659 is complex, and the concrete retaining walls have a variable height, width, and thickness. Surcharge loads are present in addition to lateral earth pressure. Furthermore, the strength of reinforced concrete depends on the exact size, number, and placement of the steel bars. Therefore, a thorough assessment of the effect of soil saturation on the stress in retaining walls is a complex structural analysis that is beyond the scope of this study. However, the following simple calculation demonstrates that the strength of the below-grade retaining walls are more than adequate to support the increase in lateral earth pressure which may occur as a consequence of a flood.

The building structure consists of two levels below grade, and the height of each level is 17 feet. The first level is 3 feet above grade. Therefore, the depth of soil at the base of the first level retaining wall is 14 feet. Consider a concrete beam fixed at both ends and acted on by a distributed force, as is shown in Fig. 2. This particular beam loading represents the lateral earth pressure acting on a section of retaining wall, and leads to a conservative estimate of the shear force and the bending moment. To examine the loading on the weakest section of retaining wall, assume that the length of the beam is equal to 8 feet—the maximum spacing between supports—

and the thickness of the beam is equal to 16 inches—the minimum thickness of the foundation walls. Using the results calculated previously in the section entitled *Hydrostatic Forces*, the force per unit area of beam is equal to

$$P = P_{soil} + P_{wet\ soil} = 27.2\frac{lb}{ft^3} \cdot H + 62.4\frac{lb}{ft^3} \cdot H = 89.6 \cdot H\, lb/ft^2,$$

where H is measured in feet. At the base of the beam where H is equal to 14 feet, the pressure is equal to $1250\, lb/ft^2$. To examine the maximum loading on the beam, assume that this pressure is uniformly distributed on the entire length of the beam.

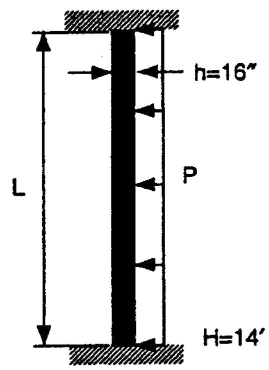


Fig. 2. Lateral earth pressure acting on a retaining wall.

The maximum shear force and bending moment occurs at the ends of the beam, and are obtained from the following formulas found in ACI 318 (7):

$$M = \frac{P L^2}{12} = 6690\frac{ft - lbs}{ft},$$

$$V = \frac{P L}{2} = 5020\frac{lbs}{ft}.$$

The actual force and moment are multiplied by a load factor equal to 1.7, as specified in ACI 318 (7), to give $M_u = 11{,}400\, lb\, ft$ and $V_u = 8{,}500\, lb$ per 1 foot width of beam.

To compute the allowable shear and moment capacity of the concrete beam, assume the minimum required reinforcement according to ACI 318-77 (7), which was the building code for reinforced concrete at the time the NWCF was built. For reinforcement with a yield strength equal to 40,000 psi, assume #4 bar spaced 8 inches center to center, and assume top and bottom covers equal to 1 inch. This meets the requirements that the area of vertical reinforcement shall not be less than 0.0015 times the wall area and the reinforcement layers shall not be placed more than 1/3 the wall thickness from the surface, as described in Sections 14.2.11 and 14.2.12 of ACI 318 (7). Furthermore, the concrete is assumed to have a compressive strength equal to 4000 psi.

The computation of moment and shear capacity are based on ACI 318 (7) and the CRSI Design Handbook (8). The shear capacity is obtained from Section 11.3.1.1 of ACI 318 (7):

$$V_c = 0.85\, 2\sqrt{f_c'}\, b\, d\,,$$

where f_c' is the compressive strength of concrete, b is the width of the beam, and d is the distance from the extreme compression fiber to the centroid of the tension reinforcement. The moment capacity for a single layer of tension reinforcement is obtained from page 5-7 in the CRSI Design Handbook (8):

$$M_n = 0.90\, A_s\, f_y\, (d - a/2)\,,$$

where A_s is the area of tension reinforcement, f_y is the yield strength of the reinforcement, and a is the depth of the concrete compression block which is obtained from a balance of concrete compression and bar tension:

$$A_s\, f_y = 0.85\, f_c'\, b\, a\,.$$

The moment capacity and shear capacity for the concrete beam are $M_n = 13{,}100$ lb ft and $V_c = 19{,}000$ lb per 1 foot width of beam, which are larger than the factored moment and shear computed above. In fact, the retaining walls at the NWCF are stronger than this simple example indicates, owing to the presence of intersecting walls, columns, and slabs anchored to each section of retaining wall.

Hydraulic Analysis

Transport of sediment caused by moving flood water may lead to erosion of the stream bed. The type of soil needs to be known to assess the potential for erosion. A previous study (3) found that the topmost 40 feet of soil at the NWCF is mostly sandy gravel and some silt. Below the topmost layer is a 0 to 10 feet intermediate layer of clay soil containing silt and sand, and below the intermediate layer is basalt bedrock. A sieve analysis performed on the topmost layer of soil showed that the 75th percentile of the particle diameter distribution is approximately equal to 0.4 inches to 0.8 inches (3), which means that 75% of the particles by weight are that size or finer. In the case of a non-cohesive soil with a particle diameter larger than approximately 0.05 inches, the critical shear stress for sediment transport may be obtained from the following relation given on page 7-26 in Brater and King (5):

$$\tau_{critical} = 0.4 \cdot D\,,$$

where D is the 75th percentile of the particle diameter distribution measured in inches, and the critical shear stress is measured in lb/ft^2. Assuming a particle diameter equal to 0.6 inches,

$$\tau_{critical} = 0.4 \cdot 0.6\ \text{in} = 0.24 \frac{\text{lb}}{\text{ft}^2}\,.$$

The shear stress due to uniform flow of water in a channel having a small slope may be obtained from the following relation given on page 7-25 in Brater and King (5):

$$\tau = \gamma_{water} \cdot d \cdot s,$$

where d is the water depth and s is the channel slope. In the Big Lost River stream bed near INTEC, the channel slope is approximately equal to 16 feet per mile. Since the flood water depth at CPP-659 is approximately equal to 4 feet, the shear stress due to moving flood water near the building is

$$\tau = 62.4 \frac{lb}{ft^3} \cdot 4\,ft \cdot \frac{16}{5280} = 0.76 \frac{lb}{ft^2}.$$

Since $\tau > \tau_{critical}$, compute the particle size needed to resist erosion. Assuming a particle diameter equal to 2.0 inches,

$$\tau_{critical} = 0.4 \cdot 2.0\,in = 0.80 \frac{lb}{ft^2}.$$

Therefore, erosion of sand and rock with a diameter smaller than 2 inches may occur. However, the likelihood of erosion is greatly reduced because much of the sandy gravel sediment found in the stream bed has been covered with asphalt and concrete at INTEC. Furthermore, the likelihood of erosion is reduced by the presence of flood control devices that divert water to storage basins and structures such as roads and buildings that slow and divert the flow. Since the main foundations are deep and the gravel has some larger rock, erosion of the soil is not likely to cause damage to critical structural components.

Conclusions

An engineering analysis was used to calculate the various hydrodynamic and hydrostatic forces expected to result at Building CPP-659 as a consequence of a 100-year flood coinciding with a failure of Mackay Dam. A structural study was used to describe the design of CPP-659 and its flood protection devices and how these will prevent washout of hazardous waste. Specific details are given below.

An engineering analysis was used to determine whether CPP-659 can withstand a peak flow in the Big Lost River adjacent to INTEC. Hydrostatic and hydrodynamic forces due to flood water above grade are negligible in comparison to lateral earth pressure, but the weight of water in saturated soil considerably increases the lateral earth pressure. In fact, the lateral earth pressure of saturated soil was computed and shown to be 2 times larger than the pressure of dry soil. However, the strength of the below-grade retaining walls is adequate to support the increase in lateral earth pressure which may occur as a consequence of a flood.

Another major factor affecting the structural adequacy of the building is the method of construction, particularly the methods used to prevent water infiltration during a flood. A field investigation showed that construction of the NWCF follows many of the methods described in the ACI Standard Practices to assure a watertight structure. Furthermore, the field investigation examined the potential for water infiltration through the utility piping tunnel, tank farm waste pipe, concrete hatches, doorways and other openings. The first level of CPP-659 contains a pathway for water to enter the concrete hatches in the maintenance area. Since the elevation of the first level is one foot above the elevation of the hypothetical 100-year flood, water entry through these openings will not occur. However, some minor water seepage from a below-grade utility tunnel was observed during the field investigation. The rate of water seepage is very low and water accumulation is insignificant. Water that may seep into CPP-659 through pipe or utility penetrations is handled by flood protection devices that are designed to route water to the hot sump tank so that water does not come into direct contact with waste piles or containerized hazardous wastes. In particular, the flood protection devices are designed to preclude "washout" or movement of hazardous waste from the building as a result of flooding.

Another issue concerns the potential for erosion and sediment transport. The shear stress of moving flood water near CPP-659 is larger than the critical shear stress needed to cause sediment transport, and so erosion at CPP-659 may occur. However, the likelihood of erosion is greatly reduced because much of the sandy gravel sediment found in the stream bed has been covered with asphalt and concrete at INTEC. Furthermore, the likelihood of erosion is reduced by the presence of flood control devices that divert water to storage basins and structures such as roads and buildings that slow and divert the flow. Since the main foundations are deep and the gravel has some larger rock, erosion of the soil is not likely to cause damage to critical structural components.

References

1. K. N. Koslow and D. H. Van Haaften, *Flood Routing Analysis for a Failure of Mackay Dam*, EGG-EP-7184, June, 1986.
2. *Code of Federal Regulations*, 40 CFR Ch. 1, Sect. 270.14(b), Para. 11(iv) A, August 1, 2000.
3. *Soil and Foundation Investigation, Proposed New Waste Calcining Facility*, Prepared for The Energy Research and Development Administration, Fluor Contract No. 453504, Dames and Moore, 1976.
4. R. B. Peck, W. E. Hanson, and T. H. Thornburn, *Foundation Engineering*, 2nd Edition, John Wiley & Sons, NY, 1974.
5. E. F. Brater and H. W. King, *Handbook of Hydraulics*, 6th Edition, McGraw-Hill, NY, 1976.
6. *Environmental Engineering Concrete Structures*, ACI 350.2R-97, American Concrete Institute, 2000.
7. *Building Code Requirements for Reinforced Concrete*, ACI 318-77, American Concrete Institute, 1978.
8. *CRSI Design Handbook*, 3rd Edition, Concrete Reinforcing Steel Institute, 1978.

APPENDIX F-8

EDF-2613, Hydrodynamic and Structural Analyses of Flood Hazards at the PEWE and LET&D Buildings During a Peak Flow in the Big Lost River

Document ID: EDF-2613
Revision ID: 0

Engineering Design File

Hydrodynamic and Structural Analysis of Flood Hazards at the PEWE and LET&D Buildings During a Peak Flow in the Big Lost River

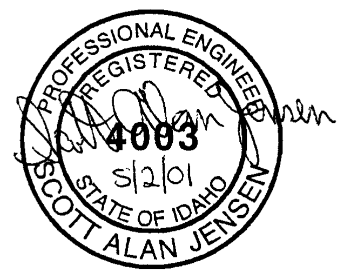
Prepared for:
U.S. Department of Energy
Idaho Operations Office
Idaho Falls, Idaho

INEEL
Idaho National Engineering & Environmental Laboratory
BECHTEL BWXT IDAHO, LLC

Form 412.14
10/05/99
Rev. 02

Hydrodynamic and Structural Analyses of Flood Hazards at the PEWE and LET&D Buildings During a Peak Flow in the Big Lost River

The following Engineering Design File (EDF) was prepared under the responsible charge of the Professional Engineer as indicated by the seal and signature provided on this page. The Professional Engineer is registered in the State of Idaho to practice Civil and Structural Engineering.



431.02
06/29/2000
Rev. 07

ENGINEERING DESIGN FILE

Functional File No. ________
EDF No. 2613
Page 1 of 14

1. Project File No.: ____________ 2. Project/Task: INTEC Flood Hazard Analysis

3. Subtask: Hydrodynamic and Structural Analyses of Flood Hazards at INTEC

4. Title: Hydrodynamic and Structural Analyses of Flood Hazards at the PEWE and LET&D Buildings During a Peak Flow in the Big Lost River

5. Summary: This summary briefly describes the problem to be addressed, gives a summary of the analyses performed in addressing the problem, and states the results, conclusions, and recommendations.

A study performed by the INEEL in 1986 estimated the flow volumes and water-surface elevations which would occur during a peak flow in the Big Lost River at the INEEL. This study assumed that the 100-year peak flow and failure of Mackay Dam occur simultaneously, which leads to a conservative estimate of the floodplain. The PEWE (CPP-604, CPP-605) and LET&D (CPP-1618) buildings lie within this flood plain boundary based on the computed water elevation. The purpose of this analysis is to provide information to Idaho DEQ, in order to ensure compliance with RCRA regulations that require determination of hydrodynamic and hydrostatic forces expected to occur at the site and a description of flood protection devices at the facility and how these will prevent washout. The analysis consists of three parts:

(1) A hydrostatic analysis was used to compute the pressure exerted on the building by stationary flood water and saturated soil.
(2) A hydrodynamic analysis was used to compute the pressure exerted on the building by moving flood water caused by wind-generated water waves.
(3) A structural analysis was used to determine whether the concrete foundation of the buildings can withstand the presence of flood water and to assess the extent of water infiltration.

The results of this analysis lead to the following conclusions:

(1) The most important feature of the building construction is whether the first level finished floor elevation is higher than the flood water elevation. Only CPP-1618 meets this requirement, but with a contingency. For CPP-1618, the elevation of wind-generated water waves is higher than the first level floor elevation, and so a barrier is needed to stop waves splashing onto the doorways. For CPP-604 and CPP-605, the flood water elevation is higher than the first level floor elevation, and so additional flood protection devices are needed to prevent water infiltration.
(2) The construction of the buildings follows many of the standard practices used to assure a watertight foundation and to provide adequate drainage during a flood, though some minor water seepage currently occurs through pipe penetrations at CPP-604. Water entering the tank vault and pump pit drains to a sump and is transferred by steam jets to the evaporator feed tank. The jets have enough capacity to transfer the maximum seepage rate expected to occur during a flood.
(3) An important consideration in regard to flood protection is the ability of the retaining walls to withstand lateral earth pressure and water pressure. The exterior retaining walls of the CPP-604 and CPP-605 buildings are considerably stronger with regard to hydrodynamic and hydrostatic forces than are those of the CPP-1618 building. Therefore, for the purposes of this study, information on the strength of the building CPP-1618 retaining wall is provided to represent the minimum wall strength of all three buildings. A structural analysis of the CPP-1618 retaining wall demonstrates that the building can withstand hydrostatic forces caused by the maximum credible flooding event in the Big Lost River on the INEEL.

6. Distribution (complete package): P. E. Murray, MS 3760; N. C. Hutten, MS 3428; S. A. Davies, MS 3650; S. A. Jensen, MS 3650; S. L. Austad, MS 3650

7. Review (R) and Approval (A) Signatures:
(Minimum reviews and approvals are listed. Additional reviews/approvals may be added.)

	R/A	Printed Name/Organization	Signature	Date
Author	R	P. E. Murray/6790	P. E. Murray	5/23/01
Checker	R	S. A. Jensen /6780	SA Jensen	5/23/01
Project Engineer	A	S. A. Davies /6710	[illegible]	5/23/01
Project Manager	A	N. C. Hutten/7312	Neil C. Hutten	5/24/01
Engineering Supervisor	A	S. L. Austad/6780	SAustad	5/23/01

Introduction

In 1986, the INEEL published a report containing calculated flow volumes and water-surface elevations which would occur during a peak flow in the Big Lost River at the INEEL (1). The INEEL study included the assumption that the 100-year peak flow and failure of Mackay Dam occur simultaneously, and thereby estimated that the peak flow in the Big Lost River is equal to 28,500 ft^3/s at the INEEL diversion dam. However, there are conflicting scientific opinions regarding the magnitude of the 100-year peak flow in the Big Lost River, and the INEEL Natural Phenomena Hazards Committee is currently addressing this issue. Presently, the water surface profile associated with a 28,500 ft^3/s flow is considered to be an upper bound on potential flooding at the INEEL. The particular water surface profile obtained from the INEEL study is used as a basis for the present analysis.

In the INEEL study, 57,740 ft^3/s was estimated to occur at Mackay Dam. The flow is attenuated downstream, and the INEEL diversion dam located in the southwestern part of the INEEL was estimated to receive 28,500 ft^3/s. The diversion dam was assumed to be unable to retain that flow, and so a large part of the discharge flows onto the site. The remaining water was assumed to flow through the diversion channel and into spreading areas. A hydraulic model was used to compute the flow volumes and water elevations within a 18 mile reach downstream of the diversion dam. Several RCRA-regulated buildings lie within the maximum credible flood plain boundary that is based on computed water elevations given in the 1986 INEEL report (1).

The purpose of this engineering analysis is to provide information to Idaho DEQ regarding the hydrodynamic and structural effects of a peak flow. This analysis is performed to ensure compliance with RCRA regulations (2) that require an "engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site as a consequence of a 100-year flood," and "structural or other engineering studies showing the design of operational units and flood protection devices at the facility and how these will prevent washout." In the RCRA regulations (2), the term "washout" is defined as "the movement of hazardous waste from the active portion of a facility as a result of flooding."

This analysis is performed to ensure compliance with the following specific requirements stemming from application for a RCRA permit for mixed hazardous waste treatment in the Process Equipment Waste Evaporator (PEWE) and Liquid Effluent Treatment and Disposal (LET&D) facilities:

1. A description of building construction parameters which prevent water infiltration into the units described in the RCRA Volume 14 Part B permit application;
2. A professional engineer (PE) certification that the buildings could withstand hydrodynamic and hydrostatic forces as a result of the flood event described in the 1986 INEEL report (1);
3. PE certification that the design of operational units and/or flood protection devices in the buildings are adequate to prevent washout;
4. A discussion of the controls within the buildings that provide protection against washout.

This analysis consists of three parts:

1. A hydrostatic analysis was used to compute the pressure exerted on the building by stationary flood water and saturated soil;

2. A hydrodynamic analysis was used to compute the pressure exerted on the building by moving flood water generated by a 60 mph wind;
3. A structural analysis was used to determine whether the concrete foundation of the buildings can withstand the presence of flood water and to assess the extent of water infiltration.

Background

Peak Flow Analysis

Koslow and Van Haaften (1) examined the consequences of a failure of Mackay Dam and performed a hydraulic analysis to determine the extent of the flood plain for several scenarios. Their analysis included a predicted 100-year flood and simultaneous piping failure at Mackay Dam, which leads to a breach of the dam, overtopping of the INEEL diversion dam, and flooding of the INEEL site. This scenario results in a peak flow released from the dam that was calculated to be 57,740 ft^3/s. This flow between Mackay Dam and the INEEL is attenuated by storage, agricultural diversion, and channel infiltration. The calculated flow at the INEEL diversion dam is 28,500 ft^3/s. Since the diversion dam is unable to retain the high flow, most of the flood water is assumed to flow onto the site.

Flow Routing Analysis

The peak flow estimated by Koslow and Van Haaften (1) was used in a flow routing analysis to determine the extent of the flood plain at the INEEL site. The geometry of the channel was determined from USGS topographical maps, and the Big Lost River stream bed was examined to determine surface roughness. The Bernoulli equation for ideal flow and the Manning relation for energy loss in open channels were used to compute the peak flow and water elevation at each cross-section. All vertical elevations are in reference to the National Geodetic Vertical Datum of 1929 (NGVD29). Of particular interest in this study are the RCRA-regulated buildings located at the INTEC facility. The leading edge of the flood wave is estimated to arrive at INTEC approximately 17.1 hours after breach of the dam. The peak flow is attenuated to 24,870 ft^3/s, and the peak water velocity is estimated to be 2.2 ft/s. Since the area surrounding INTEC is very flat, flood water will spread easily and so the flood plain is wide and shallow. The elevation of the stream bed in the vicinity of INTEC is 4911 feet and the corresponding calculated water elevation is 4916 feet. The ground elevation at INTEC varies from 4912 ft to 4914 ft. These results suggest that the depth of flood water may reach 4 feet at some locations. Therefore, a maximum water depth equal to 4 feet is used in the following hydrodynamic and hydrostatic analyses.

Koslow and Van Haaften (1) also performed an analysis to examine the potential for overland flooding due to localized heavy rain and snowmelt. It was found that localized flooding due to a 25-year peak rainfall and simultaneous snowmelt lead to a peak flow equal to 32 ft^3/s. This runoff can be accommodated by the drainage basin at INTEC and flood control devices such as culverts, dikes, and ditches. Meanwhile, flood water may collect in low-elevation areas at INTEC. The following hydrodynamic and hydrostatic analyses may also be used to assess the effect of overland flooding due to localized precipitation.

Description of Buildings

The following structures comprise the PEWE and LET&D facilities and have been analyzed for flood hazards:

CPP-604 Process Equipment Waste Evaporator (PEWE) Building

CPP-605 Atmospheric Protection System Fan Building (attached to PEWE)

CPP-1618 Liquid Effluent Treatment and Disposal (LET&D) Building

An important consideration is the first level finished floor elevation, which must be above the flood water elevation in order to prevent infiltration of water through unsealed doorways and other openings. Vertical elevations are currently measured in reference to the National Geodetic Vertical Datum of 1929 (NGVD29). The first level finished floor elevations, as shown on the as-built drawings, are listed in Table 1. The PEWE buildings were constructed in the 1950s, and the datum used then was not NGVD29. Therefore, the INTEC site was recently surveyed by INEEL engineers to determine building and ground elevations using NGVD29. These results are also listed in Table 1. The recent elevation measurements using NGVD29 are approximately one foot less than the elevation shown on the as-built drawings. Note that the PEWE buildings (CPP-604 and CPP-605) are connected and are essentially one building.

Table 1. Building elevations in feet above sea level.

Building	First Level Floor Elevation (shown on as-built drawing)	First Level Floor Elevation (in reference to NGVD29)
CPP-604	4913	4912.0
CPP-605	4913	4912.0
CPP-1618	4917	4916.1

The first level finished floor elevations of CPP-604 and CPP-605 are below the hypothetical flood water elevation. In this case, flood water may infiltrate through exterior doorways and enter the cells. Therefore, additional flood protection devices are needed to prevent washout of hazardous waste in the event of a flood.

Hydrostatic and Hydrodynamic Analyses

In this section, hydrostatic and hydrodynamic analyses will be used to compute the pressure exerted on a building foundation by stationary flood water, saturated soil, and wind-generated water waves.

Hydrostatic Forces

The lateral earth pressure of saturated soil includes the effect of water pressure and soil pressure. Using the method described in Section 2.4 in Peck et al (3), the at-rest earth pressure due to the weight of soil is

$$P_{soil} = K_o(\gamma_{sat} \cdot H - \gamma_{water} \cdot H) = 0.375 \cdot \left(135\frac{lb}{ft^3} - 62.4\frac{lb}{ft^3}\right) \cdot H = 27.2\frac{lb}{ft^3} \cdot H,$$

where P_{soil} is the earth pressure, γ_{sat} is the weight of saturated soil, γ_{water} is the weight of water, H is the soil depth, and K_o is the at-rest earth pressure coefficient. The earth pressure coefficient is obtained from the relation

$$K_o = 1 - \sin\phi,$$

where ϕ is the angle of internal friction which is equal to 43^o according to the INEEL soils report (4). The weight of saturated soil at the INEEL is assumed to be equal to the weight of saturated, dense, mixed-grain sand, as is given in Table 1.4 in Peck et al (3). The resultant force per unit width of retaining wall is

$$F_{soil} = \frac{1}{2} P_{soil} \cdot H = 13.6 \frac{lb}{ft^3} \cdot H^2,$$

where F_{soil} is the resultant force that occurs at a height equal to $H/3$ from the base of the retaining wall, as is shown in Fig. 1. The hydrostatic pressure due to the presence of water is

$$P_{water} = \gamma_{water} \cdot (H + d) = 62.4 \frac{lb}{ft^3} \cdot (H + d),$$

where P_{water} is the hydrostatic pressure, and d is the water depth. The resultant force per unit width of retaining wall is

$$F_{water} = \frac{1}{2} P_{water} \cdot (H + d) = 31.2 \frac{lb}{ft^3} \cdot (H + d)^2,$$

where F_{water} is the resultant force that occurs at a height equal to $(H + d)/3$ from the base of the retaining wall, as is shown in Fig. 1. The total resultant force per unit width of retaining wall is

$$F_{total} = F_{soil} + F_{water} = 44.8 \frac{lb}{ft^3} \cdot H^2 + 31.2 \frac{lb}{ft^3} \left(2 \cdot H \cdot d + d^2\right),$$

where F_{total} is the total resultant force that includes the weight of soil and water.

In the case of saturated soil and a water depth equal to zero, the resultant force per unit width of retaining wall is obtained from the preceding equation by setting $d = 0$:

$$F_{sat\ soil} = 44.8 \frac{lb}{ft^3} \cdot H^2.$$

In the case of dry soil, the resultant force per unit width of retaining wall is

$$F_{dry\ soil} = \frac{1}{2} \cdot K_o \cdot \gamma_{dry} \cdot H^2 = \frac{1}{2} \cdot 0.375 \cdot 118 \frac{lb}{ft^3} \cdot H^2 = 22.1 \frac{lb}{ft^3} \cdot H^2.$$

The density of dry soil is given in the INEEL soils report (4). These results show that a substantial increase in lateral earth pressure occurs when the soil becomes saturated. In fact, the at-rest lateral earth pressure of saturated soil is approximately two times larger than the pressure of dry soil. Since the topmost 40 feet of soil at INTEC is mostly sandy gravel that is dry and permeable (4), the assumption of saturated soil is very conservative. Therefore, the calculated earth pressure is an upper bound on the actual earth pressure that would occur during a flood.

The results of the Koslow and Van Haaften study (1) show that the depth of flood water may reach 4 feet at INTEC during a peak flow in the Big Lost River. Assuming a water depth equal to 4 feet, the total resultant force per unit width of retaining wall is

$$F_{total} = 44.8\frac{lb}{ft^3}\cdot H^2 + 249.6\frac{lb}{ft^2}\cdot H + 499.2\frac{lb}{ft}.$$

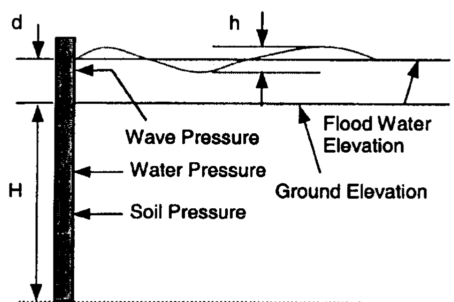


Fig. 1. Various forces acting on a retaining wall during a flood.

Hydrodynamic Forces

The force of moving flood water is calculated by considering the impact of shallow water waves caused by a high wind. A graph that shows the relation between wind velocity, water depth, wave height, and wave period is given in Fig. 10-16 on page 10-36 in Brater and King (5). Assuming a wind velocity equal to 60 mph and a water depth equal to 4 feet, the graph in Brater and King (5) shows that the wave height is 2.0 feet and the wave period is 3.4 seconds. The relation between wave period and wavelength of shallow water waves is

$$\frac{L}{T} = \sqrt{g\cdot d},$$

where L is the wavelength, T is the wave period, d is the water depth, and g is the gravitational acceleration. Assuming a water depth equal to 4 feet and a wave period equal to 3.4 seconds, the wavelength is

$$L = T\sqrt{g\cdot d} = 3.4\,s\sqrt{32.2\frac{ft}{s^2}\cdot 4\,ft} = 38.6\,ft,$$

and the wave velocity is

$$\frac{L}{T} = \frac{38.6\ \text{ft}}{3.4\ \text{s}} = 11.35\frac{\text{ft}}{\text{s}}.$$

In comparison, the velocity of flood water as estimated by Koslow and Van Haaften (1) is 2.2 ft/sec. Therefore, the velocity of moving flood water is small in comparison to the velocity of wind-generated waves.

The resultant force per unit width of retaining wall, which is caused by wind-generated waves, is calculated from an empirical relation described on page 10-41 in Brater and King (5). Assuming a wave height equal to 2.0 feet, the pressure exerted by the wave is

$$P_{\text{wave}} = \gamma_{\text{water}} \cdot h = 62.4\frac{\text{lb}}{\text{ft}^3} \cdot 2.0\ \text{ft} = 124.8\frac{\text{lb}}{\text{ft}^2},$$

where h is the wave height. According to Fig. 10-21 on page 10-42 in Brater and King (5), the pressure distribution is uniform from the ground to the still-water height, and hydrostatic from the still-water height to a height above still water equal to $1.66 \cdot h$. This particular distribution represents the pressure that is produced by a non-breaking wave reflected from a vertical wall. Superposition of approaching and reflecting waves lead to standing waves that have a height approximately equal to $2\,h$. Assuming a water depth equal to 4 feet, the force of the wave is

$$F_{\text{wave}} = P_{\text{wave}}\left(d + 0.5 \cdot 1.66 \cdot h\right) = 124.8\frac{\text{lb}}{\text{ft}^2}\left(4\ \text{ft} + 0.5 \cdot 1.66 \cdot 2.0\ \text{ft}\right) = 706.4\frac{\text{lb}}{\text{ft}},$$

and occurs at a height above grade equal to 2.9 feet, as is shown in Fig. 1. The preceding equation for the wave force is the total hydrodynamic force per unit width of retaining wall.

Comparison of Hydrostatic and Hydrodynamic Forces

The hydrostatic and hydrodynamic forces have been calculated using a flood water depth equal to 4 ft and several values of saturated soil depth. The results are shown in Fig. 2.

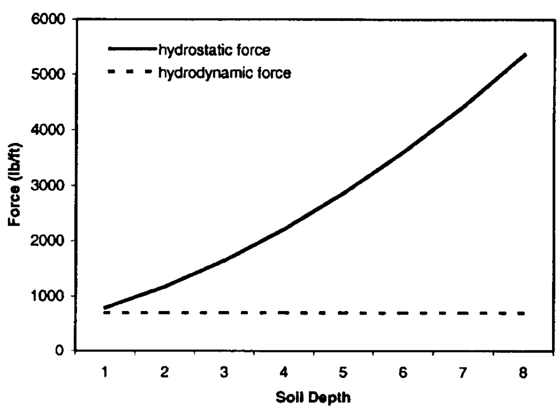


Fig. 2. Hydrostatic and hydrodynamic forces per unit width of foundation.

These results show that for a saturated soil depth larger than several feet, the hydrodynamic force due to waves is small in comparison to the hydrostatic force due to lateral earth pressure and water pressure.

Structural Analysis

In this section, structural analyses will be used to determine whether the concrete foundations of the buildings can withstand the presence of flood water, and to assess the extent of water infiltration through pipe penetrations and exterior doorways.

Foundation Walls

An important consideration in regard to flood protection is the ability of the retaining walls to withstand lateral earth pressure. In the section on hydrostatic analysis, the at-rest lateral earth pressure of saturated soil was computed and shown to be 2 times larger than the pressure of dry soil. This particular flood hazard affects all below-grade retaining walls that support backfill. The structural design of the building foundation is complex, and the concrete retaining walls have a variable height, width, and thickness. Surcharge loads are present in addition to lateral earth pressure. Furthermore, the strength of reinforced concrete depends on the exact size, number, and placement of the steel bars. Therefore, a thorough assessment of the effect of soil saturation on the stress in retaining walls is a complex structural analysis that is beyond the scope of this study. However, the following observations suggest a simple way to assess the strength of the below-grade retaining walls and to demonstrate that the walls are more than adequate to support the increase in lateral earth pressure which may occur as a consequence of a flood.

The buildings comprising the PEWE and LET&D facilities are much different in design. Building CPP-604 includes three levels: one level above grade and two levels below grade. The lower levels contain an inner cell structure surrounded by corridors, storage tank vaults, and various utility rooms. The retaining walls on the lower levels are 1 to 4 feet thick reinforced concrete. Building CPP-605 is attached to CPP-604 and contains a control room and off-gas equipment, but does not have levels below grade. The smallest exterior retaining wall of CPP-605 is 9 in. thick concrete supported by a concrete footing located 5 ft below the first level slab. Building CPP-1618 has three levels that are above grade and none below grade. The exterior retaining wall of CPP-1618 is 8 in. thick concrete supported by a concrete footing located 9 ft below the first level slab. The exterior retaining walls of the CPP-604 and CPP-605 buildings are considerably stronger with regard to hydrodynamic and hydrostatic forces than are those of the CPP-1618 building. Therefore, for the purposes of this study, information on the strength of the building CPP-1618 retaining wall is provided to represent the minimum wall strength for all three buildings. The following structural analysis of a concrete retaining wall uses the design of CPP-1618 to demonstrate that the buildings can withstand hydrostatic forces caused by the maximum credible flood.

The distance from the footing to the first level slab is 7 ½ ft. The first level slab is 3 ½ ft above grade, and so the depth of soil at the base of the retaining wall is 4 ft. Since the flood water elevation coincides with the first level slab elevation, as shown in Table 1, the depth of flood water is 3 ½ ft.

Consider a concrete beam pinned at both ends and acted on by hydrostatic forces, as is shown in Fig. 3. This particular beam loading represents the lateral earth and water pressure acting on a section of retaining wall. Simple supports are assumed since an angular displacement may occur at the ends of the beam where the wall is anchored to the slab and footing. Furthermore, the soil pressure at the inside of the wall is assumed to be equal to the at-rest earth pressure of dry soil.

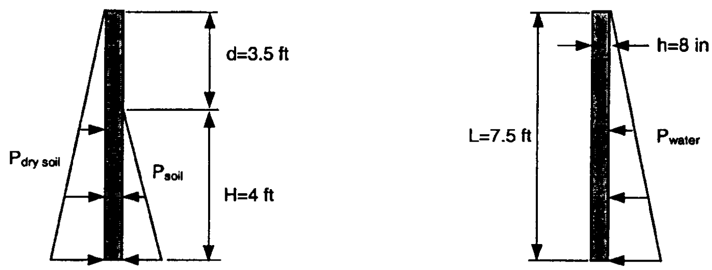


Fig. 3. Lateral earth and water pressure acting on a retaining wall.

The length of the beam is equal to 7 ½ ft and the thickness of the beam is equal to 8 in. Using the hydrostatic pressure calculated previously, the pressure at the base of the beam is equal to

$$P = P_{soil} + P_{water} - P_{dry\ soil} = 27.2\frac{lb}{ft^3}\cdot H + 62.4\frac{lb}{ft^3}\cdot(H+d) - 44.3\frac{lb}{ft^3}\cdot(H+d) = 245\,lb/ft^2,$$

where $H = 4$ ft and $d = 3.5$ ft. To examine the loading on the beam, assume that the pressure varies linearly from zero to 245 lb/ft^2 over the length of the beam, as shown in Fig. 4.

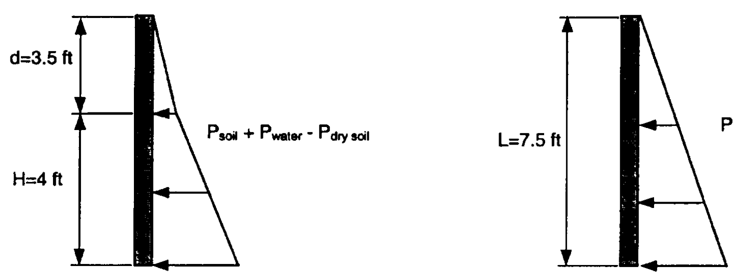


Fig. 4. Actual and assumed pressure acting on a retaining wall.

The maximum shear force and bending moment occur at the base of the beam, and are obtained from the following formulas found in Roark and Young (6), Table 3, Case 2e:

$$M = 0.0641\,P\,L^2 = 883\frac{ft-lbs}{ft},$$

$$V = \frac{P\,L}{3} = 613\,\frac{\text{lbs}}{\text{ft}}.$$

The actual force and moment are multiplied by a load factor equal to 1.7, as specified in ACI 318 (7), to give $M_u = 1501\ \text{lb ft}$ and $V_u = 1042\ \text{lb}$ per 1 foot width of beam.

To compute the allowable shear and moment capacity of the concrete beam, assume that the beam includes vertical reinforcement only and neglect the presence of horizontal reinforcement. The vertical reinforcement is a single layer of #4 bar spaced 10 inches center to center. This meets the requirement that the area of vertical reinforcement shall not be less than 0.0015 times the wall area, as described in Sections 14.2.11 of ACI 318 (7), which was the building code for reinforced concrete at the time CPP-1618 was built. Since the bar is placed in the center of the slab, the top and bottom covers are equal to 4 inches. The concrete has a minimum compressive strength equal to 3000 psi. Furthermore, it is assumed that the yield strength of reinforcement bar is equal to 40,000 psi.

The computation of moment and shear capacity are based on ACI 318 (7) and the CRSI Design Handbook (8). The shear capacity is obtained from Section 11.3.1.1 of ACI 318 (7):

$$V_c = 0.85\, 2\sqrt{f_c'}\, b\, d,$$

where f_c' is the compressive strength of concrete, b is the width of the beam, and d is the distance from the extreme compression fiber to the center of mass of the tension reinforcement. The moment capacity for a single layer of tension reinforcement is obtained from page 5-7 in the CRSI Design Handbook (8):

$$M_n = 0.90\, A_s\, f_y\, (d - a/2),$$

where A_s is the area of tension reinforcement, f_y is the yield strength of the reinforcement, and a is the depth of the concrete compression block which is obtained from a balance of concrete compression and bar tension:

$$A_s\, f_y = 0.85\, f_c'\, b\, a.$$

The moment capacity of the concrete beam is $M_n = 2767\ \text{lb ft}$ per 1 foot width of beam, which exceeds the factored moment computed above. The shear capacity of the beam is $V_c = 4470\ \text{lb}$ per 1 foot width of beam, which exceeds the factored shear computed above. In fact, the retaining walls at CPP-1618 are stronger than this simple example indicates, owing to the presence of intersecting walls and columns anchored to each section of retaining wall, and the presence of horizontal reinforcement.

Water Infiltration Through Pipe Penetrations

The waste treatment process at INTEC includes a complex system of pipes that transfer waste between buildings for treatment. This observation suggests the potential for seepage caused by water infiltration through pipe penetrations located below the flood level. A field investigation found that seepage currently occurs through pipe penetrations into the waste tank vault and waste pump pit located at CPP-604. Seepage occurs only at pipes entering the tank vault and pump pit through penetrations located at the roof of the concrete enclosure. As a result of rain, snowmelt, and runoff, the soil above the concrete enclosure becomes wet and seepage occurs. Seeping water is currently a minor nuisance, but the potential exists for additional infiltration into CPP-604 during a flood. This infiltration will be handled by sumps and jets designed to route water to storage tanks that are equipped with level monitors and overflow alarms. It is important to note that seepage does not penetrate the inner cell structure nor penetrate the pipes carrying waste. A waste pipe is encased in a larger pipe that is well sealed, which produces a secondary containment that keeps the seepage and waste stream separated.

Seepage into CPP-604 has been recently monitored by tracking the amount of water transferred to the evaporator feed tank. The total volume of water includes sump water, process water, and steam condensation. By subtracting the process water and steam condensation from the total, the amount of water transferred from the sumps had been calculated. However, the sump water had included leakage from steam valves. In November 2000, the steam system was turned off between transfers to prevent steam leakage. Since then, data on water seepage has been available because the sump receives only the water seepage through pipe penetrations.

The tank vault consists of four separate concrete enclosures. The penetrations into the enclosure containing tank VES-WM-100 leak, and the penetrations into the enclosure containing tanks VES-WL-101 and VES-WL-102 leak. The penetrations into the enclosure containing the pumps also leak. The pump pit and each tank enclosure have a sump and a steam jet. Water infiltrating the tank vault and pump pit travels directly to the sump, where the jets are used to transfer the sump water to VES-WL-132 and VES-WL-150, and then to VES-WL-133 (the evaporator feed tank). The seepage for each month from November 2000 through February 2001 is shown in Fig. 5.

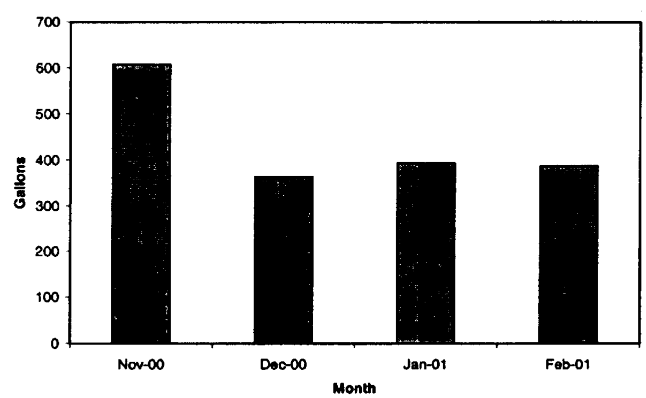


Fig. 5. Seepage through pipe penetrations in CPP-604.

The concrete enclosures are buried under an earth embankment that is at the same elevation as the first floor roof of CPP-604. The difference in elevation between the pipe penetrations and the top of the embankment is 32 ft. The difference in elevation between the ground level and the top of the embankment is 14 ft. Therefore, the difference in elevation between the pipe penetrations and the ground level is 18 ft.

The maximum seepage rate expected to occur during the hypothetical flood is estimated in the following manner. Note that the maximum seepage occurred in November and was equal to 20 gal/day or 0.833 gal/hr. Assume that the hydraulic head causing this seepage is equal to 18 ft, which is the difference in elevation between the pipe penetrations and the ground level. Since the embankment has been observed to be wet during the winter and spring seasons, it is plausible that part of the embankment is saturated. Furthermore, it is assumed that the embankment is totally saturated during a flood, and so in that case the hydraulic head is equal to 32 ft.

Since the hydraulic pressure in soil is proportional to the hydraulic head, the hydraulic pressure increases by a factor equal to

$$\frac{h_{max}}{h} = \frac{32}{18} = 1.8 .$$

Note that this is a conservative estimate of the increase in hydraulic pressure because it is assumed that the embankment is totally saturated with water. Since the seepage rate is proportional to the hydraulic pressure, the maximum seepage expected during a flood is

$$Q = 0.833 \frac{gal}{hr} \cdot 1.8 = 1.5 \frac{gal}{hr} .$$

The capacity of a steam jet depends on several factors that include steam pressure, pipe size, suction lift, and discharge head. The jets in the tank vault have a 1 in. inlet line, 1½ in. suction line, and 1½ in. discharge line. The jet in the pump pit has a ¾ in. inlet line, 1 in. suction line, and 1 in. discharge line. To calculate the pump capacity, consider the small jet in the pump pit, which is a Penberthy jet model GL-1 or equivalent. The upper bounds on the lift and head needed to transfer water from the sump to the evaporator feed tank are a suction lift equal to 5 feet and a discharge head equal to 20 feet. The minimum operating steam pressure needed to operate at this suction lift and discharge head is equal to 80 psig at a suction water temperature of 80°F. The steam pressure can be adjusted to increase the flow rate if needed. According to the Penberthy technical data (9), model GL-1 at these conditions has a discharge capacity equal to 7.9 gal/min. Since the small jet can transfer much more than the calculated maximum seepage, the flood protection devices have enough capacity to handle the maximum seepage that is expected to occur at CPP-604 during a flood.

Water Infiltration Through Doorways

In most cases, openings such as doors, stairs, and elevators on the first level lead to the inner cell structure. Since these openings are not watertight, it is necessary that the first level finished floor elevation be located above the flood water elevation in order to prevent infiltration of water through unsealed doorways and other openings. Generally, flood water will not enter the building if the first level is at an elevation at least equal to 4917 ft, which is the flood water level (4916 ft) plus the wave height (1 ft). The data in Table 1 show that neither building meets this requirement. Since the first level finished floor elevation of CPP-1618 is 4916 ft, infiltration of water can be prevented by using a barrier to stop waves splashing onto the doorways. For the other buildings, additional flood protection devices are needed to prevent water infiltration.

Conclusions

An engineering analysis was used to calculate the various hydrodynamic and hydrostatic forces expected to result at the PEWE and LET&D buildings as a consequence of a 100 year flood coinciding with a failure of Mackay Dam. A structural study was used to describe the design of these buildings and their flood protection devices and how these will prevent washout of hazardous waste. Specific details are given below.

The following structural features of the buildings comprising the PEWE and LET&D facilities were examined: footing and foundation structures; openings such as doorways that enable water to easily infiltrate; and the occurrence of water seepage through pipe penetrations. The following results were obtained:

(1) The most important feature of the building construction is whether the first level finished floor elevation is higher than the flood water elevation. Only CPP-1618 meets this requirement, but with a contingency. For CPP-1618, the elevation of wind-generated water waves is higher than the first level floor elevation, and so a barrier is needed to stop waves splashing onto the doorways. For CPP-604 and CPP-605, the flood water elevation is higher than the first level floor elevation, and so additional flood protection devices are needed to prevent water infiltration.

(2) The construction of the buildings follows many of the standard practices used to assure a watertight foundation and to provide adequate drainage during a flood, though some minor water seepage currently occurs through pipe penetrations at CPP-604. Water entering the tank vault and pump pit drains to a sump and is transferred by steam jets to the evaporator feed tank. The jets have enough capacity to transfer the maximum seepage rate expected to occur during a flood.

(3) An important consideration in regard to flood protection is the ability of the retaining walls to withstand lateral earth pressure and water pressure. For the purposes of this study, the exterior retaining wall of CPP-1618 was chosen to represent the minimum wall strength of the three buildings evaluated, with regard to withstanding hydrostatic forces acting on a foundation wall. A structural analysis of the CPP-1618 retaining wall demonstrates that the building can withstand hydrostatic forces caused by a maximum credible flooding event.

References

1. K. N. Koslow and D. H. Van Haaften, *Flood Routing Analysis for a Failure of Mackay Dam*, EGG-EP-7184, June, 1986.
2. *Code of Federal Regulations*, 40 CFR Ch. 1, Sect. 270.14(b), Para. 11(iv) A, August 1, 2000.
3. R. B. Peck, W. E. Hanson, and T. H. Thornburn, *Foundation Engineering*, 2nd Edition, John Wiley & Sons, NY, 1974.
4. *Soil and Foundation Investigation, Proposed New Waste Calcining Facility*, Prepared for The Energy Research and Development Administration, Fluor Contract No. 453504, Dames and Moore, 1976.
5. E. F. Brater and H. W. King, *Handbook of Hydraulics*, 6th Edition, McGraw-Hill, NY, 1976.
6. R. J. Roark and W. C. Young, *Formulas for Stress and Strain*, 5th Edition, McGraw-Hill, NY, 1975.
7. *Building Code Requirements for Reinforced Concrete*, ACI 318-77, American Concrete Institute, 1978.
8. *CRSI Design Handbook*, 3rd Edition, Concrete Reinforcing Steel Institute, 1978.
9. *Penberthy Jet Pump Technical Data – Pumping Liquids*, Bulletin 1200, May, 1987.

APPENDIX F-9

EDF-2470, Analysis of Hydrostatic Forces on INTEC Liquid Waste Tanks During a 100-Year Flood

Document ID: EDF-2470
Revision ID: 0
Effective Date: 09/12/02

Engineering Design File

Analysis of Hydrostatic Forces on INTEC Liquid Waste Tanks During a 100-Year Flood

Prepared for:
U.S. Department of Energy
Idaho Operations Office
Idaho Falls, Idaho

Idaho National Engineering and Environmental Laboratory

Form 412.14
07/24/2001
Rev. 03

431.02
02/26/2002
Rev. 10

ENGINEERING DESIGN FILE

EDF- 2470
Rev. No. 0
Page 1 of 14

1. Title: Analysis of Hydrostatic Forces on INTEC Liquid Waste Tanks During a 100-Year Flood

2. Project File No.:

3. Index Codes:
Building/Type PEWE, LET&D SSC ID ______ Site Area INTEC

4. Summary:

The purpose of this engineering analysis is to provide data regarding the hydrostatic, hydrodynamic, and structural effects of a 100-year peak flood. This analysis is performed to ensure compliance with requirements stemming from application for a RCRA permit for mixed hazardous waste treatment in the Process Equipment Waste Evaporator (PEWE) and Liquid Effluent Treatment and Disposal (LET&D) facilities. RCRA regulations require an engineering analysis to determine the various hydrodynamic and hydrostatic forces expected to result at the site as a consequence of a 100-year flood, and structural or other engineering studies showing the design of operational units and flood protection devices at the facility and how these will prevent washout of hazardous waste.

Previous analyses suggest that the PEWE and LET&D facilities may be exposed to floodwater infiltration. The scope of the present analysis is to determine the hydrostatic and hydrodynamic forces of floodwater acting on the tanks and ancillary piping in the PEWE and LET&D systems, and to determine if these forces will damage the tanks and piping and allow hazardous waste to escape.

Data on tank capacity, dimensions, supports and anchorage was presented for each liquid waste tank in the PEWE and LET&D systems that may be exposed to floodwater forces. These forces include buoyancy and hydrostatic pressure. The buoyancy force acting on the tank may lead to flotation, and external fluid pressure may lead to collapse of the tank wall. Since the buoyancy force on piping is negligible in comparison to those forces on large, empty tanks, it is only necessary to ensure that the tanks are adequately anchored to prevent uplift. It is also necessary to show that the tanks have enough strength to resist collapse of the tank walls.

The results of the analysis showed that the tanks are able to withstand hydrostatic forces resulting from the postulated 100-year flood. These tanks are located in cells that are accessible by an access corridor and a series of doorways that are normally closed. Although water infiltration into the cells is possible by seepage through the edge of doorways, all tanks in the cells are adequately anchored to prevent uplift and have enough strength to resist collapse of the tank walls. Therefore the tanks and piping will not be damaged as a result of floodwater infiltration.

RCRA tanks that are located in concrete vaults are not exposed to water infiltration because the access hatches and pipe penetrations are watertight. The access hatches are always closed except when performing maintenance in the vault, and all pipe penetrations are grouted and sealed to be watertight. Water transfers from the sumps are continually monitored, and if access hatches or pipe penetrations are found to be leaking, sealant or grout is reapplied in order to maintain a watertight vault. Therefore washout of hazardous waste from these tanks will be prevented.

5. Review (R) and Approval (A) and Acceptance (Ac) Signatures:

	R/A	Name/Organization	Signature	Date
Author		P. E. Murray/5225	P. E. Murray	9/5/02
Checker	R	N. B. Smith/5225	N B Smith	9/5/02
Supervisor	A	S. R. Jensen/5225	S. R. Jensen	9/12/02
Project Engineer	Ac	P. A. Holmes/5225	P A Holmes	9/13/02
Requestor	Ac	N. C. Hutten/7310	N. C. Hutten	9/13/02
Doc. Control				

6. Distribution: (Name and Mail Stop) P. E. Murray, MS 5106

431.02
02/26/2002
Rev. 10

ENGINEERING DESIGN FILE

EDF- 2470
Rev. No. 0
Page 2 of 14

7. Does document contain sensitive unclassified information? ☐ Yes ☒ No
   If Yes, what category:

8. Can document be externally distributed? ☒ Yes ☐ No

9. Uniform File Code: 0286 Disposition Authority: A17-30-c-1
   Record Retention Period: Until Dismantlement or disposal of equipment, or when superceded or obsolete.

10. For QA Records Classification Only: ☒ Lifetime ☐ Nonpermanent ☐ Permanent
    Item and activity to which the QA Record apply:

11. NRC related? ☐ Yes ☒ No

12. Registered Professional Engineer's Stamp

PROFESSIONAL ENGINEER
REGISTERED
9181
9-13-02
STATE OF IDAHO
PATRICK A. HOLMES

Purpose

The purpose of this engineering analysis is to provide data needed in support of a Volume 14 RCRA permit application to comply with Idaho DEQ requirements for operation of the PEWE and LET&D systems. This analysis is performed to ensure compliance with RCRA regulations that require an engineering analysis to determine the various hydrodynamic and hydrostatic forces expected to result at the site as a consequence of a 100-year flood, and structural or other engineering studies showing the design of operational units and flood protection devices at the facility and how these will prevent washout. In the RCRA regulations, washout is defined as the movement of hazardous waste from the active portion of a facility as a result of flooding.

Scope

A structural evaluation of tanks in the PEWE and LET&D facilities is needed to demonstrate that the tanks and piping will not be damaged as a result of hydrodynamic and hydrostatic forces, which may occur as a result of water infiltration during a 100-year flood. The tanks are located in building CPP-601, CPP-604, CPP-605, CPP-641, CPP-649 and CPP-1618. A previous structural analysis [3] showed that these buildings are exposed to floodwater infiltration through doorways and other openings that are below the floodwater level associated with a 100-year flood coincident with a Mackay Dam Failure [1]. The issue is complicated because there are many different tanks and piping systems involved.

This task includes an evaluation of the PEWE and LET&D buildings to determine if the tanks and attached piping are exposed to flooding. If the tanks are exposed, a structural evaluation is performed to determine if the tanks are adequately anchored to prevent uplift due to buoyancy, and to determine if the tanks have enough strength to resist collapse of the tank walls due to external pressure.

This Engineering Design File (EDF) includes a description of all the affected structures, tank and piping systems, including details on the tank anchorage. The tanks included in this evaluation are those specified in Section D-2c of the RCRA Part B Permit Application, Volume 14. This EDF also includes calculations to determine the hydrostatic force of floodwater tending to cause flotation of the tanks and collapse the tank walls, and calculations to determine restraining forces at the tank supports.

Safety and Performance Categories

Safety categories are used for systems, structures, and components (SSC) to establish a graded approach to design and analysis based on the safety function performed by the SSC. Similarly, performance categories are used for an SSC exposed to natural phenomena hazards to establish a graded approach to design and analysis based on the importance of the SSC. However, the safety category and performance category are not used in this analysis since the design basis flood event and scope of the analysis are governed by RCRA regulations.

Background on 100-Year Flood

Koslow and Van Haaften [1] examined the consequences of a failure of Mackay Dam and performed a hydraulic analysis to determine the extent of the flood plain for several scenarios. Their analysis included a 100-year flood and simultaneous piping failure at Mackay Dam, which leads to a breach of the dam, overtopping of the INEEL diversion dam, and flooding of the INEEL site. This scenario results in a peak flow released from the dam that was calculated to be 57,740 ft^3/s. This flow between Mackay Dam and the INEEL is attenuated by storage, agricultural diversion, and channel infiltration. The calculated flow at the INEEL diversion dam is 28,500 ft^3/s. Since the diversion dam is unable to retain the high flow, most of the floodwater is assumed to flow onto the site.

The peak flow estimated by Koslow and Van Haaften [1] was used in a flow routing analysis to determine the extent of the flood plain at the INEEL site. A hydraulic analysis of open channel flow was used to compute the peak flow and water elevation at each cross-section of the Big Lost River channel. All vertical elevations are in reference to the National Geodetic Vertical Datum of 1929 (NGVD29). Of particular interest in this study are the PEWE and LET&D buildings located at the INTEC facility. The leading edge of the flood wave is estimated to arrive at INTEC approximately 17.1 hours after breach of the dam. The peak flow is attenuated to 24,870

ft^3/s, and the peak water velocity is estimated to be 2.2 ft/s. Since the area surrounding INTEC is very flat, floodwater will spread easily and so the flood plain is wide and shallow. The elevation of the streambed in the vicinity of INTEC is 4911 ft and the calculated water elevation is 4916 ft. Since the minimum ground elevation at the PEWE and LET&D buildings is approximately 4912 ft, the depth of floodwater may reach 4 ft at some locations.

Koslow and Van Haaften [1] also performed an analysis to examine the potential for overland flooding due to localized heavy rain and snowmelt. It was found that localized flooding due to a 25-year peak rainfall and simultaneous snowmelt lead to a peak flow estimated to be 32 ft^3/s. Although this runoff can be accommodated by the drainage basin at INTEC and flood control devices such as culverts, dikes, and ditches, floodwater may collect in low-elevation areas at the PEWE and LET&D buildings.

Description of Structures

The following buildings comprise the PEWE and LET&D facilities:

CPP-604	Process Equipment Waste Evaporator (PEWE) Building
CPP-605	Atmospheric Protection System Building (adjoining PEWE)
CPP-708	Main Stack for PEWE and LET&D Systems
CPP-1618	Liquid Effluent Treatment and Disposal (LET&D) Building
CPP-649	Off-gas Equipment and HEPA Filter Building
CPP-601	Process Building
CPP-641	Waste Hold-up Tank Building

The first level finished floor elevations, as shown on the as-built drawings, are listed in Table 1. Elevations are currently measured in reference to the National Geodetic Vertical Datum of 1929 (NGVD29). However, the buildings were constructed when the datum was not NGVD29. Recent elevation measurements in reference to NGVD29, which are approximately 1 ft. less than those shown on the as-built drawings, are listed in Table 1.

Table 1. Building elevation in feet above sea level.

Building	First level floor elevation (shown on as-built drawing)	First level floor elevation (in reference to NGVD29)	INEEL Drawing Number
CPP-604	4913.0	4912.0	103223
CPP-605	4913.0	4912.0	128821
CPP-1618	4917.0	4916.1	347771
CPP-649	4912.8	4911.9	128837; 128840
CPP-601	4917.0	4916.0	103062
CPP-641	4916.0	4915.0	111809

The floodwater elevation for the postulated 100-year flood coincident with a Mackay Dam failure is 4916 ft in reference to NGVD29 (Koslow and Van Haaften, [1]). The wave height of shallow water waves generated by a 60 mph wind with a water depth equal to 4 ft is approximately 2 ft from crest to trough (Fig. 10-16 in Brater and King [2]). In many cases, exterior openings such as doorways and loading docks lead to the active portion of the building containing waste, and floodwater may enter the building if the first level floor elevation is less than 4917 ft (still water level + ½ wave height). Therefore, all the buildings listed in Table 1 are exposed to potential floodwater infiltration.

The buildings are constructed of reinforced concrete. Previous analyses of floodwater forces on CPP-604 [3], CPP-1618 [3], and CPP-659 [4] showed that the foundation walls are strong enough to withstand hydrostatic and hydrodynamic forces. Therefore, the main concern is floodwater infiltration and the resulting hydrostatic force on tanks and ancillary piping, and whether the tanks and pipes will be damaged and allow hazardous waste to escape. It is only necessary to consider the exposed structures and show that the tanks and piping can withstand the hydrostatic pressure. In particular, it is necessary to check that external pressure on tank and pipes does not collapse the walls, and the buoyancy force does not cause the anchor bolts and pipe supports to fail.

Assumptions

1. In case the floodwater elevation is higher than the elevation of doorways or other openings, it is assumed that the building is exposed to floodwater infiltration [a].
2. The only pathway for water infiltration into a tank vault is at access hatches and pipe penetrations, which are assumed to be sealed and watertight [b].
3. The concrete foundation of the building is assumed to withstand hydrostatic and hydrodynamic forces, which is based on a previous analysis of floodwater forces on the PEWE and LET&D buildings [3].
4. Buoyancy force and external pressure on piping and pipe supports are negligible in comparison to those forces on large, empty tanks.
5. The liquid waste tanks are assumed to be empty and completely immersed in water since this leads to the maximum buoyancy force and pressure on the tank wall.
6. The tanks and piping are completely sealed and do not leak since they are regularly inspected.
7. Reduction of tank wall thickness due to corrosion is neglected since the stainless steel used to fabricate the tanks is very resistant to corrosion by nitric acid.
8. The anchor bolt (or rod) is assumed to be stainless steel type 304, and the strength of the bolt (or rod) is assumed to govern the capacity of an anchor [c].
9. In the event of a flood, it is assumed that the evaporation/separation/condensation operations in CPP-604 will be shut down and no steam or high temperature condensate will be present in the tanks.

[a] Sumps and steam jets in the cells and vaults can remove water infiltrating the building. Cells are accessible by doorways that are not watertight but are normally closed. Plugging the edges of doorways can significantly reduce the infiltration rate. In this analysis, no calculations are made of the infiltration rate through doorways or other openings.

[b] The access hatches at the CPP-604 storage tank vault (Drawings 103553), the CPP-604 feed tank vault (Drawing 162319), the CPP-641 vault (Drawing 111809) and the CPP-601 vault (Drawing 103064) are removable, tapered concrete plugs fitting into the tank vault concrete roof slab and designed to contain a watertight seal on all sides.

[c] High-strength stainless steel is commonly used for bolting material, and so the strength of the bolt is often larger than the strength assumed in the analysis.

Discussion

The tanks contained in storage vaults are not exposed to flooding since the access hatches and pipe penetrations are watertight. These tanks include the CPP-604 waste storage tanks (WM-100, WM-101, WM-102, WL-101, WL-102 and WL-150), the CPP-604 feed tanks (WL-132 and WL-133), the CPP-641 storage tanks (WL-103, WL-104 and WL-105), and the CPP-601 storage tanks (WH-100, WH-101, WG-100 and WG-101). The hatches are always closed except when performing maintenance in the vault, and all pipe penetrations are grouted and sealed to be watertight. Any water infiltration due to seepage at pipe penetrations and hatches is minor and readily removed by sumps and steam jets, as shown in a previous analysis of water seepage into CPP-604 [3]. Furthermore, it is necessary that the valve (PLV-YDB-28) on the vent line protruding from the CPP-641 tank vault (Drawing 111807) be closed during a flood.

The small tanks in the PWL collection system (WL-135, WL-136, WL-137, WL-138, WL-139, WL-142, and WL-144) have a capacity not exceeding 25 gallons and are adequately supported by the attached piping. Tank NCR-171 is located at CPP-659, which is not exposed to water infiltration as shown previously [4]. All the tanks in CPP-1618, except the bottoms tank (WLL-195), are above the floodwater elevation.

The tanks contained in the PEWE cells and the LET&D bottoms tank pit are exposed to flooding since they are accessible by doorways and other openings that are not watertight. Although doorways are normally closed, water infiltration into the cells is possible by seepage through the edge of doorways. Similarly, water infiltration into the bottoms tank pit is possible by seepage through the edge of the cover plate. Therefore it is necessary to evaluate these tanks in order to ensure that the anchorage is strong enough to prevent uplift and the tank wall is strong enough to resist collapse. The data used in the structural evaluation of the tanks are given in Tables 2-6.

List of Tanks

The capacity of each tank and the building in which it is located are given in Table 2 for all the tanks in the PEWE and LET&D systems listed in the RCRA Part B Permit Application, Volume 14, Section D-2c.

Table 2. Capacity of waste storage tanks.

Tank Identifier	Building	Capacity (gal.)
WM-100	CPP-604	18,400
WM-101	CPP-604	18,400
WM-102	CPP-604	18,400
WL-101	CPP-604	18,400
WL-102	CPP-604	18,400
WL-133	CPP-604	19,000
WL-132	CPP-604	4,700
WL-106	CPP-604	5,000
WL-107	CPP-604	5,000
WL-163	CPP-604	5,000
WL-103	CPP-641	5,000
WL-104	CPP-641	5,000
WL-105	CPP-641	5,000
WH-100	CPP-601	4,500
WH-101	CPP-601	4,500
WG-100	CPP-601	4,500
WG-101	CPP-601	4,500
WL-111	CPP-604	1,500
WL-129	CPP-604	1,000
WL-161	CPP-604	1,000
WL-300	CPP-604	250
WL-307	CPP-604	250
WL-301	CPP-604	180
WL-308	CPP-604	180
WL-131	CPP-604	66
WL-134	CPP-604	500
WL-108	CPP-604	70
WL-109	CPP-604	270
WL-135	CPP-649	10
WL-136	CPP-649	10
WL-137	CPP-649	25
WL-138	CPP-605	25
WL-139	CPP-605	10
WL-142	CPP-604	10
WL-144	CPP-604	25
WL-150	CPP-604	50
WLK-197	CPP-1618	270
WLL-170	CPP-1618	460
WLK-171	CPP-1618	460
WLL-195	CPP-1618	270
NCR-171	CPP-659	22,500

Depth of Tanks

The hydrostatic force will affect the large, empty tanks at maximum depth since the maximum hydrostatic pressure occurs at the lowest elevation. The depth of the tank below the floodwater elevation is given in Table 3 for the tanks in the PEWE and LET&D systems that are exposed to floodwater infiltration. The depth is measured to the floor of the PEWE evaporator and condenser cells or the floor of the LET&D bottoms tank pit.

Table 3.Depth of waste storage tanks.

Tank Identifier	Depth of tank below floodwater elevation (ft)	INEEL Drawing Number
WL-106	27	056692
WL-107	27	056692
WL-163	27	056692
WL-111	27	056692
WL-129	27	056692
WL-161	27	056692
WL-300	27	056692
WL-307	27	056692
WL-301	27	056692
WL-308	27	056692
WL-131	27	056692
WL-134	27	056692
WL-108	27	056692
WL-109	27	056692
WLL-195	5.7	347796

Weight of Tanks

The hydrostatic force of floodwater in the building will affect the large, empty tanks immersed in water since the buoyancy force is proportional to the volume of displaced water. The weight of the empty tank and the weight of contained water are given in Table 4 for the tanks in the PEWE and LET&D systems that are exposed to floodwater infiltration. The weight of contained water is calculated using the capacity given in Table 2.

Table 4. Weight of waste storage tanks.

Tank Identifier	Weight of empty tank (lb)	Weight of contained water (lb)	INEEL Drawing Number
WL-106	8300	41,700	098921
WL-107	8300	41,700	098921
WL-163	8400 (1)	41,700	056638
WL-111	4600 (1)	12,500	097880
WL-129	5320 (2)	8340	055920
WL-161	5320	8340	097722
WL-300	1150 (1)	2090	057231
WL-307	1150 (1)	2090	057231
WL-301	830 (1)	1500	055895
WL-308	830 (1)	1500	055895
WL-131	370 (1)	550	155074
WL-134	1100	4170	83-1529 (3)
WL-108	480 (1)	580	E-51-687-B (4)
WL-109	600 (1)	2250	098920
WLL-195	1500	2200	097672

(1) Approximate weight based on dimensions of shell and heads given in drawings; weight of piping and flanges is neglected.
(2) Weight of WL-129 assumed to be the same as weight of WL-161, since both tanks are similar flash columns.
(3) Vendor drawing from Mabe Industries.
(4) Vendor drawing from W. K. Mitchell & Co.

Diameter and Wall Thickness of Tanks

The hydrostatic force will affect the large, empty tanks at low elevation since the hoop stress in the tank wall is proportional to the tank diameter and the difference in external and internal pressure, and inversely proportional to the wall thickness. The tank diameter and the wall thickness are given in Table 5 for the tanks in the PEWE and LET&D systems that are exposed to floodwater infiltration.

Table 5. Diameter and wall thickness of waste storage tanks.

Tank Identifier	Tank Diameter (ft)	Wall Thickness (in.)	INEEL Drawing Number
WL-106	8	0.5	098921
WL-107	8	0.5	098921
WL-163	8	0.5	056638
WL-111	4.7 (1)	0.375 (2)	097880
WL-129	3	0.375	055920
WL-161	3	0.375	097722
WL-300	2 (3)	0.375	057231
WL-307	2 (3)	0.375	057231
WL-301	2.2	0.375	055895
WL-308	2.2	0.375	055895
WL-131	2	0.375	155074
WL-134	3.5	0.1875	83-1529 (4)
WL-108	2.5	0.375	E-51-687-B (5)
WL-109	3	0.25	098920
WLL-195	3	0.5	097673

(1) Equivalent diameter of rectangular tank cross-section.
(2) Wall thickness obtained from D. J. Henrikson, "Evaluation of PEW Tank VES-WL-111," CSS-94-003 (March 1994).
(3) Tank diameter is not given on the drawings, but is estimated to be 24 inches.
(4) Vendor drawing from Mabe Industries.
(5) Vendor drawing from W. K. Mitchell & Co.

Anchoring of Tanks

The tanks that are exposed to potential floodwater infiltration are anchored to prevent flotation. Descriptions of the tank support and anchorage are given in Table 6 for the tanks in the PEWE and LET&D systems that are exposed to floodwater infiltration. The anchoring details are given as the total number and size of bolts. It was necessary to determine the exact anchoring details for each tank in which these details are not given on the drawings but are present nonetheless.

Table 6. Anchoring of waste storage tanks.

Tank Identifier	Tank orientation and support	Anchoring details	INEEL Drawing Number
WL-106	Vertical, steel legs	4 – ¾ in. bolts (1)	098921
WL-107	Vertical, steel legs	4 – ¾ in. bolts (1)	098921
WL-163	Vertical, steel legs	4 – ¾ in. bolts (1)	056638
WL-111	Horizontal, steel legs	4 – 1 in. holes (2)	097880
WL-129	Vertical, steel brackets	2 – ¾ in. bolts	155072
WL-161	Vertical, steel brackets	4 – ¾ in. bolts	056079
WL-300	Vertical, steel brackets	2 – ¾ in. bolts	056079
WL-307	Vertical, steel brackets	2 – ¾ in. bolts	155072
WL-301	Vertical, steel brackets	4 – ¾ in. bolts	056079
WL-308	Vertical, steel brackets	4 – ¾ in. bolts	155072
WL-131	Horizontal, steel legs	4 – ½ in. bolts	155074
WL-134	Vertical, steel legs	4 – 7/8 in. bolts	83-1529 (3)
WL-108	Vertical, steel brackets	2 – 7/8 in. holes (2)	E-51-687-B (4)
WL-109	Vertical, steel brackets	2 – 7/8 in. holes (2)	098920
WLL-195	Horizontal, steel saddles	4 – 7/8 in. bolts	347796

(1) Anchoring details are not shown on the drawings, but photographs of the condensate cell show that the steel angles are welded to steel plates bolted to the concrete floor (see Attachment A). Drawing No. 158768 shows a typical anchorage, but the size of the bolts is not shown. Four ¾ in. diameter bolts are assumed, which is based on the weld size specified on Drawing No. 158768.

(2) Anchoring details are not shown on the drawings, which show instead the size of holes in each support. It is standard engineering practice to use anchor bolts in an oversized hole. It is assumed that a ¾ in. bolt is used in a 1 in. hole, and a 5/8 in. bolt is used in a 7/8 in. hole.

(3) Vendor drawing from Mabe Industries.

(4) Vendor drawing from W. K. Mitchell & Co.

Hydrostatic Forces on Tanks

Assuming the tanks are empty and immersed in water, the net uplift force on the tanks due to buoyancy is

$$P = W_{water} - W_{tank}$$

W_{water} Weight of displaced water from Table 4

W_{tank} Weight of empty tank from Table 4

The anchor bolts must have enough strength to withstand the uplift force tending to cause flotation of the tanks. The calculations of uplift force are given in Table 7 for the tanks in the PEWE and LET&D systems.

The tank walls must also have enough strength to withstand the hydrostatic forces tending to cause collapse of the tank walls. Assuming the tanks are empty and immersed in water, external pressure acts on the tank walls.

The hydrostatic pressure corresponding to the hydraulic head is

$$p = \gamma_{water} \times H = 62.4\,\mathrm{lb/ft^3} \times H$$

H Hydraulic head from Table 3

The calculations of hydrostatic pressure are given in Table 7 for the tanks in the PEWE and LET&D systems.

The tanks listed in Table 7 are fabricated according to ASME Section VIII Code with design pressures that include either full vacuum or 0.5 psia (15 in. H_20) in addition to internal pressure. Note that the hydrostatic pressure given in Table 7 is less than the external pressure resulting from either full vacuum or 0.5 psia.

The restraining force of anchor bolts is calculated using the resistance factor and nominal strength formula given in IBC-2000 Sections 1913.4 and 1913.5 [5]. The minimum yield strength of stainless steel bolts is 30,000 psi (ASTM 193 Grade B8 Class 1, type 304).

The strength of the various sizes and types of bolts used to anchor the tanks is

½ in. bolt: $\phi \times f_y \times A = 0.90 \times 30{,}000\ \text{psi} \times 0.142\ \text{in.}^2 = 3{,}830\ \text{lb}$

5/8 in. bolt: $\phi \times f_y \times A = 0.90 \times 30{,}000\ \text{psi} \times 0.226\ \text{in.}^2 = 6{,}100\ \text{lb}$

¾ in. bolt: $\phi \times f_y \times A = 0.90 \times 30{,}000\ \text{psi} \times 0.334\ \text{in.}^2 = 9{,}020\ \text{lb}$

7/8 in. bolt: $\phi \times f_y \times A = 0.90 \times 30{,}000\ \text{psi} \times 0.462\ \text{in.}^2 = 12{,}470\ \text{lb}$

The restraining force is equal to bolt strength × number of bolts. In case the restraining force exceeds the uplift force, the bolt can withstand the hydrostatic forces tending to cause flotation of the tanks.

The calculations of the restraining force at tank supports are given in Table 8 for the tanks in the PEWE and LET&D systems. These results demonstrate that all tanks contained in cells are adequately restrained from uplift due to buoyancy.

Table 7.Hydrostatic forces on waste storage tanks.

Tank Identifier	Uplift force on tank support (lb)	Hydrostatic pressure on tank (psi)
WL-106	33,400	11.7
WL-107	33,400	11.7
WL-163	33,300	11.7
WL-111	7900	11.7
WL-129	3020	11.7
WL-161	3020	11.7
WL-300	940	11.7
WL-307	940	11.7
WL-301	670	11.7
WL-308	670	11.7
WL-131	180	11.7
WL-134	3070	11.7
WL-108	100	11.7
WL-109	1650	11.7
WLL-195	700	2.5

Table 8.Restraining force at tank supports.

Tank Identifier	Uplift force on tank support (lb)	Restraining force at tank support (lb)	Adequate support (Yes/No)
WL-106	33,400	36,100	Yes
WL-107	33,400	36,100	Yes
WL-163	33,300	36,100	Yes
WL-111	7900	36,100	Yes
WL-129	3020	18,000	Yes
WL-161	3020	36,100	Yes
WL-300	940	18,000	Yes
WL-307	940	18,000	Yes
WL-301	670	36,100	Yes
WL-308	670	36,100	Yes
WL-131	180	15,300	Yes
WL-134	3070	49,900	Yes
WL-108	100	12,200	Yes
WL-109	1650	12,200	Yes
WLL-195	700	49,900	Yes

Conclusions

A structural evaluation was used to identify the capacity, dimensions, supports and anchorage of the liquid waste tanks in the PEWE and LET&D systems, and to show that the tanks are able to withstand hydrostatic forces resulting from the postulated 100-year flood. The tanks that are exposed to water infiltration are located in the PEWE evaporator and condenser cells and the LET&D bottoms tank pit. The analysis shows that the anchor bolts are able to withstand hydrostatic forces tending to cause flotation of the tanks. Moreover, the analysis shows that the tanks have enough strength to withstand hydrostatic forces that act on the tank walls. The structural capacity of the tanks, anchors, and foundation walls ensures that the connecting piping is not overstressed. Therefore the tanks and piping will not be damaged as a result of floodwater infiltration.

RCRA tanks that are located in concrete vaults are not exposed to water infiltration because the access hatches and pipe penetrations are watertight. The hatches are always closed except when performing maintenance in the vault, and all pipe penetrations are grouted and sealed to be watertight. Water transfers from the sumps are continually monitored, and if access hatches or pipe penetrations are found to be leaking, sealant or grout is reapplied in order to maintain a watertight vault. Therefore washout of hazardous waste from these tanks will be prevented.

Recommendations

The vent line protruding from the CPP-641 tank vault is the only pathway for water infiltration into the vaults. Therefore, it is necessary that the valve (PLV-YDB-28) on the vent line be closed during a flood.

References

1. K. N. Koslow and D. H. Van Haaften, *Flood Routing Analysis for a Failure of Mackay Dam*, EGG-EP-7184, June, 1986.
2. E. F. Brater and H. W. King, *Handbook of Hydraulics*, 6th Edition, McGraw-Hill, NY, 1976.
3. P. E. Murray, *Hydrodynamic and Structural Analyses of Flood Hazards at the PEWE and LET&D Buildings During a Peak Flow in the Big Lost River*, EDF-2613, May, 2001.
4. P. E. Murray, *Hydrodynamic and Structural Analyses of Flood Hazards at CPP-659 During a Peak Flow in the Big Lost River*, EDF-1747, January, 2001.
5. IBC-2000, *International Building Code*, International Code Council, 2000.

Attachments

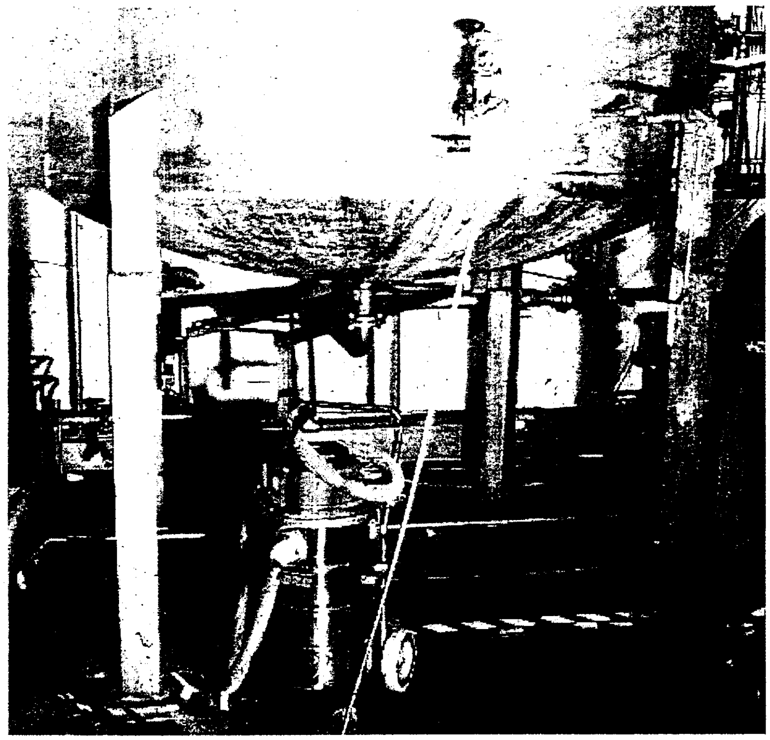
A. Photographs of Condensate Collection Tanks.

431.02
02/26/2002
Rev. 10

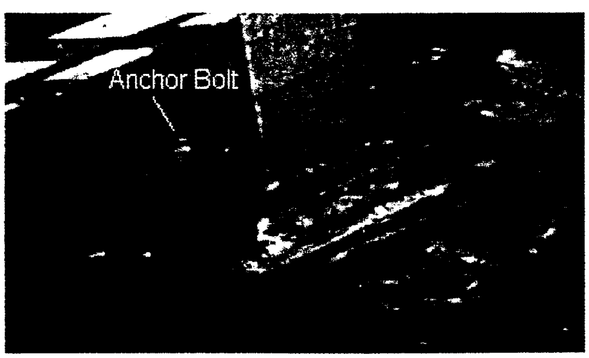
ENGINEERING DESIGN FILE

EDF- 2470
Rev. No. 0
Page A1 of A1

Attachment A – Photographs of Condensate Collection Tanks



Tank WL-106; supports for tanks WL-107 and WL-163 are similar.



Tank anchorage for WL-106; WL-107 is similar.

Tank anchorage for WL-163; four bolts are used.

RCRA PART B PERMIT APPLICATION

FOR THE

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY

Volume 14
INTEC Liquid Waste Management System

Section G
Preparedness, Prevention, and Contingency Plan

October 2003

CONTENTS

TABLES

EXHIBITS

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
G-1. General Information 40 CFR § 264.51 Purpose and implementation of Contingency Plan. (a) Each owner or operator must have a Contingency Plan for his facility. The Contingency Plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water. (b) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment. 40 CFR § 264.53 Copies of Contingency Plan A copy of the Contingency Plan and all revisions to the Contingency Plan must be: (a) Maintained at the facility; and (b) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services. 40 CFR § 264.54 Amendment of the Contingency Plan. The Contingency Plan must be reviewed, and immediately amended, if necessary, whenever: (a) The facility permit is revised; (b) The plan fails in an emergency; (c) The facility changes-in its design, construction, operation, maintenance, or other circumstances-in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency; (d) The list of emergency coordinators changes; or	**G-1. General Information** The Idaho Nuclear Technology and Engineering Center (INTEC) facility is designed, constructed, and operated to exclude or isolate hazardous incidents such as fires, explosions and/or unplanned sudden or nonsudden releases of mixed or hazardous waste or hazardous waste constituents to air, soil, or surface water. The INTEC location, operation, site plan and descriptions/information are presented in detail in Section B, Facility Description, of this permit application. This Resource Conservation and Recovery Act (RCRA) contingency plan matrix discusses emergency response at INTEC. This matrix addresses emergency actions to protect human health, the environment, and INTEC facilities and equipment in an event originating from or affecting CPP-601, -604, -605, -641, -649, -659, and -1618. The Idaho National Engineering and Environmental Laboratory (INEEL) Emergency Plan/RCRA Contingency Plan (INEEL EP/RCRA CP) is the implementing document for emergency response across the INEEL and is written to comply with requirements that are in addition to those of the Idaho Hazardous Waste Management Act (HWMA)/RCRA. This matrix provides the HWMA/RCRA contingency plan requirements that are being implemented through the INEEL EP/RCRA CP. The contingency plan is designed to provide the proper preparation and necessary response planning to prevent or minimize hazards to human health and the environment from fires, explosions, or any release of hazardous waste or hazardous waste constituents. The provisions of the contingency plan are carried out immediately whenever a fire, explosion, spill, or release of hazardous waste or hazardous waste constituents that could threaten human health or the environment occurs. Minor incidents (those that can be controlled with on-Site resources and do not threaten human health or the environment) are managed by trained facility personnel according to the provisions of this plan. Such responses are not considered implementation of the contingency plan. The contingency plan, with all subsequent revisions, will be maintained with the permit at the facility at various locations, including the Plant Shift Supervisor's office in building CPP-652. Copies of the contingency plan are maintained on-Site, with copies provided to the following through Memoranda of Understanding (MOUs) and Memoranda of Agreement (MOAs) with the DOE Idaho Operations Office (NE-ID): - Bingham, Bonneville, Butte, Clark, and Jefferson County Sheriffs' Departments - Rexburg City/Madison County, City of Arco, City of American Falls, City of Blackfoot, City of Chubbuck, City of Pocatello, City of Rigby, and City of Idaho Falls Fire Departments and Jefferson Central and Shelley/Firth Fire Districts - Bannock, Eastern Idaho, and Pocatello Regional Medical Centers - Bingham County Disaster Services, Bonneville County Emergency

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
(e) The list of emergency equipment changes.	- Management Services, Butte County Emergency Services, Clark and Jefferson Counties Civil Defense - Shoshone-Bannock Tribes - Bureau of Land Management and National Park Service - State of Idaho and Idaho Transportation Department. The contingency plan is reviewed and immediately amended, if necessary, whenever: • The RCRA permit is modified • The plan fails in an emergency • It is determined/known that changes in the permitted units, INTEC, and/or the INEEL design, construction, operation, maintenance, or other circumstances have taken place in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency • The list of INTEC emergency action managers (EAMs) changes (refer to Section G-2, Emergency Coordinators) • The list of emergency equipment changes (refer to Section G-5, Emergency Equipment). A permit modification request will be submitted to the Director in compliance with 40 CFR § 270.42 to amend the permit as necessary.
G-2. Emergency Coordinators 40 CFR §§ 264.52(d) and 264.55 40 CFR § 264.52(d) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see 264.55), and this list must be kept up to date. Where more than one person is listed, one must be named as primary emergency coordinator and the others must be listed in the order in which they will assume responsibility as alternates. For new facilities, this information must be supplied to the Regional Administrator at the time of certification, rather than the time of permit application. 40 CFR § 264.55 Emergency Coordinator. At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response	**G-2. Emergency Coordinators** The Emergency Action Managers (EAMs), listed below, are the emergency coordinators (ECs) for purposes of HWMA/RCRA compliance with respect to the contingency plan. Due to the shift-work structure and remoteness of the INTEC, it is not possible or practical for one individual to assume “primary” responsibilities, rather, responsibility is best assigned through “redundant primary” EAMs, without alternates. Names, home addresses, and home phone numbers of the INTEC EAMs are as follows: • Casteel, Michael S. – 1109 Londonderry, Idaho Falls, ID 83404 – 528-0457 • Finup, Tim - 7678 S. 15 W. Idaho Falls, ID 83402 – 522-7634 • Gerdes, Annette - 535 W. 37 S. Blackfoot, ID 83221 – 785-5961 • Lepage, Hughie R. - 3818 Springwood Lane, Idaho Falls, ID 83404 – 523-5603 • Teuscher, D. Randy - 5411 Nez Perce, Pocatello, ID 83204 – 232-4657 • Schmier, Stacey B. - 6155 S. 45 W. Idaho Falls, ID 83402 – 525-8237.

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's Contingency Plan, all operations and activities at the facility, the location and characteristics of the waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the Contingency Plan.	The business address (P.O. Box 1625, Idaho Falls, Idaho 83415), work phone [(208) 526-3100], and pager number (2096) are the same for all the INTEC EAMs. An INTEC EAM is at the INTEC at all times or on call. All of the INTEC EAMs are thoroughly familiar with all aspects of the contingency plan, all INTEC operations/activities (including these units), the location and characteristics of waste handled, volumes of waste, the location of all records within the INTEC and layout. All of the INTEC EAMs have the authority to commit the necessary resources to carry out the contingency plan. The INTEC EAMS are responsible for: • Ensuring that the emergency procedures are implemented and completed when responding to any incident involving the units permitted herein to mitigate or eliminate any immediate or potential hazard to personnel, the public, or the environment • Serving as the primary lead in coordinating with the INEEL Fire Department, INEEL Emergency Operations Center (EOC), and the INEEL Warning Communications Center (WCC) for the proper support from these organizations • Delegating authority to the INTEC Emergency Response Organization (ERO), as well as the On-scene Commander (OSC), as appropriate. If an incident overlaps more than one shift, the active INTEC EAM shall maintain the command until responsibility is officially passed to the incoming INTEC EAM.
G-3. Implementation 40 CFR §§ 264.52(a) and 264.56(d) 40 CFR § 264.52(a) The Contingency Plan must describe the actions facility personnel must take to comply with 264.51 and 264.56 in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility. 40 CFR § 264.51 *[The text of 40 CFR § 264.51 is located in Section G-1, General Information.]* 40 CFR § 264.56 Emergency procedures. (a) *[The text of 40 CFR § 264.56(a) is located in Section G-4a, Notification.]* (b) *[The text of 40 CFR § 264.56(b) is located in Section G-4b, Identification of Hazardous Materials.]*	**G-3. Implementation** The provisions of the contingency plan will be implemented immediately whenever there is a fire, explosion, or unplanned release of hazardous or mixed waste or hazardous waste constituents that threaten human health or the environment. Such an occurrence (incident) requires classification, as described below, to aid in expediting the appropriate emergency response. Classification of an occurrence is done in accordance with DOE Orders 151.1 Change 2, Comprehensive Emergency Management System, and 232.1, Occurrence Reporting and Processing of Operations Information. Through these orders, the DOE has established definitions for occurrence categories and emergency classes. Occurrences are categorized by severity, in order of increasing severity, as: • <u>Off-Normal</u> Occurrences are abnormal or unplanned events or conditions that adversely affect, potentially effect, or are indicative of degradation in the safety, security, environmental, or health protection performance or operation of a facility • <u>Unusual</u> Occurrences are nonemergency events that have significant or potential impact on safety, security, environmental, health, and operations; these occurrences require immediate notification of DOE

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
(c) *[The text of 40 CFR § 264.56(c) is located in Section G-4c, Assessment.]* (d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows: (1) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and (2) He must immediately notify either the government official designated as the on-scene coordinator for that geographical area, (in the applicable regional contingency plan under part 1510 of this title) or the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include: (i) Name and telephone number of reporter; (ii) Name and address of facility; (iii) Time and type of incident (e.g., release, fire); (iv) Name and quantity of material(s) involved, to the extent known; (v) The extent of injuries, if any; and (vi) The possible hazards to human health, or the environment, outside the facility.	• Emergency Occurrences are the most serious occurrences and require an increased alert status for onsite personnel and, in specified cases, for off-Site authorities. Emergency occurrences are classified by severity and the type or quantity of response resources needed. Operational emergency classes are discussed in detail below. Events in either of the first two occurrence categories may require some level of response from the INTEC ERO or other support organization. However, an operational emergency at the INTEC always requires response from the INTEC ERO, or support agencies, because the occurrence involves either an actual or potential fire or explosion involving mixed waste, or an uncontrolled release or threat of an uncontrolled release of mixed waste or constituents. Operational emergencies are defined as an unplanned significant event or condition that requires time-urgent response from outside the immediate area of the incident. An operational emergency shall be declared when events have seriously degraded, or have the potential to degrade, the safety or security of the INTEC. Operational emergencies are classified by severity for specifying the appropriate emergency response actions and notifications, which are commensurate with the degree of hazard for the emergency. Classification aids in the rapid communication of critical information and the initiation of appropriate time-urgent emergency response action. The three classes of operational emergencies, in order of increasing severity, are: **ALERT.** Declaration of an operational alert requires the availability of personnel/resources to: • Provide continuous assessment of pertinent information for management, off-Site authorities, the public, and other appropriate entities • Conduct appropriate assessments, investigations, or preliminary or confirmatory sampling and monitoring • Mitigate the severity of the occurrence or its consequences • Prepare for other response actions should the situation become more serious, requiring EROs to mobilize or activate resources. An alert is declared when events are in progress or have occurred that involve an actual or potential substantial degradation of the level of safety of the facility. An alert involves any release of hazardous materials (nonradiological or radiological) that is expected to be up to the value of established exposure levels for hazardous waste or hazardous waste constituents. **SITE AREA EMERGENCY.** Declaration of which requires initiation of predetermined protective actions for onsite personnel and the notification and assembly of emergency response personnel and equipment to activate response centers to: • Continuously assess pertinent information for management, off-Site authorities, and other appropriate entities

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
This space was intentionally left blank	• Establish communications, consultation, and liaison with off-Site authorities • Provide information to the public through off-Site authorities and the media • Conduct or assist in any evacuations and sheltering • Conduct appropriate assessments, investigations, or sampling and monitoring • Mitigate the severity of the occurrence or its consequences • Mobilize appropriate emergency response groups or security forces for immediate dispatch should the situation become more serious. A site area emergency is declared when events are in progress or have occurred that involve actual or likely major failures of facility functions needed for protection of workers and the public. A site area emergency involves any release of hazardous material (nonradiological or radiological) that is expected to exceed established exposure levels for hazardous waste or hazardous waste constituents on-Site, but is not expected to exceed the appropriate exposure levels off-Site. **GENERAL EMERGENCY.** Declaration of which requires the notification, mobilization, and dispatch of all appropriate emergency response personnel and equipment, including appropriate DOE national response assets to: • Activate the response centers and other emergency assets to provide continuous assessment of information • Establish communications, consultation, and liaison with off-Site authorities and recommend predetermined protective actions for the public • Provide information to the public through off-Site authorities and the media • Conduct or assist evacuations and sheltering • Conduct appropriate assessments, investigations, or sampling and monitoring • Mitigate the severity of the actual or potential consequences • Mobilize and dispatch appropriate emergency response groups or security forces. A general emergency is declared when events are in progress or have occurred that involve (a) actual or imminent catastrophic reduction of facility safety systems with potential for loss of containment or confinement integrity (e.g., release of large quantities of hazardous materials to the environment) and/or (b) release of hazardous material (nonradiological or radiological) that can reasonably be expected to exceed established exposure levels for hazardous waste or hazardous waste constituents off-Site.

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
This space was intentionally left blank	The following is a list of personnel and organization with a general description of their actions/responsibilities in response to fires, explosions, or unplanned sudden or nonsudden releases of hazardous waste or hazardous waste constituents to air, soil, or surface water: • Operations Personnel – Ensure personal safety, inform plant shift supervisor of situation/emergency (type of emergency, location, size, material(s) involved, status of other waste materials, equipment, etc.), and, if possible and properly trained, stop waste movements, secure area, and initiate efforts to stabilize the situation • Plant Shift Supervisor/EAM – Sound appropriate alarms, gather information/documents, and is responsible for conducting emergency response within the INTEC and the immediate implementation of the contingency plan • INEEL Fire Department – Primary responders to all fires and hazardous incidents, providing fire fighting, hazardous materials (HAZMAT) response, and emergency medical services • INTEC Emergency Response Organization – Trained facility personnel including the INTEC EAM • On-Scene Commander – With the assistance of the INTEC EAM, assesses situation from the standpoint of tactical deployment of the INEEL Fire Department and overall effort to address the situation/emergency • INEEL Emergency Operations Center (EOC) – Provides support to the INTEC ERO, including dose assessment, off-Site notifications, public information, and other technical/tactical functions that aid in the assessment, control, and return to operations • Emergency Director (ED) – Manages the INEEL EOC and has jurisdiction over all INEEL operational emergency response activities • INEEL Warning Communications Center (WCC) – Serves as the central organization for coordinating efforts between INEEL EROs and off-Site agencies/support services • Industrial Hygienist – Assists in the assessment of hazards/risk (e.g., monitor areas with known/suspected high concentrations of hazardous vapors/gases) and appropriate response actions • Waste Technical Specialist – Assists in the identification of waste/materials, proper adsorbent/absorbent, and post-emergency collection, storage, treatment and/or disposal • Central Facilities Area (CFA) EAM – Assists INTEC EAM where required/requested to assess possible effects beyond the perimeter of the INTEC, in which case he would assume a responsibility role. Specific actions, which further address 40 CFR §§ 264.52(a) and 264.56(d), are described in Section G-4, Emergency Response Procedures.

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
G-4. Emergency Response Procedures **G-4a. Notification 40 CFR § 264.56(a)** 40 CFR § 264.56(a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately: (1) Activate internal facility alarms or communications systems, where applicable, to notify all facility personnel; and (2) Notify appropriate State or local agencies with designated response roles if their help is needed. This space was intentionally left blank.	**G-4. Emergency Response Procedures** **G-4a. Notification** In the event of a fire or explosion, fire detection equipment (smoke detectors, heat detectors, water flow alarms or water sprinkler alarms) will automatically notify: • The INTEC voice paging system, which will (through exterior and interior building speakers) alert, notify and instruct the INTEC facility personnel and INTEC ERO. • The Fire Alarm Center, (FAC) which will involve the INEEL Fire Department. • The INEEL WCC, which will alert other INEEL EROs. In any event (fire, explosion or release), the person involved/discovering can activate the nearest manual alarms and use communication devices (e.g., telephones, radios), to summon assistance, and make notifications to the plant shift supervisor/EAM and/or the INEEL Fire Department. The INTEC EAM will ensure that all facility personnel are being, or have been, notified of the imminent or actual emergency situation, including a confirmation call to the WCC, to verify the INEEL Fire Department is responding. All notifications shall include the following information, as appropriate: • Name and telephone number of the caller • Location of the incident and the caller • Time and type of incident • Severity of the incident • Description of the incident • Cause of the incident, if known • Assistance needed to deal with or control the incident • Name and address of the facility • Name and quantity of material(s) involved, to the extent known • Extent of injuries, if any • Possible hazards to human health, or the environment, outside the facility. Once the EAM is notified of a fire, explosion, or uncontrolled release at the INTEC (by either an eyewitness or an alarm), the EAM will implement the contingency plan. If necessary, the EAM will also request assistance from the INEEL Fire Department. The INEEL Fire Department is contacted by dialing 777. In case of fire, the INEEL Fire Department will respond to the alarms. The nature of any incident potentially involving hazardous waste or hazardous materials will undergo assessment, as described in Section G-4c. The contingency plan will not be implemented if the incident is considered minor and does not constitute an emergency requiring notification of

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
This space was intentionally left blank .	regulatory agencies (e.g., a fire, explosion, or natural occurrence that does not involve or threaten hazardous or mixed wastes; a release that does not constitute a potential threat to human health or the environment; a spill contained in secondary containment; and/or a spill or release that is less than a reportable quantity specified in 40 CFR § 302.4). Reportable quantities under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Emergency Planning and Community Right-to-Know Act (EPCRA) apply to the release of any substance listed in Table 302.4 of 40 CFR Part 302. The INTEC maintains its own emergency response capabilities through the ERO. There are adequate supplies, equipment, and trained personnel available at the INTEC to mitigate expected emergencies. The INEEL Fire Department and security personnel operate separately, but their activities are coordinated through the EAM. NE-ID maintains coordination and mutual aid agreements with local outside agencies who make additional emergency personnel and equipment available if outside assistance is required. In addition, as a DOE facility, the staff at the INTEC can call upon the resources of the INEEL EOC for additional assistance, including, but not limited to, MOU agreements with local agencies (such as outside medical facilities or state and local law enforcement agencies) and other federal agencies. (See Section G-1.) **Communication of Emergency Conditions to Facility Employees** The procedures for notifying facility personnel depend on the type and severity of emergency and may include the following: • Local Fire Alarms - In the event of a fire, these may be activated automatically or manually. • Evacuation - The evacuation signal is an alternating, siren tone, manually activated by the contract security force, or the INTEC Emergency Control Center, at the direction of the EAM. If the primary warning system consisting of alarms and signals fails to operate when activated (as in a total power outage and failure of the backup power systems), security will be directed by the EAM to use voice amplifiers to alert personnel to evacuate the area. • INTEC Voice Paging System - The INTEC voice paging system provides personnel with general and emergency information. **Notification of Local, State, and Federal Authorities** If it is determined that the permitted units have had a fire, explosion, spill, or release of hazardous waste or hazardous waste constituents, or an emergency resulting in a release of a hazardous substance included in 40 CFR § 302.4, that could threaten human health or the environment inside or outside the INTEC, the contingency plan will be implemented. The EAM will ensure that local authorities are notified by telephone and/or facsimile. These notifications are made by the INEEL WCC, based on the initial information provided by the EAM or the ED. The agencies to be contacted include, as appropriate:

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
This space was intentionally left blank	Idaho State Emergency Response Commission & Department of Environmental Quality 1-(800) 632-8000 or (208) 334-4570 Fax Number (208) 334-4595 County Dispatch Centers: Butte County (208) 527-3585 Fax Number (208) 527-3916 Bonneville County (208) 522-1644 Fax Number (208) 529-1123 Bingham County (208) 785-7653 Fax Number (208) 785-8067 Clark County (208) 374-5669 Fax Number (208) 374-5614 Fort Hall Police Dispatch (208) 478-4000 Fax Number (208) 478-4005 Public Safety (208)-237-0049 Jefferson County (208) 745-9207 Fax Number (208) 745-9212 DOE-HQ Emergency Operations Center (202) 586-8100 Fax Number (202) 586-8485 State of Idaho Communications Center (208) 334-4570 or (800) 632-8000 Fax Number (208) 846-7620 National Response Center 1-800-424-8802 The first notification of regulatory agencies will include, as appropriate: • Name and address of the facility and the name and phone number of the reporter • Type of incident: fire, explosion, release, etc. • Date and time of the incident • Type and quantity of hazardous material(s) involved • Exact location of the incident • Injuries, if any

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
This space was intentionally left blank	• Possible hazards to human health and the environment (air, soil, water, wildlife, etc.) outside the facility • Name, address, and telephone number of the party in charge of or responsible for the facility or activity associated with the incident • Steps being taken or proposed to contain and clean up the material involved in the incident. The ED and EAM will also be available to help the appropriate local, state, or federal officials decide whether local areas should be evacuated. **Notification of the General Public** Notification of the general public through the public safety and emergency agencies listed above will be made by the INEEL Emergency Director or the EAM. DOE policy is to provide accurate and timely information to the public, by the most expeditious means possible, concerning emergency situations that may affect employees, off-Site personnel, public health and safety, and/or the environment.
G-4b. Identification of Hazardous Materials 40 CFR § 264.56(b) 40 CFR § 264.56(b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis.	**G-4b. Identification of Hazardous Materials** The identification of hazardous wastes or hazardous waste constituents involved in a fire, explosion, or release to the environment is a necessary part of the assessment of an incident. RCRA-regulated hazardous waste and hazardous substances and materials listed in 40 CFR § 302.4 involved in any release at the permitted units will be identified. The wastes normally stored at the permitted units present no unique hazards to the waste operations personnel. The permitted units present common industrial hazards for exposures or injuries. The INTEC EAM will determine the identity, exact source, amount, and extent of any released materials. Sources of information include, but may not be limited to: • Observations of personnel involved in or discovering the situation • Permitted units operating records • Material Safety Data Sheets (MSDSs) • Monitoring performed by an Industrial Hygienist • The INEEL Fire Department's findings/reports. Released or residual materials (residuals from a fire or explosion) that cannot be identified by labels, records, logbooks, identification numbers, or electronic databases will be sampled in accordance with a waste analysis plan (WAP), and analyzed to determine the chemical properties of the waste. The analytical results will determine the proper disposition of unidentifiable waste materials.

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
G-4c. Assessment 40 CFR §§ 264.56(c) and 264.56(d) 40 CFR § 264.56(c) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions). 40 CFR § 264.56(d) *[The text of 40 CFR § 264.56(d) is located in Section G-3, Implementation.]* This space was intentionally left blank	**G-4c. Assessment** Once the required notifications have been made, the EAM will ensure the identity, exact source, amount, and extent of released materials spreading from the event location can be determined. Individuals entering the affected area to gather information for the assessment will wear appropriate PPE. The EAM will determine the identity of materials released, based on knowledge of the area and access to the waste identification/characterization information described in Section G-4b. After the materials involved in an emergency are identified, the specific information on the associated hazards, appropriate PPE, decontamination method, etc., will be obtained from MSDSs or other appropriate chemical reference materials. Based on default conservative estimates of potential source terms, emergency action levels (EALs) have been developed for fires, explosions, radiological releases and other emergency events. EALs are specific, predetermined, observable criteria used to determine the emergency classification and initial protective actions for operational emergencies. These EALs provide guidance for activating the INEEL EROs at the appropriate level in response to the incident. These EALs specify the initial protective actions (i.e., evacuation or take cover) to be taken in response to the event. The emergency assessment requires determination of hazards involving evaluation of several criteria, including the following: • Nature of the accident - Known or probable cause; current/projected status of the affected area; facility conditions; status of containment boundaries/systems; type(s) and quantities of hazardous waste/material (nonradiological and radiological) involved in the incident • Weather conditions, present and expected - Wind speed and direction; precipitation; time of day; stability class; weather forecast; anticipated dispersion pattern; direction of travel and width of plume; locations affected • Exposure - Magnitude of actual or potential exposure to employees, the general public, and the environment; duration of human and environmental exposure; pathways of exposure • Toxicity - Types of adverse health or environmental effects associated with exposures; the relationship between the magnitude of exposure and adverse effects • Reactivity (if applicable) - Hazardous materials or wastes involved in an incident will be assessed, through accessing the MSDSs for the affected material to determine its reactivity and the recommended method(s) for managing such waste • Effects - Direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire or explosions)

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
	• Uncertainties - Considerations for undeterminable or future exposures; uncertain or unknown health effects including future health effects. If the assessment indicates no real or potential threat to human health or the environment, the occurrence will be considered a minor incident. Minor incidents do not require further implementation of the contingency plan. If the assessment indicates that a potential threat exists to off-Site human health or the environment due to airborne contaminants, the EAM or INEEL ED will advise the appropriate off-Site response personnel of the nature of the potential threat. Wind data for the INTEC and the nature of the wastes normally stored at the permitted units do not indicate that an airborne release is likely to occur outside the TSDF.
G-4d. Control Procedures 40 CFR § 264.52(a) 40 CFR § 264.52(a) The Contingency Plan must describe the actions facility personnel must take to comply with 264.51 and 264.56 in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility. This space was intentionally left blank	**G-4d. Control Procedures** **Spills that Occur While Working With a Hazardous Waste** Employees in the permitted units will evacuate the immediate area and notify the EAM. The EAM will notify the spill control team, appropriate facility personnel, and/or the INEEL Fire Department who will perform the following steps: (1) After donning appropriate PPE (if necessary), secure the source of the release. (2) Transfer the spill to a tank or drum, using a pump, jet, or airlift. (3) After pumping or if the spill is small, spread absorbent over the area of the spill and dispose of the contaminated absorbent to an appropriate container. (4) Stabilize flammable solvent spills using an absorbent. (5) Stabilize other chemical spills by using a neutralizing agent or by adding absorbent. (6) Handle the stabilized material as a hazardous or mixed waste. Sweep, shovel, or pump it into an appropriate container. (7) Remove any contamination from floors and walls with a decontaminant appropriate to the spilled material, and transfer decontaminant and cleaning materials to an appropriate container. (8) Properly label the container. (9) Dispose of container appropriately. (10) Decontaminate all reusable spill cleanup equipment. After cleanup is complete, trained facility personnel will complete a weekly inspection log entry and include the details of the spill and cleanup in the log.

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
This space was intentionally left blank	**Unattended Spills that are Discovered** Employees in the permitted units will leave the immediate area of the spill and notify the EAM. The EAM will notify the INEEL Fire Department who will perform the following: (1) Attempt to determine the source of the spill. (2) If the spilled material can be identified from the source, handle the spill as in the procedure for "Spills that Occur While Working With a Hazardous Waste," above. (3) If the spilled material cannot be identified, a sample will be collected. (4) Obtain a rush analysis from a laboratory. (5) The spilled material will be containerized per the Analytical Data provided. (6) After the waste has been fully characterized, it will be managed appropriately. **Natural Phenomena Emergencies** After any natural emergency (earthquake, flood, lightning strike, etc.) that may have affected the permitted units, the EAM shall ensure the following actions are performed: (1) Inspect tanks and containment for signs of leakage or damage. (2) Check to ensure all automatic and manual alarms in the permitted units are working if feasible. (3) Conduct a general survey of the permitted units looking for potential problems. (4) Take any necessary corrective measures, however temporary, to rectify potential or real problems. (5) Record all inspection results. **Personnel Contamination** In the event of chemical material in the eye or on the skin, personnel will use the following procedure: (1) Wash the eye(s) or skin using a shower/eyewash station for an appropriate time (2) Hold the eyelids open during washing. (3) Notify the EAM. The EAM will notify the appropriate facility personnel, and or the INEEL Fire Department who will, if possible, ascertain what chemical material was involved in the injury. (4) Report to the appropriate INEEL medical facility. In the event of irritation of the eyes, breathing passages, or skin, difficulty in breathing, and/or nausea, light-headedness, vertigo, or blurred vision, personnel will notify the INEEL Fire Department. The EAM will evacuate and barricade the area to prevent unauthorized entry and notify the appropriate facility personnel and or the INEEL Fire Department, who will

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
This space was intentionally left blank.	attempt to determine what, if any, chemical exposure occurred and what corrective measures are appropriate. **Power Failure** The permitted units are equipped with a standby power source in the event of utility failure. Should total power failure occur, battery-operated lights would automatically illuminate. In the event of a power failure, personnel will secure any work in progress and leave the area until power is restored. The utilities have power replacements as shown: • Lights - Fixed battery-operated lights will operate • Alarms - Emergency communication and fire alarm systems have battery backup • Telephone - Radio networks and/or pagers will be used • Fire sprinklers - Portable extinguishers and external hose streams.
G-4e. Prevention of Recurrence or Spread of Fires, Explosions, or Releases 40 CFR §§ 264.56(e) and (f) 40 CFR § 264.56(e) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include where applicable, stopping processes and operations, collecting and containing release waste, and removing or isolating containers. 40 CFR § 264.56(f) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.	**G-4e. Prevention of Recurrence or Spread of Fires, Explosions, or Releases** **Equipment Failure** There will be no impact to the permitted units from an equipment failure. Mechanical failures not resulting in spills will be repaired by maintenance personnel. During an emergency, the EAM will ensure that reasonable measures are taken so that fires, explosions, and releases do not occur, recur, or spread to mixed waste or other hazardous materials at the facility. These measures include the following: • Stopping processes and operations • Collecting and containing released wastes and materials • Removing or isolating containers of waste or hazardous materials • Ensuring wastes managed during an emergency are handled, stored, or treated with due consideration for compatibility with other wastes and materials onsite and with any containers utilized (see Section G-4g) • Restricting personnel not needed for response activities from the area of the incident • Evacuating the area if necessary • Curtailing nonessential activities in the area • Conducting preliminary inspections of adjacent facilities and equipment to assess damage • Repairing damaged equipment and facilities, as appropriate • Constructing, monitoring, and reinforcing temporary dikes, as needed

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
This space was intentionally left blank.	• Maintaining the INEEL Fire Department and equipment on standby at the incident site in cases where ignitable liquids have been or may be released and ensuring that all ignition sources are kept out of the area • Ensuring ignitable liquids are segregated, contained, confined, diluted, or otherwise controlled to preclude inadvertent explosion or detonation. As described in Section G-4a above, once the EAM is notified (by either an eyewitness or alarm) of a fire, explosion, or release, the EAM will immediately report the situation to the WCC and take action to notify the INEEL Fire Department and ERO, as necessary. If necessary, the EAM may request other INEEL support. All personnel not involved in combating the emergency shall evacuate the affected area and assemble in designated locations away from the affected area as informed by the EAM by appropriate means. Emergencies originating at the permitted units will be addressed by implementation of the contingency plan under the direction of the EAM. The contingency plan may be implemented at any time, at the discretion of the EAM. **Fires** Fires that involve or threaten hazardous or mixed wastes are considered emergencies for the purposes of the contingency plan. Planned actions include: • The INEEL Fire Department will be contacted by pulling the fire-alarm call box or by dialing 777. • Fire fighting personnel will don appropriate PPE. • If the fire is small and the fuel source is small, portable fire extinguishers may be used to put out the fire. • Whenever possible, flammable material will be removed from the area of the fire. • If the fire spreads or increases in intensity, all personnel will be evacuated to an upwind location. • The EAM will remain in contact with responding personnel to advise them of the known hazards. • As necessary, actions will be taken to ensure storm drains do not receive potentially hazardous run-off. Dikes will be built around storm drains and any valves controlling discharge will be closed. The EAM is responsible for all emergency response actions conducted within the facility, supporting and coordinating with the On-Scene Commander and for the overall mitigation of the event until the emergency event is terminated. Selection of methods and tactics of fire fighting is the responsibility of the INEEL Fire Department.

<table>
<tr><th>AT KEARNEY FORMAT SECTION
REGULATORY
REFERENCE/CITATION</th><th>COMPLIANCE METHODOLOGY</th></tr>
<tr><td>This space was intentionally left blank.</td><td>An absorbent will be poured over all chemical residues resulting from a hazardous waste fire. Once the liquid is absorbed, the waste will be swept or shoveled back into labeled compatible containers, and the surface will be cleaned using appropriate cleaners for the identified chemicals.

Fire fighting waters will be collected and analyzed, whenever possible, to determine an appropriate disposal method.

Explosions
The following procedure will be implemented, in the event that an explosion that involves or threatens hazardous or mixed waste occurs, or in the event that an explosion is imminent:
The area will be immediately evacuated.
Any injured personnel will be immediately transported to the appropriate medical facility for treatment.
The EAM will immediately notify the appropriate emergency response personnel and the WCC about the explosion.
The EAM will remain in contact with responding personnel to advise them of the known hazards involved and the degree and location of the explosion and associated fires.
The EAM is responsible for all emergency response actions conducted within the facility, supporting and coordinating with the On-Scene Commander and for the overall mitigation of the event until the emergency event is terminated. Selections of methods and tactics of responding to an explosion are the responsibility of the On-Scene Commander.
Collect and contain released wastes by stabilizing or neutralizing the spilled material, as appropriate, pouring an absorbent over the spilled material, and sweeping or shoveling the absorbed material into drums or other appropriate containers. Once the waste has been collected the surface is cleaned using appropriate cleaners for the identified chemicals.
The EAM will secure all operational units (e.g., process equipment, and ventilation equipment) that may be affected directly or indirectly by the explosion, once the areas have been determined safe for reentry.</td></tr>
</table>

<table>
<tr><th>AT KEARNEY FORMAT SECTION
REGULATORY
REFERENCE/CITATION</th><th>COMPLIANCE METHODOLOGY</th></tr>
<tr><td>This space was intentionally left blank.</td><td>Releases
The EAM will implement the following procedures in the event that: (a) a hazardous or mixed waste or hazardous material spill causes an immediate health hazard; (b) a hazardous or mixed waste or hazardous material spill cannot be contained with secondary containment or application of absorbents; or (c) a threat exists for spilled material to move out of the permitted units:

(1) Evacuate the immediate area.

(2) Review facility records to determine the identity and chemical nature of released material.

(3) Don appropriate PPE to prevent exposure to the material.

(4) Secure the source of the release, if possible.

(5) Build a dike to contain run-off.

(6) Ensure storm drains do not receive potentially hazardous run-off or spill material. Build dikes around storm drains or close any valves controlling discharge.

(7) Collect and contain released wastes by stabilizing or neutralizing the spilled material, as appropriate, pouring an absorbent over the spilled material, and sweeping or shoveling the absorbed material into drums or other appropriate containers.

(8) Ensure that waste that may be incompatible with the released material will be managed in the affected area until cleanup procedures are complete.

After collection of a released material, the incident location will be sampled and evaluated. If contamination is found to exist, contaminated materials may be collected, drummed (if appropriate), and removed from the area for disposal at a permitted disposal facility. Depending on the specific conditions, however, INTEC personnel may choose to implement an alternative decontamination method, such as surface cleaning or insitu neutralization or stabilization. Any such alternative will be discussed with the Director of the Idaho Department of Environmental Quality, before implementation.</td></tr>
<tr><td>G-4f. Storage and Treatment of Released Materials 40 CFR § 264.56(g)
40 CFR § 264.56(g) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.</td><td>G-4f. Storage and Treatment of Released Materials
Once initial spill containment has been completed, the EAM will ensure that recovered hazardous materials and waste are properly stored, treated, and/or disposed, as required by IDAPA 58.01.05.006; 58.01.05.007; and 58.01.05.008 (40 CFR 262, 263, and 264). For spills of liquid that escaped secondary containment, the perimeter of the spill will be diked with an absorbent material, such as absorbent pillows, that is compatible with the material(s) released. Freestanding liquid will be transferred to a labeled compatible container. The remaining liquid will be absorbed with an absorbent material and swept or scooped into a labeled compatible container. Spill residue will be removed. Spills of dry material will be swept or</td></tr>
</table>

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
This space was intentionally left blank	shoveled into a labeled compatible recovery container. Material recovered from the spill will be transferred to a new or clean-washed container that held a compatible material. All containers will meet Department of Transportation (DOT) specifications for shipping the recovered wastes and materials. Hazardous waste resulting from the cleanup of a fire, explosion, or release will be contained and managed as a hazardous waste until such time that it can be determined that the waste is not hazardous, as defined in IDAPA 58.01.05.005 (40 CFR 261, Subparts C and D). When necessary, however, samples of the waste will be collected and analyzed to determine the presence of any hazardous characteristics and/or hazardous waste constituents; this information is needed to evaluate disposal options. Approved sampling and analytical methods will be used. The contaminated area will be decontaminated. If the release results in contamination to a permeable surface, such as soil, asphalt, or other surface, the material will be removed and placed in DOT-approved shipping containers. Contaminated surface materials, as well as materials used in the cleanup (e.g., rags and absorbent material), will be containerized and placed into storage, pending transfer to an on- or off-Site treatment or disposal facility, in accordance with applicable regulations.
G-4g. Incompatible Waste 40 CFR § 264.56(h)(1) 40 CFR § 264.56(h) The emergency coordinator must ensure that, in the affected area(s) of the facility: (1) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and	**G-4g. Incompatible Waste** In the event of a hazardous material or hazardous waste release, the EAM will ensure that no wastes will be received, treated, or stored in the affected areas until cleanup operations have been completed. This will ensure that incompatible waste will not be present in the vicinity of the release. If waste is generated as the result of a spill or release of hazardous materials or hazardous waste, the waste generated as a result of abatement and cleanup will be evaluated to determine its compatibility with other wastes being managed in temporary storage areas. The evaluation will identify the material or waste that was spilled or released and determine its characteristics (e.g., ignitable, reactive, corrosive, and toxic). The waste generated by the abatement and cleanup activities will be stored in that part of the temporary storage area of the permitted units that has been established to manage wastes with which it is compatible. Administrative controls, such as installing barriers and/or a cordon around the temporary storage area(s), will be implemented to ensure segregation of wastes. The EAM will not allow hazardous or mixed waste operations to resume in a building or area in which incompatible materials have been released before ensuring that necessary post-emergency cleanup operations to remove potentially incompatible materials have been completed.
G-4h. Post-Emergency Equipment Maintenance 40 CFR § 264.56(h)(2) 40 CFR § 264.56(h) The emergency coordinator must ensure that, in the affected area(s) of the facility:	**G-4h. Post-emergency Equipment Maintenance** The EAM will ensure that emergency equipment is cleaned and ready for its intended use before operations are resumed. Any equipment that cannot be decontaminated may be discarded as waste (i.e., hazardous, mixed, solid, as appropriate). Equipment or supplies that cannot be reused following an emergency will be replaced. After the equipment has been cleaned, repaired,

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
(2) All emergency equipment listed in the CP is cleaned and fit for its intended use before operations are resumed. This space was intentionally left blank	or replaced, a post-emergency facility and equipment inspection will be performed, and the results will be recorded. Cleaning and decontaminating equipment may be accomplished using nonhazardous materials whenever possible, by physically removing gross or solid residue, rinsing with water or another nonhazardous liquid, and/or washing with detergent and water. Decontamination and cleaning will be conducted in a confined area, such as a wash pad or building equipped with a floor drain and sump isolated from the environment. Care will be taken to prevent wind dispersion of particles and spray. Liquid or particulate resulting from cleaning and decontamination of equipment will be placed in clean, compatible containers. Waste resulting from decontamination operations will be analyzed for hazardous waste constituents and/or hazardous waste characteristics to determine proper management. When INTEC facility personnel has completed any post-emergency cleanup of waste and hazardous residues from areas where waste management operations are ready to resume, and the EAM has ensured that all emergency equipment used in managing the emergency has been cleaned or replaced and is fit for service, the following notifications will be made, EPA Region 10 Administrator, the Director of the Department of Environmental Quality, and any relevant local authorities. This post-emergency notification complies with IDAPA 58.01.05.008 [40 CFR § 264.56(i)].
G-4j. Tank Spills and Leakage 40 CFR § 264.194 (c)(1) 40 CFR § 264.194(c) The owner or operator must comply with 264.196 if a leak or a spill occurs in the tank system. 40 CFR § 264.196 Response to leaks or spills and disposition of leaking or unfit-for-use tank systems. A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, must be removed from service immediately, and the owner or operator must satisfy the following requirements: (a) Cessation of use; prevent flow or addition of wastes. The owner or operator must immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release. (b) Removal of waste from tank system or secondary containment system. (1) If the release was from the tank system, the owner/operator must, within 24 hours after detection of the leak or, if	**G-4j. Tank Spills and Leakage** In addressing this section, it is important to realize that the INTEC buildings are designed, constructed and remotely operated to exclude or isolate hazardous incidents. In the case of the permitted tank systems (tanks, ancillary equipment, and secondary containment), all are contained within a completely enclosed, self-supporting structure that is designed and constructed of man-made materials of sufficient strength and thickness to support themselves, the waste contents, and personnel and heavy equipment that may operate within the building(s). Tank system leaks or spills can be detected by tank level measurement equipment, sump high level, and radiation alarms, as well as through inspection or operation. Upon detection of a leak or spill from a tank system, or if through inspection or use a tank system is determined to be unfit for use, the following steps will be taken, as deemed necessary. When a spill or leak from a tank system is encountered, the plant shift supervisor/EAM will assess the situation, and determine the proper and safe action(s), if any, necessary to best stop the spill or leak (e.g., stop the flow of waste into or out of the tank). Additional waste will not be added to the tank. All of the subject tanks are mixed waste tanks and radiological considerations will in most cases impede efforts to remove the waste from the tank or secondary containment system within 24 hours. However, the waste will be addressed in as timely a manner as is possible to prevent harm to human health and the environment while ensuring the safety of the facility personnel responding to the spill/leak.

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
the owner/operator demonstrates that it is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed. (2) If the material released was to a secondary containment system, all released materials must be removed within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment. (c) Containment of visible releases to the environment. The owner/operator must immediately conduct a visual inspection of the release and, based upon that inspection: (1) Prevent further migration of the leak or spill to soils or surface water; and (2) Remove, and properly dispose of, any visible contamination of the soil or surface water. (d) Notifications, reports. (1) Any release to the environment, except as provided in paragraph (d)(2) of this section, must be reported to the Regional Administrator within 24 hours of its detection. If the release has been reported pursuant to 40 CFR Part 302, that report will satisfy this requirement. (2) A leak or spill of hazardous waste is exempted from the requirements of this paragraph if it is: (i) Less than or equal to a quantity of one (1) pound, and (ii) Immediately contained and cleaned up. (3) Within 30 days of detection of a release to the environment, a report containing the following information must be submitted to the Regional Administrator (i) Likely route of migration; (ii) Characteristics of the surrounding soil (composition, geology, hydrogeology, climate); (iii) Results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available within 30 days, these data must be submitted to the Regional	After ensuring personnel safety, the most important task is to identify the source of the spill/leak and the actual and potential extent of the leak/spill, for example: • A minor leak from ancillary equipment (i.e., a pump or valve, that can be easily stopped/controlled). • A minor tank leak/spill that can be easily stopped. • A minor leak or spill to a secondary containment system or portion of INTEC that can be easily stopped. • A major tank leak from which total loss of contents could be realized. Once the source of the leak/spill is identified and controlled within the cell, trained INTEC facility personnel assess the extent of the spill/leak and initiate corrective actions and cleanup activities. In the most extreme case of tank failure, the INTEC EAM will be notified and the contingency plan implemented. Since all tanks and ancillary equipment are contained within permanent structures, release to soils or surface water is extremely unlikely. In the event a release to the environment is detected, a visual inspection will be conducted immediately. Migration of the leak or spill toward soils or surface water will be prevented as practicable and any contaminated materials will be removed, characterized, and properly disposed. Any release from the tank system to the soil, groundwater, or surface water will be reported to the Regional Administrator within 24 hours of detection, unless: • The release has already been reported pursuant to 40 CFR Part 302, or • It is a spill of hazardous waste totaling less than or equal to one pound that was immediately contained and cleaned up. Within 30 days of detection of a release from the tank system to the soil, groundwater, or surface water, a report detailing the release will be submitted to the Regional Administrator. This report will, at a minimum, contain the following: • The likely route of migration. • Characteristics of the surrounding soil. • The results of any monitoring or sampling conducted in connection with the release, if available. • Proximity to downgradient drinking water, surface water, and populated areas. • A description of response actions taken or planned. In all cases the proper reports will be filed in accordance with Section G-8, the incident will be documented in the unit's operating record, and the

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
Administrator as soon as they become available. (iv) Proximity to downgradient drinking water, surface water, and populated areas; and (v) Description of response actions taken or planned. (e) Provision of secondary containment, repair, or closure. (1) Unless the owner/operator satisfies the requirements of paragraphs (e)(2) through (4) of this section, the tank system must be closed in accordance with Sec. 264.197. (2) If the cause of the release was a spill that has not damaged the integrity of the system, the owner/operator may return the system to service as soon as the released waste is removed and repairs, if necessary, are made. (3) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system must be repaired prior to returning the tank system to service. (4) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner/operator must provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of Sec. 264.193 before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system that can be inspected visually. If the source is an aboveground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of paragraph (f) of this section are satisfied. If a component is replaced to comply with the requirements of this subparagraph, that component must satisfy the requirements for new tank systems or components in Sections 264.192 and 264.193. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an inground or onground tank), the	PPE/equipment used in the response will be decontaminated or disposed of and replaced. All tanks and ancillary equipment are secondarily contained and/or may be visually inspected. Once a release has been contained and cleaned up, the affected unit(s) will be inspected and returned to service, provided that: • The cause of the release has been identified. • The integrity of the tank and/or ancillary equipment has not been compromised. • The source of the release has been repaired, as necessary. • The affected area has been decontaminated. • Spill response equipment has been replenished or decontaminated and returned to service. This space was intentionally left blank.

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
entire component must be provided with secondary containment in accordance with Sec. 264.193 prior to being returned to use.	
(f) Certification of major repairs. If the owner/operator has repaired a tank system in accordance with paragraph (e) of this section, and the repair has been extensive (e.g., installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), the tank system must not be returned to service unless the owner/operator has obtained a certification by an independent, qualified, registered, professional engineer in accordance with Sec. 270.11(d) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification must be submitted to the Regional Administrator within seven days after returning the tank system to use.	When a tank system repair has been extensive (e.g., repair of a ruptured primary containment or secondary containment), the tank system will not be returned to service until a certification by an independent, qualified, registered, professional engineer in accordance with 40 CFR § 270.11(d) has been obtained. The certification will reflect that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification will be submitted to the DEQ within seven days after returning the tank system to use.
G-5. Emergency Equipment 40 CFR § 264.52(e) 40 CFR § 264.52(e) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.	**G-5. Emergency Equipment** A variety of equipment is available at the INTEC for emergency response, containment, and cleanup operations. This includes equipment for spill control, fire control, personnel protection, monitoring and medical attention, communications, and alarms. This equipment is immediately available to emergency response personnel. A listing of typical emergency equipment is shown in Tables G-1 through G-5. In the event a spill cannot be mitigated with the supplies kept at the permitted units, additional response supplies are available throughout the INTEC, and throughout the INEEL. Safety and emergency equipment located at CPP-601 includes: • Portable fire extinguishers • Safety showers/eye wash stations • Spill control cabinet • Communication devices • Plant voice paging and evacuation alarm system. Safety and emergency equipment located at CPP-604 includes: • Portable fire extinguishers • Safety showers/eye wash stations • Spill control cabinet • Communication devices

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
This space was intentionally left blank.	• Plant voice paging and evacuation alarm system. Safety and emergency equipment located at CPP-641 includes: • Communication devices • Portable fire extinguishers • Plant voice paging and evacuation alarm system. Safety and emergency equipment located at CPP-1618 includes: • Portable fire extinguishers • Safety showers/eye wash stations • Communication devices • Spill control cabinet. Safety and emergency equipment located at CPP-659 includes: • Portable fire extinguishers • Safety showers/eye wash stations • Communication devices • Spill control cabinet. The following are examples of the safety equipment available for spill control in the permitted units: • Acid suits (disposable and reusable) and acid gloves (neoprene) • Spill control pillows • Hazardous waste bags • Plastic buckets • Hazardous material pigs • Safety rope and signs • Radiation rope/ribbon and radiological tags/signs • Duct tape • pH paper • Shovel (flat head) • Smear paper and envelopes • Grease/standard pencils • Mops • Absorbent • Acid/caustic neutralizers • Splash goggles.

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
	Safety and emergency equipment provide adequate capabilities for trained personnel to respond to and control leaks, spills, and emergency situations until assistance arrives. The INEEL Fire Department has other emergency equipment including, but not limited to, self-contained breathing apparatus (SCBAs), stretchers, and first-aid kits.
G-6. Coordination Agreements 40 CFR §§ 264.52(c) and 264.37 40 CFR § 264.52(c) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services pursuant to 264.37. 40 CFR § 264.37 Arrangements with local authorities. (a) The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations: (1) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes. (2) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority; (3) Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and (4) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility	**G-6. Coordination Agreements** The INTEC EAM will ensure initial responders are dispatched to an emergency event originating at the INTEC. However, the level of response depends on the nature and extent of the incident. If warranted, additional INEEL resources are obtained, such as on-Site security, medical, and fire assistance, which are available on a 24-hour basis. Section G-1, General Information [40 CFR § 264.53(b)], contains the list of off-Site state, local and tribal agencies that are familiar with the contingency plan and may be called upon through agreements with the NE-ID. This space was intentionally left blank.

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility. (b) Where State or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.	This space was intentionally left blank.
G-7. Evacuation Plan 40 CFR § 264.52(f) 40 CFR § 264.52(f) The plan must include an evacuation plan for facility personnel where there is a possibility that an evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires). This space was intentionally left blank.	**G-7. Evacuation Plan** The normal actions to protect nonemergency personnel are to minimize their exposure to radiation, airborne radioactivity, hazardous chemicals, and airborne hazardous chemicals, by seeking shelter, avoiding the accident area, or evacuating selected buildings or areas. In the event of an emergency, which results in high radiation, hazardous chemical levels, or a continuing release to the environment, it may become necessary to evacuate the entire INTEC area. Building and Emergency Plan Maps depicting evacuation routes are located throughout the INTEC buildings. Upon exiting a building, personnel proceed to a designated staging area not affected by the emergency. The INTEC evacuation system alerts personnel in case of an evacuation. This system is on backup power; should power fail, it will automatically switch to a battery. Evacuation sirens are strategically located throughout the INTEC to provide coverage for all occupied areas. If the evacuation alarm is out of service or fails to operate, the evacuation will be communicated over the voice paging system, by word of mouth, or by security personnel using sirens or the voice amplifiers in their vehicles. Designated personnel, known as area wardens, are assigned responsibility for ensuring that personnel are evacuated from the area warden's assigned area or building or accounted for during evacuations. The following procedure will allow for a safe, coordinated evacuation: (1) When an evacuation is announced, stop work. (2) Follow the voice-paging instruction or proceed to the closest building exit, unless blocked by hazards. (3) Do not remain in the affected area. Assist injured personnel in evacuating the facility. (4) Exit the facility through the security access points to the designated assembly area. (5) Report to designated assembly area for roll call. (6) Be continually cognizant of wind direction (stay upwind) and emergency equipment. (7) Do not reenter the fenced area of the INTEC, until the EAM authorizes reentry. During an evacuation, all personnel will remain in the designated assembly area, until given further instructions.

AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION	COMPLIANCE METHODOLOGY
This space was intentionally left blank.	The primary evacuation routes for the permitted units are depicted in the Exhibits located at the end of this section. Alternative evacuation routes are through the nearest unobstructed emergency exit. **Evacuation Alarm** signal is an alternating tone-generated siren. **Fire Alarm** is announced over the INTEC voice paging system. **Take-Cover Alarm** is a steady tone-generated siren. This signal provides an emergency option to total INTEC evacuation.
G-8. Required Reports 40 CFR § 264.56(j) and 40 CFR § 264.56(i). 40 CFR § 264.56(j) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the CP. Within 15 days after the incident, he must submit a written report on the incident to the Regional Administrator. The report must include: (1) Name, address, and telephone number of the owner or operator; (2) Name, address, and telephone number of the facility; (3) Date, time, and type of incident (e.g., fire, explosion); (4) Name and quantity of material(s) involved; (5) The extent of injuries, if any; (6) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and (7) Estimated quantity and disposition of recovered material that resulted from the incident. 40 CFR § 264.56(i) The owner or operator must notify the Regional Administrator, and appropriate State and local authorities, that the facility is in compliance with paragraph (h) of this section before operations are resumed in the affected area(s) of the facility.	**G-8. Required Reports** Any fire, explosion, or unplanned release of hazardous or mixed waste or hazardous constituent requiring implementation of the contingency plan will be reported by the NE-ID in writing within 15 days to the EPA Region 10 Administrator. If appropriate, the NE-ID will also provide a report to the Director of the Department of Environmental Quality. Such reports will include, as a minimum, the following: • Name, address, and telephone number of the facility owner/operator • Name, address, and telephone number of the facility • Date, time, and type of incident (e.g., fire, explosion, release) • Name and quantity of the material(s) involved • Extent of any injuries to personnel at the facility • An assessment of any actual or potential hazards to human health or the environment, as applicable • Estimated quantity and disposition of material recovered from the incident (includes fire fighting materials, such as water, foam, adsorbents/absorbents, etc.). In accordance with IDAPA58.01.05.008 [40 CFR § 264.56(i)], the NE-ID will notify the Director of the Department of Environmental Quality and the EPA Region 10 administrator that: • The permitted units are in compliance with requirements for the cleanup of areas affected by the emergency and that the emergency equipment used in the emergency response has been cleaned or replaced and is fit for the intended use, before the resumption of waste management activities. • The permitted units have experienced a fire, explosion, spill, or release of hazardous waste or hazardous waste constituents or an emergency resulting in a release of a hazardous substance included in 40 CFR § 302.4 that could threaten human health or the environment outside the INTEC. The contingency plan will be implemented, and the EAM will ensure that local authorities are notified in writing.

Table G-1. Emergency response equipment available at CPP-601

Emergency Equipment	Location	Capabilities
Fire control		
Wet-pipe fire sprinkler system	Throughout CPP-601	Fire control / suppression
Portable fire extinguisher (ABC or CO_2)	see Exhibits G-1 and G-2	Use during incipient stage of fire (10 to 60 second discharge time)
Fire hose connection station	see Exhibits G-1 and G-2	50 gallons per minute at 60 psi
Emergency Communication/Alarm System		
Manual fire alarm boxes	Located on each level throughout CPP-601	Summon INEEL Fire Department
Telephones	Located on each level throughout CPP-601	On-Site / Off-Site communications
Two-way radios	Used by field personnel	On-Site communications
Site-wide evacuation alarm	Alarm may be sounded throughout INTEC	Provides immediate notice of evacuation
Internal voice paging system	Located on each level throughout CPP-601	Provides general and emergency information
Pagers	Issued to EAMs and ECs (at a minimum)	Provides immediate notice of an incident
Personal Protection		
Acid suits Acid boots	See Exhibits G-1 and G-2 See Exhibits G-1 and G-2	Protection during spill response Protection during spill response
Acid gloves	See Exhibits G-1 and G-2	Protection during spill response
Face shields and/or safety glasses	See Exhibits G-1 and G-2	Protection against liquid splash
Spill Control, Containment, Cleanup		
Plastic buckets	See Exhibits G-1 and G-2	Clean up small spills
Spill control pillows	See Exhibits G-1 and G-2	Contain / absorb small spills
Hazardous material pigs	See Exhibits G-1 and G-2	Contain / absorb small spills
Hazardous material bags	See Exhibits G-1 and G-2	Clean up small spills
Safety rope	See Exhibits G-1 and G-2	Isolate affected area
Acid / Chemical spill warning signs	See Exhibits G-1 and G-2	Warn others
pH paper	See Exhibits G-1 and G-2	Characterize spilled material
Acid spill kit	see Exhibits G-1 and G-2	Clean up small acid spills
Safety Equipment		
Stretcher	see Exhibits G-1 and G-2	Evacuate injured personnel
Safety showers	see Exhibits G-1 and G-2	Remove contamination
Eye wash stations	see Exhibits G-1 and G-2	Flush eyes for chemical and particulate contamination

Table G-2. Emergency response equipment available at CPP-604

Emergency Equipment	Location	Capabilities
Fire control		
Wet-pipe fire sprinkler system	Throughout CPP-604	Fire control / suppression
Portable fire extinguisher (ABC or CO_2)	see Exhibits G-3 through G-6	Use during incipient stage of fire (10 to 60 second discharge time)
Fire hose connection station	see Exhibits G-3 through G-6	50 gallons per minute at 60 psi
Emergency Communication/Alarm System		
Manual fire alarm boxes	Located on each level throughout CPP-604	Summon INEEL Fire Department
Telephones	Located on each level throughout CPP-604	On-Site / Off-Site communications
Two-way radios	Used by field personnel	On-Site communications
Site-wide evacuation alarm	Alarm may be sounded throughout INTEC	Provides immediate notice of evacuation
Internal voice paging system	Located on each level throughout CPP-604	Provides general and emergency information
Pagers	Issued to EAMs and ECs (at a minimum)	Provides immediate notice of an incident
Personal Protection		
Acid suits Acid boots	see Exhibits G-3 through G-6 see Exhibits G-3 through G-6	Protection during spill response Protection during spill response
Acid gloves	see Exhibits G-3 through G-6	Protection during spill response
Face shields and/or safety glasses	see Exhibits G-3 through G-6	Protection against liquid splash
Spill Control, Containment, Cleanup		
Plastic buckets	see Exhibits G-3 through G-6	Clean up small spills
Spill control pillows	see Exhibits G-3 through G-6	Contain / absorb small spills
Hazardous material pigs	see Exhibits G-3 through G-6	Contain / absorb small spills
Hazardous material bags	see Exhibits G-3 through G-6	Clean up small spills
Safety rope	see Exhibits G-3 through G-6	Isolate affected area
Acid / Chemical spill warning signs	see Exhibits G-3 through G-6	Warn others
pH paper	see Exhibits G-3 through G-6	Characterize spilled material
Acid spill kit	see Exhibits G-3 through G-6	Clean up small acid spills
Safety Equipment		
Stretcher	see Exhibits G-3 through G-6	Evacuate injured personnel
Safety showers	see Exhibits G-3 through G-6	Remove contamination
Eye wash stations	see Exhibits G-3 through G-6	Flush eyes for chemical and particulate contamination

Table G-3. Emergency response equipment available at CPP-641

Emergency Equipment	Location	Capabilities
Fire control		
Portable fire extinguisher (ABC or CO_2)	see Exhibit G-7	Use during incipient stage of fire (10 to 60 second discharge time)
Emergency Communication/Alarm System		
Manual fire alarm boxes	N/A	N/A
Telephones	Inside personnel door	On-Site / Off-Site communications
Site-wide evacuation alarm	Alarm may be sounded throughout INTEC	Provides immediate notice of evacuation
Personal Protection		
N/A		
Spill Control, Containment, Cleanup		
N/A		
Safety Equipment		
N/A		

Table G-4. Emergency response equipment available at CPP-1618

Emergency Equipment	Location	Capabilities
Fire control		
Wet-pipe fire sprinkler system	Throughout CPP-1618	Fire control / suppression
Portable fire extinguisher (ABC or CO_2)	see Exhibits G-8 through G-10	Use during incipient stage of fire (10 to 60 second discharge time)
Fire hose connection station	see Exhibits G-8 through G-10	50 gallons per minute at 60 psi
Emergency Communication/Alarm System		
Manual fire alarm boxes	Located on each level throughout CPP-1618	Summon INEEL Fire Department
Telephones	Located on each level throughout CPP-1618	On-Site / Off-Site communications
Two-way radios	Used by field personnel	On-Site communications
Site-wide evacuation alarm	Alarm may be sounded throughout INTEC	Provides immediate notice of evacuation
Internal voice paging system	Located on each level throughout CPP-1618	Provides general and emergency information
Pagers	Issued to EAMs and ECs (at a minimum)	Provides immediate notice of an incident
Personal Protection		
Acid suits Acid boots	See Exhibits G-8 through G-10 See Exhibits G-8 through G-10	Protection during spill response Protection during spill response
Acid gloves	See Exhibits G-8 through G-10	Protection during spill response
Face shields and/or safety glasses	See Exhibits G-8 through G-10	Protection against liquid splash
Spill Control, Containment, Cleanup		
Plastic buckets	See Exhibits G-8 through G-10	Clean up small spills
Spill control pillows	See Exhibits G-8 through G-10	Contain / absorb small spills
Hazardous material pigs	See Exhibits G-8 through G-10	Contain / absorb small spills
Hazardous material bags	See Exhibits G-8 through G-10	Clean up small spills
Safety rope	See Exhibits G-8 through G-10	Isolate affected area
Acid / Chemical spill warning signs	See Exhibits G-8 through G-10	Warn others
pH paper	See Exhibits G-8 through G-10	Characterize spilled material
Acid spill kit	See Exhibits G-8 through G-10	Clean up small acid spills
Safety Equipment		
Stretcher	see Exhibits G-8 through G-10	Evacuate injured personnel
Safety showers	see Exhibits G-8 through G-10	Remove contamination
Eye wash stations	see Exhibits G-8 through G-10	Flush eyes for chemical and particulate contamination

Table G-5. Emergency response equipment available at CPP-659 and Annex.

Emergency Equipment	Location	Capabilities
Fire control		
Wet-pipe fire sprinkler system	Throughout CPP-659	Fire control / suppression
Portable fire extinguisher (ABC or CO_2)	see Exhibit G-11	Use during incipient stage of fire (10 to 60 second discharge time)
Fire hose connection station	see Exhibit G-11	50 gallons per minute at 60 psi
Emergency Communication/Alarm System		
Manual fire alarm boxes	Located on each level throughout CPP-659	Summon INEEL Fire Department
Telephones	Located on each level throughout CPP-659	On-Site / Off-Site communications
Two-way radios	Used by field personnel	On-Site communications
Site-wide evacuation alarm	Alarm may be sounded throughout INTEC	Provides immediate notice of evacuation
Internal voice paging system	Located on each level throughout CPP-659	Provides general and emergency information
Pagers	Issued to EAMs and ECs (at a minimum)	Provides immediate notice of an incident
Personal Protection		
Acid suits	CPP-659 Room 415	Protection during spill response
Acid boots	CPP-659 Room 415	Protection during spill response
Acid gloves	CPP-659 Room 415	Protection during spill response
Face shields and/or safety glasses	CPP-659 Room 415	Protection against liquid splash
Spill Control, Containment, Cleanup		
Plastic buckets	CPP-659 Room 415	Clean up small spills
Spill control pillows	CPP-659 Room 415	Contain / absorb small spills
Hazardous material pigs	CPP-659 Room 415	Contain / absorb small spills
Hazardous material bags	CPP-659 Room 415	Clean up small spills
Safety rope	CPP-659 Room 415	Isolate affected area
Acid / Chemical spill warning signs	CPP-659 Room 415	Warn others
pH paper	CPP-659 Room 415	Characterize spilled material
Acid spill kit	CPP-659 Room 415	Clean up small acid spills
Safety Equipment		
Stretcher	see Exhibit G-11	Evacuate injured personnel
Safety showers	see Exhibit G-11	Remove contamination
Eye wash stations	see Exhibit G-11	Flush eyes for chemical and particulate contamination

Exhibit G-1. Evacuation Routes and Emergency Equipment, Makeup Area CPP-601

Exhibit G-2. Evacuation Routes and Emergency Equipment, Operating/Sample Corridors CPP-601

Exhibit G-3. Evacuation Routes and Emergency Equipment, Operating Corridor CPP-604

Exhibit G-4. Evacuation Routes and Emergency Equipment, Pipe Corridor CPP-604

Exhibit G-5. Evacuation Routes and Emergency Equipment, Sample Corridor CPP-604

Exhibit G-6. Evacuation Routes and Emergency Equipment, Access Corridor CPP-604

Exhibit G-7. Evacuation Routes and Emergency Equipment, CPP-641

Exhibit G-8. Evacuation Routes and Emergency Equipment, First Floor CPP-1618

Exhibit G-9. Evacuation Routes and Emergency Equipment, Second Floor CPP-1618

Exhibit G-10. Evacuation Routes and Emergency Equipment, Third Floor CPP-1618

Exhibit G-11. Evacuation Routes and Emergency Equipment, CPP-659-Annex

RCRA PART B PERMIT APPLICATION

FOR THE

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY

Volume 14
INTEC Liquid Waste Management System

Section H
Personnel Training

October 2003

CONTENTS

TABLES

ACRONYMS

CFR	Code of Federal Regulations
EAM	Emergency Action Manager
ED	emergency director
ERO	Emergency Response Organization
GERT	general employee training
IDAPA	Idaho Administration Procedures Act
INTEC	Idaho Nuclear Technology and Engineering Center
OJT	on-the-job training
OSHA	Occupational Safety and Health Administration
RCRA	Resource Conservation and Recovery Act
SAT	systematic approach to training
TSD	treatment, storage and disposal

H. PERSONNEL TRAINING

This section outlines and describes the core training program for personnel involved in the management of hazardous and mixed waste at treatment, storage, and disposal (TSD) units at the Idaho Nuclear Technology and Engineering Center (INTEC), including units addressed in this permit application.

A training program has been implemented to ensure that personnel involved in the management of hazardous and mixed waste at INTEC TSD units receive training consistent with the requirements of the Idaho Administrative Procedures Act (IDAPA) 58.01.05.008 and 58.01.05.012 [Title 40 Code of Federal Regulations (CFR) Part 264.16 and 270.14]. The training program is designed to ensure that personnel are trained to hazardous waste management procedures including, but not limited to, inspections, normal operations, emergency procedures, equipment, systems, and contingency plan implementation. Duties performed at the TSD units will be performed in a safe, disciplined, and professional manner.

H-1. Outline of Training Program [IDAPA 58.01.05.008; 40 CFR § 264.16(a)(1)]

Training programs are developed using a systematic approach to training (SAT). The SAT process involves:

- Analyzing tasks to determine the training requirements
- Designing a plan to satisfy the training requirements
- Developing plans and all supporting training materials
- Implementing the training plans
- Evaluating the effectiveness of the training and making recommendations for changes.

The SAT process is used to determine the training requirement for each task listed in Table H-1. The training program for TSD unit personnel involves a combination of formal [classroom, group instruction, on-the-job training (OJT), etc.] and informal training sessions (one-on-one instruction, required reading, etc.). The training requirements for each position are identified in Table H-1. Lesson plans and OJT guides are developed to support tasks identified in Table H-1.

Programs prepared by the TSD training organization provide the core requirements to be completed by the individual during training. As the program is satisfactorily completed, it is verified and documented in their training records.

The training program is upgraded as needed in response to changes in job descriptions, job reassignment, process or procedural changes, technological changes, or implementation of new regulatory requirements that affect TSD unit operations. Revisions to the training program are approved by the training director for the specific TSD unit and the job analysis data is updated to reflect the changes in the training requirements.

TSD unit management works with subject matter experts to identify personnel training requirements. The TSD unit training organization: (1) schedules and/or provides the training, (2) revises and updates training material as needed, and (3) maintains training documentation. The TSD unit training organization maintains individual training records for TSD unit employees.

H-1a. Job Tasks [IDAPA 58.01.05.008; 40 CFR §§ 264.16(d)(1) and 264.16(d)(2)]

The job tasks for personnel involved with hazardous waste management at INTEC TSD units are included in Table H-1 "Minimum Training Matrix for TSD unit Personnel." Personnel are trained to those sections of the permit, which are pertinent to their specific job assignments.

Security Guards – The Security personnel are not stationed at the permitted units nor are they involved in the management or handling of the waste. Security personnel receive training from the security organization relative to their positions and the facilities they serve. Therefore, training of security personnel is not discussed further in this section.

On Scene Commander – is the INEEL Fire Department Chief. The INEEL Firefighters serve the INEEL in fighting fires and containing major spills, including spills of waste from waste management units. The INEEL Fire Department conducts a self-contained training program for their personnel, which includes procedures for handling fires and spill emergencies involving hazardous materials and hazardous mixed waste at the INEEL. Therefore, training of fire fighters is not discussed further in this section.

Emergency Director (ED) – is trained on the INEEL (Site-wide) Emergency Plan/RCRA Contingency Plan or Industrial Safety and Hygiene Program as part of his/her duties. The ED will be informed by the EAM or facility personnel at INTEC. Therefore, training of the ED is not discussed further in this section.

H-1b. Training Content, Frequency, and Techniques [IDAPA 58.01.05.008; 40 CFR § 264.16]

The TSD unit training program consists of a combination of classroom instruction and OJT. Additionally, TSD unit employees receive new employee orientation and training. [All employees working at or assigned as part-time/frequent visitor to Site facilities are required to complete annual facility access training and general employee radiation training (GERT) unless they are currently trained as radiation workers.]

The initial training includes a general orientation of INEEL and TSD unit procedures including evacuation and alert procedures, training requirements, and emergency equipment locations. The initial training provides TSD unit personnel with training commensurate with their job assignments in the following areas:

- General description of the INTEC
- Job-related procedures, policies, and instructions
- Radiological health and safety program
- Fire protection program
- Hazards associated with the TSD unit.

Resource Conservation and Recovery Act (RCRA) training is conducted annually for INTEC TSD unit employees to address changes that have occurred which include such topics as permit status, permit requirements, contingency and inspection plan implementation, and hazardous waste management procedures for the TSD unit(s) to which they are assigned.

The following major knowledge areas are included and evaluated based on job position and formal criteria identified in the job analysis:

- RCRA requirements as they relate to INTEC unit operations
- Hazardous materials

- INTEC TSD unit systems and components (including waste treatment processes and operations)
- Normal operating procedures and shutdown procedures
- Emergency or off-normal operating procedures
- Inspections and equipment maintenance
- Occupational Safety and Health Administration (OSHA) and related health and safety requirements, as required
- INTEC TSD unit and operational/administrative procedures.

TSD unit work and maintenance is performed by appropriate personnel whose qualifications have been verified before beginning work.

Employees may be given written and/or oral examinations, operational evaluations, and reviews to ensure that they are adequately trained relative to their job tasks. Results of examinations, written or oral evaluations, and reviews are documented. All completed qualification standards, checklists, examinations, written evaluations, and documented oral evaluations are maintained in each individual's training record.

Table H-1 shows the task training requirements for TSD unit personnel involved in hazardous/mixed waste operations at INTEC TSD units addressed in this permit application. TSD unit personnel may receive additional training beyond that shown in Table H-1. This training is documented and included in employee training records.

Occasionally, TSD unit personnel attend training classes conducted external to the INEEL or conducted at the INEEL by non-INEEL subcontract personnel. In order to verify an employee's attendance at these training courses, a copy of the class certification or other documentation is maintained in the individual’s training record.

H-1c. Training Director [IDAPA 58.01.05.008; 40 CFR § 264.16(a)(2)]

For all TSD units the training director functions in conjunction with his/her designee(s) to insure that all segments and responsibilities associated with the training program are accomplished. The training director provides overall leadership and management direction to the TSD unit training organization. The director's duties include the following:

- Provide direction to the TSD unit training organization
- Ensure that performance of training personnel is evaluated
- Approve TSD unit training program
- Ensure that all program objectives and requirements are satisfied and that the training program meets the requirements of IDAPA 58.01.05.008 (40 CFR 264.16) and 29 CFR 1910.120.

The training director or his/her designee(s) is responsible for ensuring that TSD unit personnel are trained in waste management and contingency plan implementation, including emergency procedures, and for ensuring that TSD unit personnel receive training appropriate to their tasks. The training director also reviews documentation, including feedback from audits and appraisals, operating logs, emergency exercise critiques, and employee recommendations, for possible inclusion into the TSD unit training programs.

Table H-1. Minimum Training Matrix for TSD Unit Personnel

TASK	INITIAL EMPLOYEE TRAINING	RADIOLOGICAL TRAINING[1]	24-HOUR OSHA 1910.120[1]	ANNUAL RCRA TRAINING	SECTION OF PERMIT PERSONNEL ARE TRAINED TO	POSITION TITLE CONDUCTING ACTIVITY
Sampling	X	X	X	X	Section C	waste technical specialist / WGS facility representative
Analysis	X	X	X	X	Section C	waste technical specialist / WGS facility representative
Waste Verification	X	X	X	X	Section C	waste technical specialist / WGS facility representative facility operator waste handler
Waste Acceptance	X	X	X	X	Section C	waste technical specialist / WGS facility representative facility operator waste handler
Transport	X	X	X	X	Section D, Section G	waste technical specialist / WGS facility representative facility operator waste handler equipment operator
Unloading/Loading	X	X	X	X	Section D, Section G	waste technical specialist / WGS facility representative facility operator waste handler equipment operator
Container Management	X	X	X	X	Section D, Section F, Section G	waste technical specialist / WGS facility representative facility operator

Table H-1. (continued)

TASK	INITIAL EMPLOYEE TRAINING	RADIOLOGICAL TRAINING[1]	24-HOUR OSHA 1910.120[1]	ANNUAL RCRA TRAINING	SECTION OF PERMIT PERSONNEL ARE TRAINED TO	POSITION TITLE CONDUCTING ACTIVITY
Unit Inspection	X	X	X	X	Section D, Section F, Section G	waste technical specialist / WGS facility representative facility operator
Recordkeeping - Inspection Records	X	X	X	X	Section D, Section F	waste technical specialist / WGS facility representative facility operator
Recordkeeping - IWTS	X	X	X	X	Section C	waste technical specialist / WGS facility representative
Recordkeeping - Emergency Plan/Contingency Plan	X	X	X	X	Section G	waste technical specialist / WGS facility representative emergency action manager (EAM) facility operators
Emergency Response	X	X	X	X	Section G	waste technical specialist / WGS facility representative facility operator waste handler equipment operator emergency action manager (EAM)
Training	X	X	X	X	All	training manager/director or the designee(s)
Supervision	X	X	X	X	All	supervisor facility operator (limited supervision)
Facility support	X	X	X	X	Section G	Support personnel (Maintenance, Radcon etc..)
Treatment	X	X	X	X	All	supervisor facility operator

Table H-1. (continued)

TASK	INITIAL EMPLOYEE TRAINING	RADIOLOGICAL TRAINING[1]	24-HOUR OSHA 1910.120[1]	ANNUAL RCRA TRAINING	SECTION OF PERMIT PERSONNEL ARE TRAINED TO	POSITION TITLE CONDUCTING ACTIVITY
1. Personnel who do not perform work in the regulated units will not receive this training						

Section C - Waste Characterization
Section D - Process Information
Section F - Procedures to Prevent Hazards
Section G - Preparedness, Prevention, and Contingency Plan

H-1d. Relevance of Training to Job Tasks [IDAPA 58.01.05.008; 40 CFR § 264.16(a)(2)]

Individual training program profiles are prepared for each TSD unit position that requires a formal training program.

At a minimum, each individual training program profile identifies the following:

- Job description
- Qualifications
- Training requirements.

Profiles typically identify qualification requirements. Occasionally, a position may require specialized training. Special-case training is documented in individual training records. Profiles include requirements for hazardous/mixed waste management or handling and emergency response training.

Supervisors have the responsibility for evaluating training requirements for TSD employees. These supervisors receive additional training in how to conduct and evaluate OJT.

Individuals who demonstrate an equivalency for specific requirements or prerequisites identified in the training profile may be exempted from requirements in accordance with established procedures. Exemptions/equivalencies must be approved by the training director. Each exemption/equivalency is granted in writing and documented in the individual's training record.

H-1e. Training for Emergency Response [IDAPA 58.01.05.008; 40 CFR 264.16(a)(3)]

Emergency response training is provided to all personnel assigned to or associated with TSD units, including specialized training for employees with specific emergency action responsibilities, such as the Emergency Action Manager (EAM) and Emergency Response Organization (ERO) personnel. The following presents an overview of the emergency response training.

General emergency response training of TSD unit ERO personnel includes the following:

- Spill Control Plan
- Evacuation/accountability

- Emergency drill/exercise
- RCRA
- Emergency Plan Implementing Procedures
- Emergency preparedness
- Incident command system
- Inspection and repair of facility emergency monitoring equipment.

ERO members respond to emergency events. ERO members receive initial training and annual requalification training, in addition to training provided to general employees. Training of ERO members is outlined by position in company procedures. All INTEC employees receive general employee emergency response action training.

H-2. Implementation of Training Program [IDAPA 58.01.05.008; 40 CFR §§ 264.16(b), 264.16(d)(4), 264.16(e)]

After completion of new employee orientation, designated employees enter a training program specific to their job assignment. Persons holding qualifications are retrained and reevaluated as mandated by procedures. Job assignments, which are required for the completion of a training program, have time and performance limitations that must be satisfied to meet program qualification criteria.

RCRA training is completed within the first six months of the individual's employment or assignment, and at least annually thereafter, for positions involving TSD unit operations. Throughout the training program and until completion, employees do not perform their job duties unsupervised.

H-3. Training Records [IDAPA 58.01.05.008; 40 CFR §§ 264.16(d)(4) and (e)]

Individual training records are maintained for personnel assigned to TSD units. Training records include documentation of completed training, such as class rosters, signed checklists, completed exams, database printouts from additional training classes attended, and other documents verifying training. The original training records are maintained by the presenting organizations, which enter course completion information into a database. A hard copy of this information is also entered into the individual's training record.

The training records include the names of employees filling each TSD unit position. Job tasks and associated training requirements for each TSD unit are found in Table H-1.

Individual training records include, as a minimum, the following:

- Initial training and retraining programs
- Attendance records of training received
- Results of exams, walk through, and job performance assessments related to certification.

Training records for current employees at each TSD unit are maintained until closure of the unit or the employee terminates or transfers to a non-TSD unit position. The training records of terminating employees are maintained at the TSD unit for a minimum of three years from the date the employee last worked at a TSD unit. The training records for TSD unit employees who transfer to a non-TSD unit position within the company are forwarded to the employee's new organization where they continue to be available for at least three years.

RCRA PART B PERMIT APPLICATION

FOR THE

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY

Volume 14
INTEC Liquid Waste Management System

Section I
Closure Plan

October 2003

CONTENTS

ACRONYMS

CFR	Code of Federal Regulations
CPP	Chemical Processing Plant
DOE	Department of Energy
EPA	Environmental Protection Agency
HVAC	heating, ventilating and air conditioning
HWMA	Hazardous Waste Management Act
IDAPA	Idaho Administrative Procedures Act
INEEL	Idaho National Engineering and Environmental Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
PE	professional engineer
LET&D	Liquid Effluent Treatment and Disposal
PEWE	Process Equipment Waste Evaporator
RCRA	Resource Conservation and Recovery Act
TFF	Tank Farm Facility
TFT	Tank Farm Tank

I. FACILITY DESCRIPTION

The Idaho National Engineering and Environmental Laboratory (INEEL) encompasses approximately 2,276 km^2 (890 mi^2) on the Eastern Snake River Plain in southeastern Idaho, west of Idaho Falls. Within the laboratory complex are eight major applied engineering, interim storage, and research and development facilities.

Established in 1949 as the National Reactor Testing Station, the INEEL was established as a site where the Department of Energy (DOE) could safely build, test, and operate various types of nuclear reactor facilities. Strict security is maintained for all INEEL facilities in accordance with the INEEL's nuclear and defense missions.

The Idaho Nuclear Technology and Engineering Center (INTEC) is situated on the south-central portion of the INEEL site. INTEC occupies an enclosed and secured area of approximately one km^2 (250 acres). INTEC was initially constructed in the 1950s to reprocess spent fuel from naval ship reactors and has undergone continuous additions and improvements since that time. Current work at INTEC includes receiving and storing spent nuclear fuel, environmental restoration, decontamination and decommissioning activities, and technology development.

Process Equipment Waste Evaporator (PEWE) System

The PEWE system includes tanks and ancillary equipment in Building Numbers CPP-604, CPP-641, CPP-601, CPP-649, CPP 659 Annex, and CPP-1619 at the INTEC. The regulated tanks and ancillary equipment specific to the PEWE system are listed below:

- VES-WL-132, Evaporator Feed Sediment Tank [regulated under Idaho Administrative Procedures Act (IDAPA) as a storage/treatment tank]
- VES-WL-133, Evaporator Feed Collection Tank (regulated under IDAPA as a storage/treatment tank)
- VES-WL-102, Surge Tank for VES-WL-133 (regulated under IDAPA as a storage/treatment tank)
- VES-WL-109, Evaporator Head Tank (regulated under IDAPA as a storage tank)
- EVAP-WL-129, CPP-604 Evaporator Unit, including VES-WL-129, VES-WL-130, HE-WL-307, and HE-WL-308 (regulated under IDAPA as a miscellaneous unit with treatment/storage tanks)

- VES-WL-134, Process Condensate Surge Tank (regulated under IDAPA as a storage tank, ancillary to both evaporators)
- EVAP-WL-161, CPP-604 Evaporator Unit, including VES-WL-161, VES-WL-162, HE-WL-300, and HE-WL-301 (regulated under IDAPA as a miscellaneous unit with treatment/storage tanks)
- VES-WL-131, Process Condensate Surge Tank (regulated under IDAPA as a storage tank)
- VES-WL-108, Process Condensate Knock Out Pot (regulated under IDAPA as a storage tank)
- VES-WL-111, Bottoms Collection Tank (regulated under IDAPA as a storage/treatment tank)
- VES-WL-101, Bottoms Collection Tank (regulated under IDAPA as a storage/treatment tank)
- VES-WL-103, -104, and -105, CPP-641, Westside Waste Holdup (WWH) Tanks (regulated under IDAPA as storage/treatment tanks)
- VES-WL-106, VES-WL-107, and VES-WL-163, CPP-604 Process Condensate Collection Tanks (regulated under IDAPA as storage/treatment tanks)
- VES-WG-100, VES-WG-101, VES-WH-100 and VES-WH-101, CPP-601 Deep Tanks (regulated under IDAPA as storage/treatment tanks)
- VES-WM-100, VES-WM-101, and VES-WM-102, CPP-604 Tank Farm Tanks (regulated under IDAPA as storage/treatment tanks)
- VES-WL-135, -136, -137, -138, -139, -142, -144, and -150 (regulated under IDAPA as storage tanks).

The PEWE system receives mixed wastes from the INTEC and non-INTEC facilities. INTEC wastes are received at the PEWE system through underground piping and are accumulated in the feed collection tank, VES-WL-133, prior to being fed to the evaporators. Non-INTEC wastes are delivered to the INTEC by tank trucks that are unloaded at the CPP-1619 waste unloading station, which is connected with the PEWE system feed sediment/feed collection tanks through underground piping.

The evaporation process reduces the volume of the wastes sent to the INTEC Tank Farm Facility (TFF) for storage. Two waste streams are produced as a result of the evaporation process; overhead condensates and concentrated bottoms. The overhead condensates are further treated at the Liquid Effluent Treatment and Disposal (LET&D) facility. The concentrated bottoms are accumulated in the Bottoms Collection Tank (VES-WL-101 or VES-WL-111). The bottoms are transferred to either VES-

WL-101 or VES-WL-111, or are recycled back to VES-WL-133 for further processing. From VES-WL-101 or VES-WL-111, the bottoms can be sent to the CPP-604 Tank Farm Tanks (TFT), (VES-WM-100, VES-WM-101, and VES-WM-102), to the TFF, or back to the Evaporator Tank System (ETS).

Closure Strategy

The strategy is to clean close (decontamination and removal of equipment) the tank systems and miscellaneous units associated with the PEWE system. In the future, as the actual closure of the PEWE system is considered, this closure plan will be modified to reflect any information or condition that has changed or occurred and may precipitate different closure options such as risk based closure or possibly landfill.

Liquid Effluent Treatment and Disposal (LET&D) system

The LET&D system includes fractionators, tanks, and ancillary equipment in Building Numbers CPP-1618 and CPP-659 Annex at the INTEC. The regulated fractionators, tanks, and ancillary equipment specific to the LET&D system are listed below:

- VES-WLK-197, Feed Head Tank (regulated under IDAPA as a storage tank)
- FRAC-WLK-171, CPP-1618 Acid Fractionator, including FRAC-WLK-171, HE-WLK-392, HE-WLK-397, HE-WLK-399, and VES-WLK-199 (regulated under IDAPA as a miscellaneous unit with treatment/storage tanks)
- FRAC-WLL-170, CPP-1618 Acid Fractionator, including FRAC-WLL-170, HE-WLL-391, HE-WLL-396, HE-WLL-398, and VES-WLL-198 (regulated under IDAPA as a miscellaneous unit with treatment/storage tanks)
- VES-WLL-195, Bottoms Tank (regulated under IDAPA as a storage tank)
- VES-NCR-171, CPP-659 Annex LET&D Nitric Acid Recycle Tank (regulated under IDAPA as a storage tank)
- VES-NCR-173, CPP-659 Annex LET&D Nitric Acid Head Tank (regulated under IDAPA as a storage tank).

The LET&D system receives mixed wastes from the PEWE system as overhead condensates. The overhead condensates are received at the LET&D system through overhead piping and are accumulated in the feed collection tank, VES-WLK-197, prior to being fed to the fractionators.

The fractionation process significantly reduces the volume of waste transferred to the TFF. Two streams are produced as a result of the evaporation process; overhead condensates and concentrated nitric acid bottoms. The overhead condensates are heated filtered and sent to the INTEC main stack. The concentrated nitric acid bottoms are accumulated in the bottoms collection tank. The concentrated bottoms are transferred to the Nitric Acid Recycle Tank at the CPP-659 Annex for reuse at the INTEC.

Closure Strategy

The strategy is to clean close (decontamination and removal of equipment) the tank systems and miscellaneous units associated with the LET&D system. In the future, as the actual closure of the LET&D system is considered, this closure plan will be modified to reflect any information or condition that has changed or occurred and may precipitate different closure options.

CPP-659 Annex Nitric Acid Recycle System

The CPP-659 Annex Nitric Acid Recycle Tank includes VES-NCR-171, VES-NCR-173, and ancillary equipment at the INTEC.

The concentrated nitric acid bottoms from LET&D are stored in the Nitric Acid Recycle Tank for reuse at the INTEC.

Closure Strategy

The strategy is to clean close (decontamination and removal of equipment) the tank systems and miscellaneous units associated with the Nitric Acid Recycle system. In the future, as the actual closure of the LET&D system is considered, this closure plan will be modified to reflect any information or condition that has changed or occurred and may precipitate different closure options such as risk based closure or possibly landfill.

Inactive Lines and Equipment

Although not part of the active system, there are several inactive transfer lines and ancillary equipment that will require closure. These transfer lines and ancillary equipment potentially managed RCRA/HWMA regulated waste after the effective date of RCRA, but are not currently storing or managing a waste; thus, are inactive. Any ILWMS transfer lines and ancillary equipment that are determined to have managed RCRA/HWMA waste will be specifically identified and included in this closure plan as the actual closure of the system is being considered.

1. REGULATORY REQUIREMENTS MATRIX

1.1 IDAPA 58.01.05.008 (40 CFR 264 Subpart G) INTEC Liquid Waste Management System Closure and Post-Closure Plan

Regulatory Citation (Description of Requirement)	Compliance Methodology
1.1.1 264.110 Applicability	**264.110 Applicability**
Except as § 264.1 provides otherwise: (a) §§ 264.111 through 264.115 (which concern closure) apply to the owners and operators of all hazardous waste management facilities; and	(a) IDAPA 58.01.05.008 [40 Code of Federal Regulation (CFR) §§ 264.111 through 264.115] addressing closure performance standards, the closure plan and amendments to the plan, closure time, disposal or decontamination of equipment, structures and soils, and certification of closure is applicable to the units described in Volume 14.
(b) §§ 264.116 through 264.120 (which concern post-closure care) apply to the owners and operators of: (1) All hazardous waste disposal facilities; (2) Waste piles and surface impoundments for which the owner or operator intends to remove the wastes at closure to the extent that these sections are made applicable to such facilities in § 264.228 or § 264.258; (3) Tank systems that are required under § 264.197 to meet requirements for landfills; and (4) Containment buildings that are required under § 264.1102 to meet the requirement for landfills.	(b) This closure plan is written to consider clean closure (decontaminating and removal of equipment) as practicable with risk based closure or landfill being a possibility if the clean closure standards cannot be met. If the clean closure standards cannot be met the owner/operator will comply with the post-closure care requirements of IDAPA 58.01.05.09 (40 CFR §§ 264.116 through 264.120) as necessary.
(c) The Regional Administrator may replace all or part of the requirements of this subpart (and the unit-specific standards in § 264.111(c)) applying to a regulated unit (as defined in § 264.90), with alternative requirements for closure set out in an.... NOTE: *The remainder of this regulation has not been cited and is not applicable to this closure plan*.	(c) Not applicable to this closure plan.

Regulatory Citation (Description of Requirement)	Compliance Methodology
1.1.2 264.111 Closure performance standard	**264.111 Closure performance standard**
The owner or operator must close the facility in a manner that:	Closure of the PEWE system will represent a partial closure of the INEEL.
(a) Minimizes the need for further maintenance, and This space was intentionally left blank	(a) The intent of closure activities is to minimize the need for further maintenance. Closure objectives will achieve the closure performance standard of minimizing the need for further maintenance by; (1) removing waste and residue from the PEWE system, (2) verifying the efficacy of waste removal efforts, and (3) securing the system to prevent reintroduction of waste or liquid into the PEWE, LET&D system, or CPP-659 Annex. The closure plan will be modified, in accordance with IDAPA 58.01.05.008 [40 CFR § 264.112(c)], to include the appropriate verification sampling techniques to be used to meet the closure performance standards prior to implementation of the closure plan. The specific objectives that will achieve the IDAPA 58.01.05.009 [40 CFR § 264.111(a)] closure performance standard are described below: • Waste and residue will be removed, and the PEWE, LET&D systems, or CPP-659 Annex decontaminated to allow the removal and disposal of equipment. • Verification of removal to this standard will be made through visual observation, by sampling the rinsate, and a formal report written and certified by an independent registered professional engineer (P.E.). • After verification has been completed, the systems will be secured, by blind flanging lines, locking valves closed, or tagging valves out of service, to prevent reintroduction of waste or liquids.

<table>
<tr><th>Regulatory Citation (Description of Requirement)</th><th>Compliance Methodology</th></tr>
<tr><td>This space was intentionally left blank</td><td>Ancillary Equipment and Process Lines

• Ancillary equipment and process lines will be decontaminated to allow removal and disposal of equipment.

• After closure activities have been completed, the ancillary equipment and process lines will be secured, by blind flanging lines, locking valves closed, or tagging valves out of service, to prevent reintroduction of waste or liquids.

PEWE System Cells

• The PEWE system cells will be decontaminated to the extent practicable. For the PEWE system cells "to the extent practicable" means removing as much contamination as possible with flushing and hands-on decontamination.

• Verification of removal to this standard will be performed by direct visual observation. Confirmation that waste removal and decontamination activities occurred will be written in a formal report and certified by an independent registered P.E.

LET&D System Cells

• The LET&D system cells will be decontaminated by removing as much contamination as possible with flushing and hands-on decontamination.

• Verification of removal to this standard will be performed by direct visual observation. Confirmation that waste removal and decontamination activities occurred will be written in a formal report and certified by an independent registered P.E.</td></tr>
</table>

Regulatory Citation (Description of Requirement)	Compliance Methodology
This space was intentionally left blank	CPP-659 Annex • The CPP-659 Annex will be decontaminated by flushing and hands-on decontamination. • Verification of removal to this standard will be performed by direct visual observation. Confirmation that waste removal and decontamination activities occurred will be written in a formal report and certified by an independent registered P.E.
(b) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere, and	(b) The specific closure objectives described in Section 1.2.1, 264.111(a), will achieve the IDAPA 58.01.05.009 [40 CFR § 264.111(b)] closure performance standard as described below: • The systems will be secured to prevent reintroduction of liquids. These activities will reduce the quantity of hazardous waste and residue available for escape, reduce the hazardous characteristics and mobility of the waste and residue, and eliminate the presence of liquid that could transport waste and residue. • The systems cells and equipment within the buildings, and the process lines outside the buildings, have underlying, impermeable floors and/or secondary containment. • Run-off is controlled in CPP-604, CPP-641, CPP-1618, CPP-659 Annex, and CPP-601 by being fully enclosed buildings that prevent run-off from hazardous waste handling areas to other areas or the environment. CPP-601, CPP-604, CPP-641, CPP-1618 and CPP-659 Annex are inside of the flood plain boundaries as postulated in the Koslow and Van Haaften, 1986, Flood Routing Analysis for a Failure of Mackay Dam, EGG-EP-7184. The INEEL emergency plan provides for the establishment of plans for the surveillance and protection of buildings and equipment, as necessary during flooding conditions to prevent run-on. This could

Regulatory Citation (Description of Requirement)	Compliance Methodology
This space was intentionally left blank	include sand bagging, building berms, dikes, or trenches. • The existing heating, ventilating and air conditioning (HVAC) system controls releases to the atmosphere.
(c) Complies with the closure requirements of this subpart, including, but not limited to, the requirements of §§ 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.601, through 264.603, and 264.1102.	(c) The PEWE and the LET&D are miscellaneous treatment units and subject to the closure requirements of IDAPA 58.01.09.005 (40 CFR § 264.603). The tank systems associated with the PEWE and LET&D are subject to the tank closure requirements of IDAPA 58.01.09.005 (40 CFR § 264.197).
1.1.3 264.112 Closure plan; amendment of plan	**264.112 Closure plan; amendment of plan**
(a) *Written plan*.	(a) The hazardous waste management facility is by definition the entire INEEL [IDAPA 58.01.05.004 (40 CFR § 260.10)]. However, this is a partial closure plan that, by definition, is for less than the entire facility. Therefore, for purposes of this closure plan, "facility" shall refer to the PEWE or LET&D system.
The owner or operator of a hazardous waste management facility must have a written closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous waste at partial or final closure are required by §§ 264.228(c)(1)(i) and 264.258(c)(1)(i) to have contingent closure plans. The plan must be submitted with the permit application, in accordance with § 270.14(b)(13) of this chapter, and approved by the Regional Administrator as part of the permit issuance procedures under Part 124 of this chapter. In accordance with § 270.32 of this chapter, the approved closure plan will become a condition of any RCRA permit.	(1) A copy of the most current version of the closure plan for the facility will be maintained by the facility until closure is certified in accordance with IDAPA 58.01.05.009 (40 CFR § 264.115). The plan will be furnished to the Director, upon request, any time prior to closure certification of the facility. Until the closure plan is approved, it will be provided to a duly authorized representative of the Agency on the day of a site inspection.
The Director's approval of the plan must ensure that the approved closure plan is consistent with §§ 264.111 through 264.115 and the applicable requirements of subpart F of this part, 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.601, 264.1102	The plan will be furnished to the Director, upon request, any time prior to closure certification of the facility.

Regulatory Citation (Description of Requirement)	Compliance Methodology
264.228, 264.258, 264.280, 264.310, 264.351, 264.601, 264.1102. Until final closure is competed and certified in accordance with § 264.115, a copy of the approved plan and all approved revisions must be furnished to the Director upon request, including requests by mail.	This space was intentionally left blank
Content of plan. The plan must identify steps necessary to perform partial and/or final closure of the facility at any point during its active life. The closure plan must include, at least:	(b)(1) The details of how the closure will be performed are provided in Section 1.1.3, 264.112(b)(3) and (b)(4), of this plan.
(2) A description of how final closure of the facility will be conducted in accordance with § 264.111. The description must identify the maximum extent of the operation which will be unclosed during the active life of the facility; and	(2) Final closure of the facility shall constitute final closure in the terms of this plan. The details of how this closure will be conducted are shown in Section 1.1.3, 264.112(b)(3) and (b)(4), of this plan.
(3) An estimate of the maximum inventory of hazardous wastes ever on-site over the active life of the facility and a detailed description of the methods to be used during partial and final closure, including, but not limited to, methods for removing, transporting, treating, storing or disposing of all hazardous waste, and identification of and the type(s) of off-site hazardous waste management units to be used, if applicable; and This space was intentionally left blank	(3) The maximum inventory of hazardous waste ever in the PEWE system over its active life can only be estimated based on the capacity of the miscellaneous treatment (evaporator) and the design capacity of the tank systems associated with the PEWE: • Evaporator Feed Sediment Tank, VES-WL-132, has a maximum capacity of 4,700 gal • Evaporator Feed Collection Tank, VES-WL-133, has a maximum capacity of 19,000 gal • Surge Tank, VES-WL-102, has a maximum capacity of 18,400 gal • Process Condensate Knock Out Pot, VES-WL-108, has a maximum capacity of 98 gal • Evaporator Head Tank, VES-WL-109, has a maximum capacity of 270 gal • Evaporators VES-WL-129 and VES-WL-161 have maximum capacities of 1,000 gal/each • Condensate Surge Tank, VES-WL-131, has a maximum capacity of 66 gal

Regulatory Citation (Description of Requirement)	Compliance Methodology
This space was intentionally left blank	66 gal • Condensate Surge Tank, VES-WL-134, has a maximum capacity of 500 gal • Bottoms Collection Tank, VES-WL-101, has a maximum capacity of 18,400 gal • Bottoms Collection Tank, VES-WL-111, has a maximum capacity of 1,500 gal • CPP-604 Tank Farm Tanks (TFT), VES-WM-100, VES-WM-101, and VES-WM-102 have a maximum capacity of 18,400 gal/each • CPP-641 Tanks, VES-WL-103, VES-WL-104, and VES-WL-105, have a maximum capacity of 5,000 gal/each • CPP-604 Process Condensate Collection Tanks, VES-WL-106, VES-WL-107, and VES-WL-163, have a maximum capacity of 5,000 gal/each • CPP-601 Deep Tanks, VES-WH-100/-101 and VES-WG-100/-101, have a maximum capacity of 4,500 gal/each • Tanks VES-WL-135, VES-WL-136, VES-WL-139, and VES-WL-142 have a maximum capacity of 10 gal. Tanks VES-WL-137, VES-WL-138, and VES-WL-144 have a maximum capacity of 25 gal. VES-WL-150 has a maximum capacity of 50 gal. The maximum inventory of hazardous waste ever in the LET&D system over its active life can only be estimated based on the capacity of the miscellaneous treatment (fractionator) and the design capacity of the tank systems associated with the LET&D: • VES-WLK-197 has a maximum capacity of 270 gal • FRAC-WLL-170 and FRAC-WLK-170 have a maximum capacity of 460 gal/each including equipment listed in Section D of this document.

<table>
<tr><th>Regulatory Citation (Description of Requirement)</th><th>Compliance Methodology</th></tr>
<tr><td>This space was intentionally left blank</td><td>
VES-WLL-195 has a maximum capacity of 270 gal
The maximum inventory of hazardous waste ever in the CPP-659 Annex over its active life can only be estimated based on the capacity of the design capacity of the tank system associated with the CPP-659 Annex:
VES-NCR-171 has a maximum capacity of 22,500 gal
VES-NCR-173 has a maximum capacity of 90 gal.
Waste will be removed by an acid and water flush. If additional removal is needed, chemicals such as oxalic acid, potassium permanganate, sodium hydroxide, and/or other chemicals may be used, alone, or in combination.
The vaults and cells will be rinsed with water. If additional removal is needed, chemicals such as oxalic acid, potassium permanganate, sodium hydroxide, and/or other chemicals may be used, alone, or in combination. Prior to rinsing the cells, miscellaneous debris will be removed. Debris will be characterized, stored, treated, and disposed, as appropriate, in accordance with IDAPA 58.01.05.005, 58.01.05.006, 58.01.05.009, and 58.01.05.011 (40 CFR §§ 261, 262, 264, and 268).
Waste Generation - The Hazardous Waste Management Act (HWMA)/Resource Conservation and Recovery Act (RCRA) hazardous waste numbers applicable to the PEWE and the LET&D system wastes are based on a historical review of the listed waste processed in the system. The applicable characteristic waste numbers are those listed on the INEEL’s Part A Permit Application.
</td></tr>
</table>

Regulatory Citation (Description of Requirement)	Compliance Methodology
This space was intentionally left blank	Environmental Protection Agency (EPA) Hazardous Waste Numbers applicable to the PEWE system are as follows: Waste Numbers — Chemical Name D001 Ignitable D002 Corrosive D004 Arsenic D005 Barium D006 Cadmium D007 Chromium D008 Lead D009 Mercury D010 Selenium D011 Silver D018 Benzene D019 Carbon Tetrachloride D021 Chlorobenzene D022 Chloroform D026 Cresol D028 1,2-Dichloroethane D032 Hexachlorobenzene D034 Hexachloroethane D035 Methyl ethyl ketone D036 Nitrobenzene D038 Pyridine

Regulatory Citation (Description of Requirement)	Compliance Methodology	
	D039	Tetrachloroethylene
	D040	Trichloroethylene
	F001	1,1,1-Trichoroethane, Carbon tetrachloride
		Trichloroethylene
	F002	1,1,1-Trichloroethane, Carbon tetrachloride
		Trichloroethylene, Tetrachloroethylene
	F003	Acetone, Benzene, Carbon disulfide, Toluene
	F005	Benzene, Carbon disulfide, Pyridine
		Toluene
This space was intentionally left blank	U134	Hydrogen fluoride
	Environmental Protection Agency (EPA) Hazardous Waste Numbers applicable to the LET&D system are as follows:	
	Waste Numbers	Chemical Name
	D001	Ignitable
	D002	Corrosive
	D004	Arsenic
	D005	Barium
	D006	Cadmium
	D007	Chromium
	D008	Lead
	D009	Mercury
	D010	Selenium
	D011	Silver

Regulatory Citation (Description of Requirement)	Compliance Methodology
This space was intentionally left blank	D018 Benzene D019 Carbon Tetrachloride D021 Chlorobenzene D022 Chloroform D026 Cresol D028 1,2-Dichloroethane D032 Hexachlorobenzene D034 Hexachloroethane D035 Methyl ethyl ketone D036 Nitrobenzene D038 Pyridine D039 Tetrachloroethylene D040 Trichloroethylene F001 1,1,1-Trichoroethane, Carbon tetrachloride Trichloroethylene F002 1,1,1-Trichloroethane, Carbon tetrachloride Trichloroethylene, Tetrachloroethylene F003 Acetone, Benzene, Carbon disulfide, Toluene F005 Benzene, Carbon disulfide, Pyridine Toluene U134 Hydrogen fluoride
(4) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils	(4) The waste removal activities described in Section 1.1.3, 264.112(b)(3), will also serve to decontaminate the system. The closure plan will be modified, in accordance with IDAPA

Regulatory Citation (Description of Requirement)	Compliance Methodology
during partial and final closure including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standard; and	58.01.05.008 [40 CFR § 264.112(c)], to include the appropriate verification sampling techniques to be used to meet the closure performance standards prior to implementation of the closure plan.
(5) A detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, groundwater monitoring, leachate collection, and run-on and run-off control; and	(5) Other activities necessary during the closure will focus on securing the system to prevent reintroduction of waste and liquids into the system. • The utility lines (e.g., decontamination, water, steam lines) will be secured by blind flanging and/or locking valves closed at the decontamination header source. The header will be flushed with water prior to securing the system. • Disposition of all instrumentation will be determined during final closure.
(6) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover must be included.)	(6) A general schedule for closure is estimated as follows: Day 0 Approval of the closure plan Day 100 Complete equipment decontamination Day 140 Complete surface decontamination Day 160 Decontaminate tools (where applicable), complete waste assessments, remove wastes Day 180 Complete all closure activities. 60 days after completion of closure – submit closure certification to the State of Idaho. As the actual closure is anticipated the schedule above will be modified to reflect conditions and activities existing at that time. The amended closure schedule will allow adequate time to complete the closure of the systems.

Regulatory Citation (Description of Requirement)	Compliance Methodology
(7) For facilities that use trust funds to establish financial assurance under § 264.143 or 264.145 and that are expected to close prior to the expiration of the permit, an estimate of the expected year of final closure.	(7) This requirement is not applicable.
(8) For facilities where the Regional Administrator has applied alternative requirements at a regulated unit under §§ 264.90(f), 264.110(d), and/or 264.140(d), either the alternative requirements applying to the regulated unit, or a reference to the enforceable document containing those alternative requirements.	(8) Not applicable to this closure plan.
(c) *Amendment of plan*. The owner or operator must submit a written notification of or request for a permit modification to authorize a change in operating plans, facility design, or the approved closure plan in accordance with the applicable procedures in Parts 124 and 270. The written notification or request must include a copy of the amended closure plan for review or approval by the Regional Administrator.	(c) The owner/operator may amend the approved closure plan, prior to notification of partial closure, by notifying the Director with a written request. The request will contain a copy of the amended closure plan for approval.
(1) The owner or operator may submit a written notification or request to the Regional Administrator for a permit modification to amend the closure plan at any time prior to the notification of partial or final closure of the facility.	(1) The owner or operator will submit a written notification or request to the Regional Administrator for a permit modification to amend the closure plan prior to the notification of partial or final closure of the facility, as necessary.
(2) The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the approved closure plan whenever: (i) Changes in operating plans or facility design affect the closure plan, or (ii) There is a change in the expected year of closure, if applicable, or (iii) In conducting partial or final closure activities, unexpected	(2) The owner/operator will amend the closure plan whenever: (i) Changes in operating plans or facility design affect the closure plan (ii) Change in the closure schedule, or (iii) Unexpected events occur during partial closure requiring a modification. The owner/operator will not request alternative requirements of the Regional Administrator.

Regulatory Citation (Description of Requirement)	Compliance Methodology
events require a modification of the approved closure plan. (iv) The owner or operator requests the Regional Administrator to apply alternative requirements to a regulated unit under §§ 264.90(f), 264.110(c), and/or 264.140(d).	This space was intentionally left blank
(3) The owner or operator must submit a written request for a permit modification including a copy of the amended closure plan for approval at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator must request a permit modification no later than 30 days after the unexpected event. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to prepare a contingent closure plan under § 264.228(c)(1)(i) or 264.258(c)(1)(i), must submit an amended closure plan to the Regional Administrator no later than 60 days from the date that the owner or operator or Regional Administrator determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of § 264.310, or no later than 30 days from that date if the determination is made during partial or final closure. The Regional Administrator will approve, disapprove, or modify this amended plan in accordance with the procedures in Parts 124 and 270. In accordance with § 270.32 of this chapter, the approved closure plan will become a condition of any RCRA permit issued.	(3) The owner/operator will amend the closure plan at least 60 days prior to any and all proposed changes in design or operation that could affect partial or final closure, or no later than 60 days after an unexpected event occurs that has affected the closure plan. If an unexpected event occurs during partial closure, the owner/operator will amend the closure plan no later than 30 days after the unexpected event occurs.

Regulatory Citation (Description of Requirement)	Compliance Methodology
(4) The Regional Administrator may request modifications to the plan under the conditions described in paragraph 264.112(c)(2). The owner or operator must submit the modified plan within 60 days of the Regional Administrator's request, or within 30 days if the change in facility conditions occurs during partial or final closure. Any modifications requested by the Regional Administrator will be approved in accordance with the procedures in Parts 124 and 270.	(4) Once this closure plan is approved, the owner/operator will submit a modified plan within 60 days of a request from the Director, or within 30 days, if an unexpected event occurs during partial or final closure.
(d) Notification of partial closure and final closure.	(d) The owner/operator will notify the Director in writing at least 45 days prior to the date on which the owner/operator expects to begin final closure.
(1) The owners or operator must notify the Regional Administrator in writing at least 60 days prior to the date on which he expects to begin closure of a surface impoundment, waste pile, land treatment or landfill unit, or final closure of a facility with such a unit. The owner or operator must notify the Regional Administrator in writing at least 45 days prior to the date on which he expects to begin final closure of a facility with only treatment or storage tanks, container storage, or incinerator units to be closed. The owner or operator must notify the Regional Administrator in writing at least 45 days prior to the date on which he expects to begin partial or final closure of a boiler or industrial furnace, whichever is earlier.	(1) The owner/operator will notify the Director in writing at least 45 days prior to the date on which the owner/operator expects to begin final closure.
(2) The date when he "expects to begin closure" must be either: (i) No later than 30 days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous waste. If the owner or operator of a hazardous waste	(2)(i) The requirements will be applicable when the ILWMS receives its final volume of waste.

Regulatory Citation (Description of Requirement)	Compliance Methodology
management unit can demonstrate to the Regional Administrator that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and he has taken all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the Regional Administrator may approve an extension to this one-year limit; or	This space was intentionally left blank
(ii) For units meeting the requirements of § 264.113(d), no later than 30 days after the date on which the hazardous waste management unit receives the known final volume of non-hazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional non-hazardous wastes, no later than one year after the date on which the unit received the most recent volume of non-hazardous wastes. If the owner or operator can demonstrate to the Regional Administrator that the hazardous waste management unit has the capacity to receive additional non-hazardous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the Regional Administrator may approve an extension to this one-year limit.	(ii) The requirements will be applicable when the ILWMS receives its final volume of waste.
(3) If the facility's permit is terminated, or if the facility is otherwise ordered, by judicial decree or final order under § 3008 of RCRA, to cease receiving hazardous wastes or to close, then the requirements of this paragraph do not apply. However, the owner or operator must close the facility in accordance with the deadlines established in § 264.113.	(3) The owner/operator understands this allowance.

Regulatory Citation (Description of Requirement)	Compliance Methodology
(e) Removal of wastes and decontamination or dismantling of equipment. Nothing in this section shall preclude the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.	(e) The owner/operator understands this allowance.
1.1.4 264.113(a) Closure; time allowed for closure	**264.113 Closure; time allowed for closure**
(a) Within 90 days after receiving the final volume of hazardous wastes, or the final volume of non-hazardous wastes if the owner or operator complies with all applicable requirements in paragraphs (d) and (e) of this section, at a hazardous waste management unit or facility, the owner or operator must treat, remove from the unit or facility, or dispose of on-site, all hazardous wastes in accordance with the approved closure plan. The Regional Administrator may approve a longer period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and demonstrates that:	(a) In accordance with the provisions of IDAPA 58.01.05.009 [40 CFR 264.113(a)], the owner/operator is not requesting an extension of the closure period longer than 90 days for removing waste from the systems. However, when a decision is made to close the systems, the 90-day time-period will be reevaluated and a request for an extension may be made at that time.
(1)(i) The activities required to comply with this paragraph will, of necessity, take longer than 90 days to complete; or (ii)(A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the owner or operator complies with paragraphs (d) and (e) of this section; and (B) There is a reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and (C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and	(1) Not applicable to this closure plan.

Regulatory Citation (Description of Requirement)	Compliance Methodology
(2) He has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable interim status requirements.	(2) Not applicable to this closure plan.
(b) The owner or operator must complete partial and final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous wastes, or the final volume of non-hazardous wastes if the owner or operator complies with all applicable requirements in paragraphs (d) and (e) of this section, at the hazardous waste management unit or facility. The Regional Administrator may approve an extension to the closure period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and demonstrates that:	(b) The owner/operator intends to perform partial and final closure activities in accordance with the approved closure plan and the closure schedule in Section 1.1.3, 264.113(b).
(1)(i) The partial or final closure activities will, of necessity, take longer than 180 days to complete; or (ii)(A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the owner or operator complies with paragraphs (d) and (e) of this section; and (B) There is reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and (C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and	(1) Not applicable to this closure plan.
(2) He has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including compliance with all applicable permit requirements.	(2) Not applicable to this closure plan.

Regulatory Citation (Description of Requirement)	Compliance Methodology
(c) The demonstrations referred to in paragraphs (a)(1) and (b)(1) of this section must be made as follows: (1) The demonstrations in paragraph (a)(1) of this section must be made at least 30 days prior to the expiration of the 90-day period in paragraph (a) of this section; and (2) The demonstration in paragraph (b)(1) of this section must be made at least 30 days prior to the expiration of the 180-day period in paragraph (b) of this section, unless the owner or operator is otherwise subject to the deadlines in paragraph (d) of this section.	(c) Not applicable to this closure plan.
(d) The Regional Administrator may allow an owner or operator to receive non-hazardous wastes in a landfill, land treatment, or surface impoundment unit after the final receipt of hazardous wastes at that unit if: (1) The owner or operator requests a permit modification in compliance with all applicable requirements in parts 270 and 124 of this title and in the permit modification request demonstrates that... NOTE: *The remainder of this regulation has not been cited and is not applicable to this closure plan*.	(d) Not applicable to this closure plan.
1.1.5 264.114 Disposal or decontamination of equipment, structures and soils	**264.114 Disposal or decontamination of equipment, structures and soils**
During the partial and final closure periods, all contaminated equipment, structures and soils must be properly disposed of or decontaminated unless specified otherwise in §§ 264.197, 264.228, 264.258, 264.280, or 264.310. By removing all hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and must handle that hazardous waste in accordance with all applicable requirements of part 262 of this chapter.	All equipment will be decontaminated, to allow removal and disposal, as detailed in Section 1.1.3, 264.112(b)(3) and (4) of this plan. All debris and waste generated during closure will be characterized, stored, treated, and disposed, as appropriate, in accordance with IDAPA 58.01.05.005, 58.01.05.006, 58.01.05.008, and 58.01.05.011 (40 CFR Parts 261, 262, 264, and 268). Final disposal/disposition of any equipment will be determined at final closure.

Regulatory Citation (Description of Requirement)	Compliance Methodology
1.1.6 264.115 Certification of closure	**264.115 Certification of closure**
Within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of completion of final closure, the owner or operator must submit to the Regional Administrator, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification must be signed by the owner or operator and by an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the Regional Administrator upon request until he releases the owner or operator from the financial assurance requirements for closure under § 264.143(h).	Within 60 days after completion of the closure activities, the owner/operator will submit to the Director a certification that the systems have been closed in accordance with the approved closure plan. The certification will be signed by the owner/operator and by an independent, registered P.E.
1.1.7 264.116 Survey plat	**264.116 Survey plat**
No later than the submission of the certification of closure of each hazardous waste disposal unit, an owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Regional Administrator, a survey plat indicating the location and dimensions of landfill cells or other hazardous waste disposal units with respect to permanently surveyed benchmarks. This plat must be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority, or the authority with jurisdiction over local land use, must contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit in accordance with the applicable Subpart G regulations.	A survey plat meeting this requirement will be submitted to the local zoning authority or the authority with jurisdiction over local land use and the Regional Administrator.
1.1.8 264.117 Post-closure care and use of property	**264.117 Post-closure care and use of property**
(a)(1) Post-closure care for each hazardous waste management unit subject to the requirements of §§ 264.117 through 264.120 must begin after completion of closure of the unit and continue for 30 years after that date and must consist of at least the following:	(a) All hazardous wastes and equipment associated with the PEWE, LET&D systems, and CPP-659 Annex will be removed and disposed of appropriately. Post closure plan and care will not be required.

Regulatory Citation (Description of Requirement)	Compliance Methodology
(i) Monitoring and reporting in accordance with the requirements of Subparts F, K, L, M, N, and X of this part; and (ii) Maintenance and monitoring of waste containment systems in accordance with the requirements of Subparts F, K, L, M, N, and X of this part. (2) Any time preceding closure of a hazardous waste management unit subject to post-closure care requirements or final closure, or any time during the post-closure period for a particular unit, the Regional Administrator may, in accordance with the permit modification procedures in Parts 124 and 270: (i) Shorten the post-closure care period applicable to the hazardous waste management unit, or facility, if all disposal units have been closed, if he finds that the reduced period is sufficient to protect human health and the environment (e.g., leachate or ground-water monitoring results, characteristics of the hazardous waste, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the hazardous waste management unit or facility is secure); or (ii) Extend the post-closure care period applicable to the hazardous waste management unit or facility if he finds that the extended period is necessary to protect human health and the environment (e.g., leachate or groundwater monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).	This space was intentionally left blank

Regulatory Citation (Description of Requirement)	Compliance Methodology
(b) The Regional Administrator may require, at partial and final closure, continuation of any of the security requirements of § 264.14 during part or all of the post-closure period when: (1) Hazardous wastes may remain exposed after completion of partial or final closure; or (2) Access by the public or domestic livestock may pose a hazard to human health.	(b) All hazardous wastes and equipment associated with the PEWE, LET&D systems, and CPP-659 Annex will be removed and disposed of appropriately. Post closure plan and care will not be required.
(c) Post-closure use of property on or in which hazardous wastes remain after partial or final closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the facility's monitoring systems, unless the Regional Administrator finds that the disturbance: (1) Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or (2) Is necessary to reduce a threat to human health or the environment. (d) All post-closure care activities must be in accordance with the provisions of the approved post-closure plan as specified in § 264.118.	(c) All hazardous wastes and equipment associated with the PEWE, LET&D systems, and CPP-659 Annex will be removed and disposed of appropriately. Post closure plan and care will not be required.

Regulatory Citation (Description of Requirement)	Compliance Methodology
1.1.9 264.118 Post-closure plan; amendment of plan	**264.118 Post-closure plan; amendment of plan**
(a) *Written plan*. The owner or operator of a hazardous waste disposal unit must have a written post-closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous wastes at partial or final closure are required by §§ 264.228(c)(1)(ii) and 264.258(c)(1)(ii) to have contingent post-closure plans. Owners or operators of surface impoundments and waste piles not otherwise required to prepare contingent post-closure plans under §§ 264.128(c)(1)(ii) and 264.258(c)(1)(ii) must submit a post-closure plan to the Regional Administrator within 90 days from the date that the owner or operator or Regional Administrator determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of §§ 264.117 through 264.120. The plan must be submittted with the permit application, in accordance with § 270.14(b)(13) of this chapter, and approved by the Regional Administrator as part of the permit issuance procedures under Part 124 of this chapter. In accordance with §270.32 of this chapter, the approved post-closure plan will become a condition of any RCRA permit issued.	(a) All hazardous wastes and equipment associated with the PEWE, LET&D systems, and CPP-659 Annex will be removed and disposed of appropriately. Post closure plan and care will not be required. If clean closure cannot be achieved and a "risk-based closure" or "landfill closure" is deemed necessary then a post-closure plan will be developed.
(b) For each hazardous waste management unit subject to the requirements of this section, the post-closure plan must identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities, and include at least: (1) A description of the planned monitoring activities and frequencies at which they will be performed to comply with Subparts F, K, L, M, N, and X of this part during the post-closure care period; and (2) A description of the planned maintenance activities, and frequencies at which they will be performed, to ensure: (i) The integrity of the cap and final cover or other	(b) All hazardous wastes and equipment associated with the PEWE, LET&D systems, and CPP-659 Annex will be removed and disposed of appropriately. Post closure plan and care will not be required. If clean closure cannot be achieved and a "risk-based closure" or "landfill closure" is deemed necessary then a post-closure plan will be developed.

Regulatory Citation (Description of Requirement)	Compliance Methodology
containment systems in accordance with the requirements of subparts F, K, L, M , N, and X of this part; and (ii) The function of the monitoring equipment in accordance with the requirements of subparts F, K, L, M, N, and X of this part; and (3) The name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the post-closure care period. (4) For facilities where the Regional Administrator has applied alternative requirements at a regulated unit under §§ 264.90(f), 264.110(c), and/or 264.140(d), either the alternative requirements that apply to the regulated unit, or a reference to the enforceable document containing those requirements.	This space was intentionally left blank
(c) Until final closure of the facility, a copy of the approved post-closure plan must be furnished to the Regional Administrator upon request, including request by mail. After final closure has been certified, the person or office specified in §264.118(b)(3) must keep the approved post-closure plan during the remainder of the post-closure period.	(c) All hazardous wastes and equipment associated with the PEWE, LET&D systems, and CPP-659 Annex will be removed and disposed of appropriately. Post closure plan and care will not be required. If clean closure cannot be achieved and a "risk-based closure" or "landfill closure" is deemed necessary then a post-closure plan will be developed.
(d) Amendment of plan. The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the approved post-closure plan in accordance with the applicable requirements in Parts 124 and 270. The written notification or request must include a copy of the amended post-closure plan for review or approval by the Regional Administrator. (1) The owner or operator may submit a written notification or request to the Regional Administrator for a permit modification to amend the post-closure plan at any time during the active life of the facility or during the post-closure	d) All hazardous wastes and equipment associated with the PEWE, LET&D systems, and CPP-659 Annex will be removed and disposed of appropriately. Post closure plan and care will not be required. If clean closure cannot be achieved and a "risk-based closure" or "landfill closure" is deemed necessary then a post-closure plan will be developed.

Regulatory Citation (Description of Requirement)	Compliance Methodology
care period. (2) The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the approved post-closure plan whenever: (i) Changes in operating plans or facility design affect the approved post-closure plan, or (ii) There is a change in the expected year of final closure, if applicable, or (iii) Events which occur during the active life of the facility, including partial and final closures, affect the approved post-closure plan. (iv) The owner or operator requests the Regional Administrator to apply alternative requirements to a regulated unit under §§ 264.90(f), 264.110(c), and/or 264.140(d). (3) The owner or operator must submit a written request for a permit modification at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the post-closure plan. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to submit a contingent post-closure plan under §§ 264.228(c)(1)(ii) and 264.258(c)(1)(ii) must submit a post-closure plan to the Regional Administrator no later than 90 days after the date that the owner or operator or Regional Administrator determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of § 264.310. The Regional Administrator will approve, disapprove or modify this plan in accordance with the procedures in Parts 124 and 270. In accordance with §	This space was intentionally left blank

Regulatory Citation (Description of Requirement)	Compliance Methodology
270.32 of this chapter, the approved post-closure plan will become a permit condition. (4) The Regional Administrator may request modifications to the plan under the conditions described in § 264.118(d)(2). The owner or operator must submit the modified plan no later than 60 days after the Regional Administrator's request, or no later than 90 days if the unit is a surface impoundment or waste pile not previously required to prepare a contingent post-closure plan. Any modifications requested by the Regional Administrator will be approved, disapproved, or modified in accordance with the procedures in Parts 124 and 270.	This space was intentionally left blank
1.1.10 264.119 Post-closure notices	**264.119 Post-closure notices**
(a) No later than 60 days after certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Regional Administrator, a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous waste disposed of before January 12, 1981, the owner or operator must identify the type, location, and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept. (b) Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit, the owner or operator must: (1) Record, in accordance with State law, a notation on the deed to the facility property – or on some other instrument which is normally examined during title search – that will in perpetuity notify any potential purchaser of the property	All hazardous wastes and equipment associated with the PEWE, LET&D systems, and CPP-659 Annex will be removed and disposed of appropriately. Post closure plan and care will not be required. If clean closure cannot be achieved and a "risk-based closure" or "landfill closure" is deemed necessary, then a post-closure plan will be developed.

Regulatory Citation (Description of Requirement)	Compliance Methodology
that: (i) The land has been used to manage hazardous wastes; and (ii) Its use is restricted under 40 CFR Subpart G regulations; and (iii) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by §§ 264.116 and 264.119(a) have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the Regional Administrator; and (2) Submit a certification, signed by the owner or operator, that he has recorded the notation specified in paragraph (b)(1) of this section, including a copy of the document in which the notation has been placed, to the Regional Administrator. (c) If the owner or operator or any subsequent owner or operator of the land upon which a hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, he must request a modification to the post-closure permit in accordance with the applicable requirements in parts 124 and 270. The owner or operator must demonstrate that the removal of hazardous wastes will satisfy the criteria of § 264.117(c). By removing hazardous waste, the owner or operator may become a generator of hazardous waste and must manage it in accordance with all applicable requirements of this chapter. If he is granted a permit modification or otherwise granted approval to conduct such removal activities, the owner or operator may request that the Regional Administrator approve either: (1) The removal of the notation on the deed to the facility property or other instrument normally examined during title	This space was intentionally left blank

Regulatory Citation (Description of Requirement)	Compliance Methodology
search; or (2) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.	This space was intentionally left blank
1.1.11 264.120 Certification of completion of post-closure care	**264.120 Certification of completion of post-closure care**
No later than 60 days after the completion of the established post-closure care period for each hazardous waste disposal unit, the owner or operator must submit to the Regional Administrator, by registered mail, a certification that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved post-closure plan. The certification must be signed by the owner or operator and an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the Regional Administrator upon request until he releases the owner or operator from the financial assurance requirements for post-closure care under § 264.145(I).	All hazardous wastes and equipment associated with the PEWE, LET&D systems, and CPP-659 Annex will be removed and disposed of appropriately. Post closure plan and care will not be required. If clean closure cannot be achieved and a "risk-based closure" or "landfill closure" is deemed necessary then a post-closure plan will be developed.

IDAPA 58.01.05.009 (40 CFR 264 Subpart J)
1.2 Tank Systems Closure and Post-Closure

Regulatory Citation (Description of Requirement)	Compliance Methodology
1.2.1 264.197 Closure and post-closure care	**264.197 Closure and post-closure care**
(a) At closure of a tank system, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless § 261.3(d) of this Chapter applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems must meet all of the requirements specified in subparts G and H of this part.	(a) The tank systems will be closed by removing all waste residues; contaminated containment system components (liners, etc.); contaminated soils; and structures and equipment contaminated with waste, and manage them as hazardous waste.
(b) If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in paragraph (a) of this section, then the owner or operator must close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills (§ 264.310). In addition, for the purposes of closure, post-closure, and financial responsibility, such a tank system is then considered to be a landfill, and the owner or operator must meet all of the requirements for landfills specified in subparts G and H of this part.	(b) The requirements will be applicable when the ILWMS receives its final volume of waste.
(c) If an owner or operator has a tank system which does not have secondary containment that meets the requirements of § 264.193(b) through (f) and has not been granted a variance from the secondary containment requirements in accordance with § 264.193(g), then: (1) The closure plan for the tank system must include both a plan for complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section.	(c) Not applicable for this closure plan. The tank systems associated with the PEWE, LET&D systems, and CPP-659 Annex have secondary containment.

Regulatory Citation (Description of Requirement)	Compliance Methodology
(2) A contingent post-closure plan for complying with paragraph (b) of this section must be prepared and submitted as a part of the permit application. (3) The cost estimates calculated for closure and post-closure care must reflect the costs of complying with the contingent closure plan and the contingent post-closure plan, if those costs are greater than the costs of complying with the closure plan prepared for the expected closure under paragraph (a) of this section. (4) Financial assurance must be based on the cost estimates in paragraph (c)(3) of this section. (5) For the purpose of the contingent closure and post-closure plans, such a tank system is considered to be a landfill, and the contingent plans must meet all of the closure, post-closure, and financial responsibility requirements for landfills under Subparts G and H of this part.	This space was intentionally left blank

IDAPA 58.01.05.009 (40 CFR 264 Subpart X)
1.3 Miscellaneous Units

Regulatory Citation (Description of Requirement)	Compliance Methodology
1.3.1 264.603 Post-closure care	**264.603 Post-closure care**
A miscellaneous unit that is a disposal unit must be maintained in a manner that complies with § 264.601 during the post-closure care period. In addition, if a treatment or storage unit has contaminated soils or ground water that cannot be completely removed or decontaminated during closure, then that unit must also meet the requirements of § 264.601 during post-closure care. The post-closure plan under § 264.118 must specify the procedures that will be used to satisfy this requirement.	The owner/operator understand this requirement.

RCRA PART B PERMIT APPLICATION

FOR THE

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY

Volume 14
INTEC Liquid Waste Management System

Section J
Corrective Action For Solid Waste Management Units

October 2003

J. Corrective Action For Solid Waste Management Units [IDAPA 58.01.05.008; 40 CFR 264.101]

Any RCRA corrective action required at INTEC will be addressed under the Federal Facilities Agreement and Consent Order (FFA/CO) or Module V of the previously issued RSSF/RSWF/HFEF/703 Partial Permit.

RCRA PART B PERMIT APPLICATION

FOR THE

IDAHO NATIONALENGINEERING AND ENVIRONMENTAL LABORATORY

Volume 14
INTEC Liquid Waste Management System

Section K
Other Federal Laws

October 2003

K. Other Federal Laws [IDAPA 58.01.05.012; 40 CFR 270.14(b)(20), 40 CFR 270.3]

The subject of other federal laws applicable to waste management units at the Idaho National Engineering and Environmental Laboratory (INEEL) is addressed in Section K in Volume 3 of the INEEL Resource Conservation and Recovery Act Part B Permit Application.

RCRA PART B PERMIT APPLICATION

FOR THE

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY

Volume 14
INTEC Liquid Waste Management System

Section L
Certification

October 2003

INEEL HWMA/RCRA ILWMS Part B Permit Application Section L, Certification
Volume 14 Rev. 2, October 2003

REGULATORY CERTIFICATION [IDAPA 58.01.05.012; 40 CFR 270.11(d)]

**RESPONSE TO VOLUME 14,
INTEC LIQUID WASTE MANAGEMENT SYSTEM,
NOTICE OF DEFICIENCY,
AND REVISED PART B PERMIT APPLICATION**

EPA I.D. Number: ID4890008952

The undersigned certify as required per 40 CFR §§ 270.11(d) and 270.30(k) as follows:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner Signature

Elizabeth D. Sellers 10/2/03

Elizabeth D. Sellers, Manager Date
Department of Energy, Idaho Operations Office

INEEL HWMA/RCRA ILWMS Part B Permit Application Section L, Certification
Volume 14 Rev. 2, October 2003

REGULATORY CERTIFICATION [IDAPA 58.01.05.012; 40 CFR 270.11(d)]

**RESPONSE TO VOLUME 14,
INTEC LIQUID WASTE MANAGEMENT SYSTEM,
NOTICE OF DEFICIENCY,
AND REVISED PART B PERMIT APPLICATION**

EPA I.D. Number: ID4890008952

The undersigned certify as required per 40 CFR §§ 270.11(d) and 270.30(k) as follows:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Operator Signature

Susan G. Stiger 8-26-03

Susan G. Stiger, Vice-President, Idaho Completion Project Date
Bechtel BWXT Idaho, LLC

RCRA PART B PERMIT APPLICATION

FOR THE

IDAHO NATIONALENGINEERING AND ENVIRONMENTAL LABORATORY

Volume 14
INTEC Liquid Waste Management System

Section M
Public Participation

October 2003

First Public Meeting December 13, 2000

Process Equipment Waste Evaporator System

Post Register
GOOD MORNING!

333 Northgate Mile
Idaho Falls, ID 83401
(208)522-1800
November 17, 2000

BBWI (BECHTEL)
PO BOX 1625
IDAHO FALLS, ID 83415
DARRELL D LAKE

Account # 2085267005

Published: NOVEMBER 13, 2000

Legal Notice: LEGAL NOTICE BECHTELL BWXT

Please refer to Invoice #	or Ad # 125709

PO #

TOTAL COST: $53.92

PLEASE INCLUDE ACCOUNT # AND AD # WITH YOUR PAYMENT
THANK YOU

Proof of Publication

The Post Register

State of Idaho
County of Bonneville

I, S. Bob Bright or Robert Park, first being duly sworn, depose and say: That I am the Production Supervisor or Asst. Prod. Supervisor of The Post Company, a corporation of Idaho Falls, Bonneville County, Idaho, publishers of The Post Register, a newspaper of general circulation, published daily at Idaho Falls, Idaho; said Post Register being a consolidation of the Idaho Falls Times, established in the year 1890, The Idaho Register, established in the year 1880 and the Idaho Falls Post, established in 1903, such consolidation being made on the First day of November, 1931, and each of said newspapers have been published continuously and uninterruptedly, prior to consolidation, for more than twelve consecutive months and said Post Register having been published continuously and uninterruptedly from the date of such consolidation, up to and including the last publication of notice hereinafter referred to.

That the notice, of which a copy is hereto attached and made a part of this affidavit, was published in said Post Register for 1 consecutive (days) weeks, first publication having been made on the 13th day of NOVEMBER, 2000, last publication having been made on the 13TH day of NOVEMBER 2000 at the said notice was published in the regular and entire issue of said paper on the respective dates of publication, and that such notice was published in the newspaper and not in a supplement 10,

Robert Park
....

Subscribed and sworn to before me, this 15TH day of NOVEMBER, 2000

....
Notary Public

My commission expires January 10, 2003

IVY BERRY
NOTARY PUBLIC - IDAHO
My Commission Expires
January 10, 2003

CLASSIFIED ADVERTISING INVOICE

Post Register

333 Northgate Mile • Idaho Falls, ID 83401
P.O. Box 1800 • Idaho Falls, ID 83403
Phone: (208) 522-1800

RETAIN FOR YOUR RECORDS

TELEPHONE	REFERENCE	BILL DATE
(208)526-7005	1103724	11/13

CLASSIFICATION	LINES	START	TIMES
200	68	11/13/00	1

AD DESCRIPTION
LEGAL NOTI

PLEASE INCLUDE NAME AND
PHONE # WITH YOUR PAYMENT
THANK YOU !!!!!

PAY THIS AMOUNT ▶ 53.92

★ DETACH HERE ★

IDAHO FALLS
NOV21'00

U.S. POSTAGE
00.20

PLEASE RETURN THIS STUB WITH PAYMENT

TELEPHONE	REFERENCE
(208)526-7005	1103724

BILL DATE	AMOUNT DUE
11/13/00	53.92

TO:

BBWI
PO BOX 1625
IDAHO FALLS ID 83415

Project Manager, 332-1914. The RFP is also available for viewing and printing at the following website:
http://www2.state.id.us/ adm/pubworks/index.htm
An Idaho Engineering License is required to submit a proposal on this project.
Jan Frew, Design &
Construction Manager
Division of Public Works
Published: November 13, 14, 15, 2000

ADVERTISEMENT FOR REQUEST FOR PROPOSALS

Proposals for Design Services will be received by Division of Public Works, State of Idaho, at 502 N 4th Street, Boise, Idaho until **5:00 PM** local time **December 8, 2000** for **Electrical Engineering Services, Statewide.**

A written Request for Proposals and other information are available at the Division of Public Works, 502 N 4th Street, Boise ID 83702; Roger Spiker, Project Manager, 332-1917. The RFP is also available for viewing and printing at the following website:
http://www2.state.id.us/ adm/pubworks/index.htm
An Idaho Engineering License is required to submit a proposal on this project.
Jan Frew, Design &
Construction Manager
Division of Public Works
Published: November 13, 14, 15, 2000

ADVERTISEMENT FOR REQUEST FOR PROPOSALS

Proposals for Design Services will be received by Division of Public Works, State of Idaho, at 502 N 4th Street, Boise, Idaho until **5:00 PM** local time **December 8, 2000** for **Civil Engineering Services, Statewide.**

A written Request for Proposals and other information are available at the Division of Public Works, 502 N 4th Street, Boise ID 83702; Norm Noonan, Project Manager, 332-1918. The RFP is also available for viewing and printing at the following website:
http://www2.state.id.us/ adm/pubworks/index.htm
An Idaho Engineering License is required to submit a proposal on this project.
Jan Frew, Design &
Construction Manager
Division of Public Works
Published: November 13, 14, 15, 2000

ADVERTISEMENT FOR REQUEST FOR PROPOSALS

Proposals for Design Services will be received by Division of Public Works, State of Idaho, at 502 N 4th Street, Boise, Idaho until 5:00 PM local time **December 8, 2000,** for DPW Roofing Repairs Projects for the State of Idaho.

A written Request for Proposals and other information are available at the Division of Public Works, 502 N 4th Street, Boise, ID 83720-0072; **Darrel Pewtress,** Project Manager **PH: 332-1908.** The RFP is also available for viewing and printing at the following website:
http://www2.state.id.us/ adm/pubworks/index.htm
An Idaho Architectural License is required to submit a proposal on this project.
Jan Frew, Design &
Construction Manager
Division of Public Works
Published: November 13, 14, 15, 2000

also available for viewing and printing at the following website:
http://www2.state.id.us/ adm/pubworks/index.htm
An Idaho Engineering License is required to submit a proposal on this project.
Jan Frew, Design &
Construction Manager
Division of Public Works
Published: November 13, 14, 15, 2000

LEGAL NOTICE

Notice is hereby given that the U.S. Department of Energy, Idaho Operations Office, and Bechtel BWXT Idaho, LLC, hereinafter jointly referred to as the Permittee, will formally submit to the Idaho Department of Environmental Quality (IDEQ), a Hazardous Waste Management Act (HWMA)/Resource Conservation and Recovery Act (RCRA) Part B Permit Application on or before July 1, 2001 (the application). The application addresses the liquid waste treatment system located at the Idaho Nuclear Technology and Engineering Center at the Idaho National Engineering and Environmental Laboratory (Environmental Protection Agency Identification Number ID 4890008952). This application is being submitted in accordance with the Idaho Administrative Procedures Act (IDAPA) 58.01.05.008 and 012 [Title 40 of the Code of Federal Regulations (CFR) 264 and 270].

This application addresses the Process Equipment Waste Evaporator (PEWE) system, that includes steam operated evaporators, storage and treatment tanks, and ancillary equipment. The purpose of the application is to allow the PEWE system to be removed from interim status and become a fully permitted unit under HWMA/RCRA regulation. The PEWE system is used to collect, store, and process waste to reduce the volume of waste sent to the Tank Farm Facility (TFF). Reducing the volume of wastes sent to the TFF will support the State of Idaho mandated closure of the TFF.

A public meeting regarding the application will be held in Conference Room 2 at the Idaho Falls Public Library, 457 Broadway, Idaho Falls, Idaho, on December 13, 2000, starting at 6:00 p.m. and ending at 8:00 p.m., or ending at 6:30 p.m. if members of the public do not attend. This meeting is being held to encourage public participation and input into the development of this application. Individuals needing special access to participate in the meeting are encouraged to contact the point of contact listed in this notice at least 72 hours before the meeting.

A fact sheet describing the unit to be permitted will be available at the meeting. Please direct comments and questions to Kirk Nielsen who is the point of contact for this meeting. He can be contacted at (208) 526-6163 or at the following address:
Kirk Nielsen
Bechtel BWXT Idaho, LLC
P.O. Box 1625
Idaho Fals, Idaho 83415-3428
Published: November 13, 2000

NOTICE OF TRUSTEE'S SALE
Trustee's Sale No. 02-WM-22044

NOTICE IS HEREBY GIVEN that FIRST AMERICAN TITLE INSURANCE COMPANY, the duly appointed Successor Trustee, will on March 2, 2001, at 11:00 A.M., of said day, AT THE OFFICE OF FIRST AMERICAN TITLE COMPANY, 2004 JENNIE LEE DRIVE, IDAHO FALLS, IDAHO, sell at public auction, to the highest bidder, for cash, in lawful money of the United States, all payable at the time of sale, the following described real MEPPEN DRIVE, IDAHO FALLS, ID. 83401, is sometimes associated with said real property.

Said sale will be made without covenant or warranty regarding title, possession or encumbrances to satisfy the obligation secured by and pursuant to the power of sale conferred in the deed of trust executed by BRUCE L. LIKES AND CHERI H. LIKES, HUSBAND AND WIFE, as Grantor, to FIRST AMERICAN TITLE, A California Corporation, as trustee, for the benefit and security of WASHINGTON MUTUAL BANK, as beneficiary, recorded January 25, 1999, in Instrument No. 987597, Mortgage records of BONNEVILLE County, Idaho.

THE ABOVE GRANTORS ARE NAMED TO COMPLY WITH SECTION 45-1506(4)(A), IDAHO CODE. NO REPRESENTATION IS MADE THAT THEY ARE, OR ARE NOT, PRESENTLY RESPONSIBLE FOR THIS OBLIGATION.

The default for which this sale is to be made is the failure to:

EXHIBIT A:
EXHIBIT FOR BREACH DESCRIPTION

pay when due, under the Deed of Trust Note dated January 19, 1999, the monthly payments of $737.41 per month for the months of JULY 2000 through SEPTEMBER 2000 and $735.93 for the month of OCTOBER 2000, and all subsequent payments until the date of sale or reinstatement, with a monthly late charge of $26.99. The principal balance is $82,003.03, together with variable interest rates from June 1, 2000, until paid.

All delinquencies are now due, together with unpaid and accruing taxes, assessments trustee's fees, attorney's fees, costs and advances made to protect the security associated with this foreclosure.

The Beneficiary elects to sell or cause the trust property to be sold to satisfy said obligation.

DATED: October 20, 2000
FIRST AMERICAN TITLE INSURANCE COMPANY
By Cynthia G. Guanell
Assistant V.P.
c/o REGIONAL TRUSTEE SERVICES CORPORATION
720 SEVENTH AVENUE, SUITE 400
SEATTLE, WA 98104
PHONE: (206) 340-2550
Sale Information: www.rtrustee.com
Published: Nov 13, 20, 27, Dec 4, 2000

NOTICE OF SALE
STRAY REPORT

ANIMAL DESCRIPTION: Hereford Calf
ANIMAL WEIGHT: N/A
ANIMAL BRAND(S)/MARKINGS: N/A
LOCATION FOUND: Bone
LOCATION HELD: Idaho Livestock Auction
DATE OF SALE: November 22, 2000
LOCATION OF SALE: Idaho Livestock Auction

PLEASE CONTACT THE IDAHO STATE BRAND INSPECTOR, IF YOU HAVE ANY QUESTIONS @
IDAHO STATE BRAND OFFICE
701 NORTHGATE MILE
IDAHO FALLS, IDAHO 83401
(208) 522-6676
Published: November 6, 13, 2000

PUBLIC NOTICE

The Bureau of Indian Affairs is now accepting sealed bids until noon, November 15, 2000, on various farm, farm/pasture leases on the Fort Hall Reservation. Bid forms and additional information can be obtained by contacting the Bureau of Indian Affairs at (208) 238-2307.
Published: October 30, November 1, 3, 6, 8, 10, 13, 15, 2000


PUBLIC
NOTICE

Pre-application Public Meeting

December 13, 2000 from 6:00 to 8:00 p.m.
Idaho Falls Public Library, Conference Room 2

Provide information to and solicit questions from the public on the Resource Conservation and Recovery Act permitting of the Process Equipment Waste Evaporator system at the Idaho Nuclear Technology and Engineering Center as part of the National Engineering and Environmental Laboratory (EPA Identification Number ID4890008952)

NAME (print)	Mailing Address	Telephone Number	Organization	Do you want to be added to the DEQ Mailing List?
Erik Ringelberg	POB4838 Jackson WY 83001	(307)732-2040	KYNF	Yes, please check
DAVID McCOY	2940 REDBARN LN. Idaho Falls, ID 83404	208 5421449		YES
Stacey Francis	2006 McKinzie Idaho Falls ID	208 523-1063		Yes
Paul Smith	9382 S. 1st E. Idaho Falls ID 83404	—	Self	No

NAME (print)	Mailing Address	Telephone Number	Organization	Do you want to be added to the DEQ Mailing List?
Michael R. Greene	295 Harvest Run	208-524-0256		
Ann ~~Boehm~~ Boehmer	3158 Thayer Bridge Circle	208-525-8742		
William C. Lattin	850 Energy Dr Idaho Falls	208-526-1508	DOE-Idaho	
Vicki Johnson	781 Raymond Dr Idaho Falls	528-3357	DOE	No
Jim Jackson	962 E. 10B St I.F., ID 83404	—	Self	On it
Diane Croson	2894 Balboa Dr Idaho Falls, ID 83404	208-529-8952	Self	No

NAME (print)	Mailing Address	Telephone Number	Organization	Do you want to be added to the DEQ Mailing List?
LAURA YOUNG	605 TERRACE DR IDAHO FALLS, ID 83402	522-2141	BBWI	yes
Beatrice Brailsford	310 E Center ~~#205~~ Pocatello ID 83201	234-4782	Snake River Alliance	yes

Fact Sheet for the Process Equipment Waste Evaporator

Regulatory Basis

Idaho Administrative Procedures Act (IDAPA) 58.01.05.002 and .012 [40 Code of Federal Regulation (CFR) §§ 124.31and 270.14(b)(22)] require that a pre-application public meeting be held to solicit comments and allow participation in the development of the application by the public. These require owners or operators of units that treat, store, or dispose of hazardous waste obtain a permit.

Overview

Bechtel BWXT Idaho LLC and the Department of Energy Idaho Operations Office are developing and will jointly submit a Hazardous Waste Management Act (HWMA)/Resource Conservation and Recovery Act (RCRA) Part B Permit Application for the Process Equipment Waste Evaporator (PEWE) system to the Idaho Department of Environmental Quality (IDEQ) on or before July 1, 2001. This permit application will include portions of mixed (radioactive and hazardous) waste storage tank systems and miscellaneous mixed waste treatment units located on the Idaho National Engineering and Environmental Laboratory (INEEL) at the Idaho Nuclear Technology and Engineering Center (INTEC) in buildings CPP-601, CPP-604, and CPP-641. The permit will request that BBWI and DOE-ID be allowed to store and treat mixed wastes in tank systems and allow miscellaneous treatment (evaporation) of mixed wastes within the system.

Background

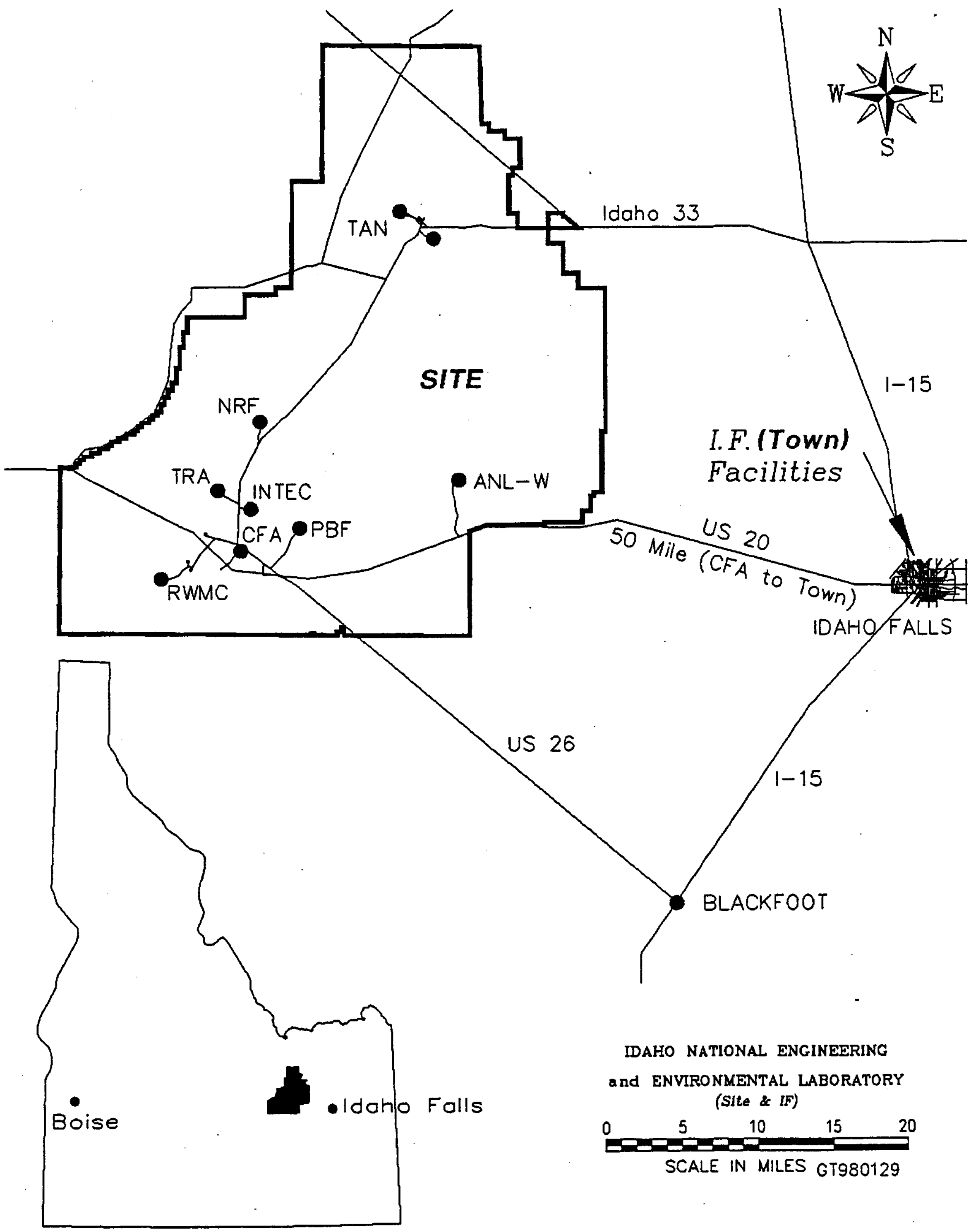
Originally established in the early 1950's, the INTEC is located in the southwestern portion of the INEEL. Prior to April 1992, spent nuclear fuels were reprocessed and the resulting wastes were stored and treated at the INTEC. Since the Department of Energy's decision to cease reprocessing operations, the facilities at the

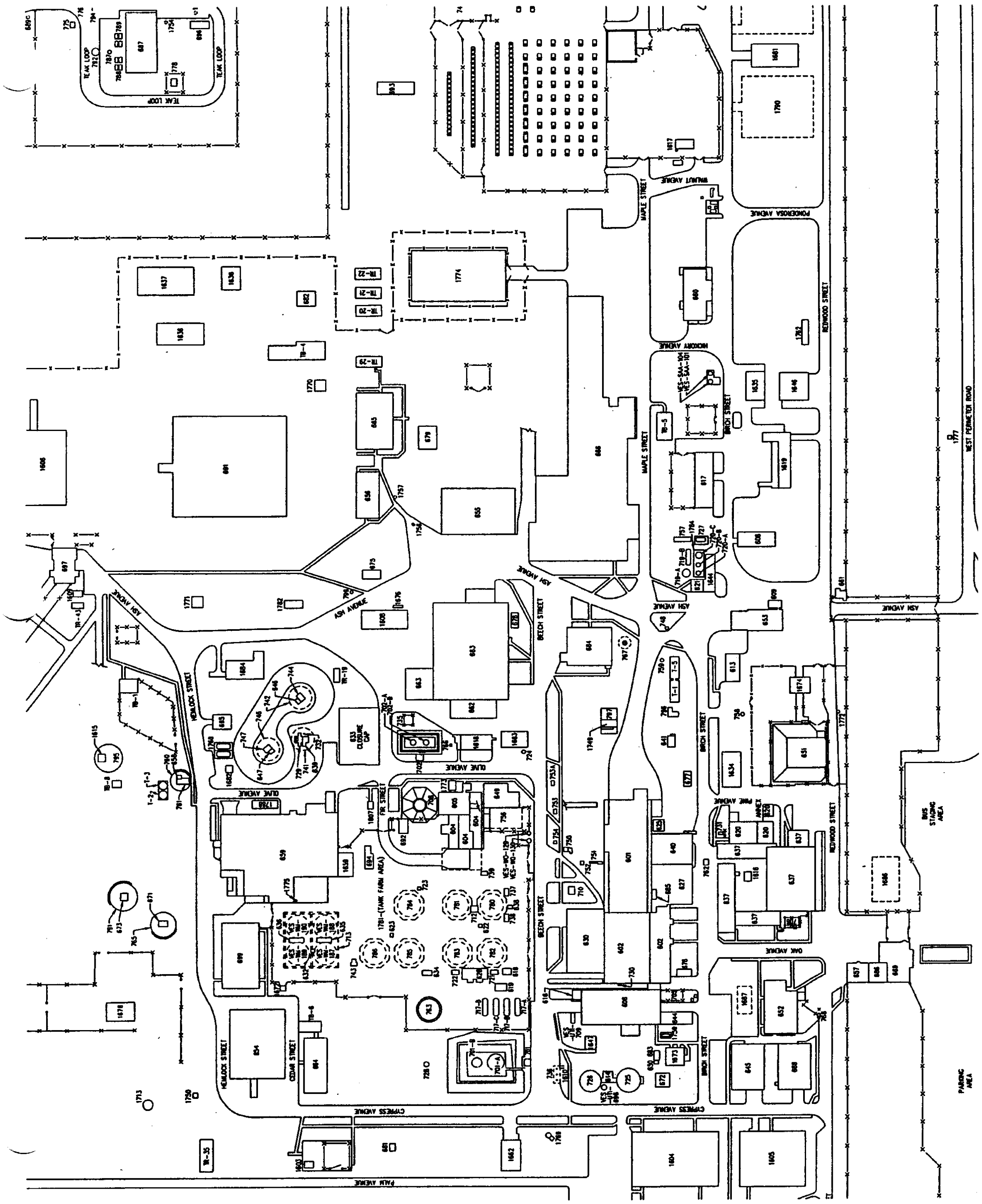
INTEC are primarily used to store spent nuclear fuels and radioactive wastes, treat radioactive and mixed wastes, and develop waste management technologies.

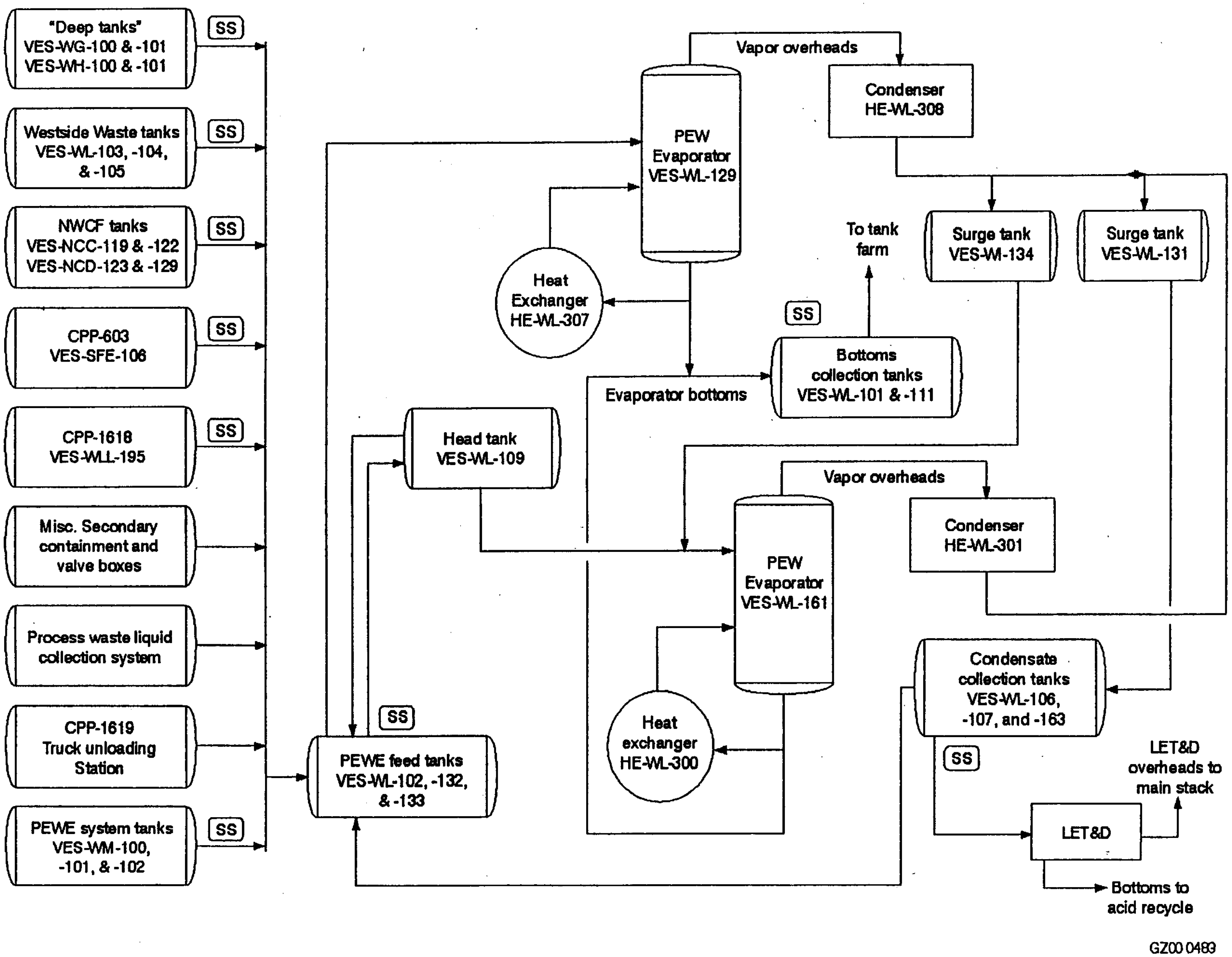
PEWE System

Current waste streams are typically generated by laboratories and decontamination activities at INTEC and are slightly radioactive and acidic in nature. The transfer routes used to move liquids within the PEWE system are compatible with the waste and are compliant with Subpart J requirements. The purpose of the PEWE system is to collect, store, and treat waste to reduce the volume of waste sent to the Tank Farm Facility (TFF). Reducing the volume of wastes sent to the TFF will support the State of Idaho mandated closure of the TFF.

The PEWE system is capable of evaporating up to 24,000 gallons a day of mixed wastes, producing concentrated wastes known as bottoms and condensed vapor known as overheads. The bottoms are transferred to the TFF for future treatment in the High Level Liquid Waste Evaporator (HLLWE). The overheads are transferred to the Liquid Effluent Treatment and Disposal (LET&D) facility for further processing to reclaim nitric acid for use within INTEC.


N
W
E
S
Idaho 33
TAN
SITE
NRF
TRA
INTEC
CFA
PBF
RWMC
ANL-W
I-15
I.F. (Town)
Facilities
US 20
50 Mile (CFA to Town)
IDAHO FALLS
US 26
I-15
BLACKFOOT
Boise
Idaho Falls
IDAHO NATIONAL ENGINEERING
and ENVIRONMENTAL LABORATORY
(Site & IF)
0
5
10
15
20
SCALE IN MILES
GT980129




"Deep tanks"
VES-WG-100 & -101
VES-WH-100 & -101
SS
Westside Waste tanks
VES-WL-103, -104,
& -105
NWCF tanks
VES-NCC-119 & -122
VES-NCD-123 & -129
CPP-603
VES-SFE-106
CPP-1618
VES-WLL-195
Misc. Secondary containment and valve boxes
Process waste liquid collection system
CPP-1619
Truck unloading
Station
PEWE system tanks
VES-WM-100,
-101, & -102
PEWE feed tanks
VES-WL-102, -132,
& -133
Head tank
VES-WL-109
Heat
Exchanger
HE-WL-307
PEW
Evaporator
VES-WL-129
Vapor overheads
Condenser
HE-WL-308
Surge tank
VES-WL-134
Surge tank
VES-WL-131
To tank
farm
Bottoms
collection tanks
VES-WL-101 & -111
Evaporator bottoms
PEW
Evaporator
VES-WL-161
Condenser
HE-WL-301
Heat
exchanger
HE-WL-300
Condensate
collection tanks
VES-WL-106,
-107, and -163
LET&D
overheads to
main stack
LET&D
Bottoms to
acid recycle
GZ00 0489

Please Remit To

KID-AM/Clear Channel Communications
P.O. BOX 998
POCATELLO, ID 83204-0998
(208) 233-1133/fax 232-1240

I.N.E.E.L.

Amount Paid $____________

1209-00003-0000	12/31/00	1
Official Invoice	**Date**	**Page**

DETACH AND RETURN WITH PAYMENT

1209-00003-0000 O 12/31/00 1

Purchase Order Number: K01 - 584468
Co-Op: << None >>
Description: SPECIAL ORDER
Salesperson: Bateman, Tim

I.N.E.E.L.
ATTN: ACCOUNTS PAYABLE
P.O. BOX 1625
IDAHO FALLS, ID 83415-39111

Date	Day	Time	Length	Description	Qty	Rate	Total
12/12/00	Tue	7:37:00 AM	1:00	KID-AM	1	10.00	10.00
12/12/00	Tue	10:40:00 AM	1:00	KID-AM	1	10.00	10.00
12/12/00	Tue	1:15:00 PM	1:00	KID-AM	1	10.00	10.00
12/12/00	Tue	2:58:00 PM	1:00	KID-AM	1	10.00	10.00
12/12/00	Tue	4:20:00 PM	1:00	KID-AM	1	10.00	10.00
12/13/00	Wed	6:07:00 AM	1:00	KID-AM	1	10.00	10.00
12/13/00	Wed	7:18:00 AM	1:00	KID-AM	1	10.00	10.00
12/13/00	Wed	10:17:00 AM	1:00	KID-AM	1	10.00	10.00
12/13/00	Wed	3:30:00 PM	1:00	KID-AM	1	10.00	10.00
12/13/00	Wed	5:20:00 PM	1:00	KID-AM	1	10.00	10.00

PLEASE NOTE CHANGE OF ADDRESS FOR REMITTANCE.
JACOR COMMUNICATIONS IS NOW CLEAR CHANNEL COMMUNICATIONS.

Quantity	10	**Total**	100.00
Total Due			100.00

Affidavit Of Performance: I [illegible]
certify: that in accordance with official station logs, the above announcements were broadcast on the days and hours stated.
Subscribed and sworn before me this 18th day of [illegible]

NOTARY PUBLIC

NOTARY PUBLIC
STATE OF IDAHO

INVOICE

BEFORE THE U.S. DEPARTMENT OF ENERGY

RE: Process Equipment Waste Evaporator (PEWE) Part B Application
December 13, 2000 Hearing
COMMENTS
David B. McCoy
Attorney at Law (California Bar # 170737)

1. RCRA Preapplication Hearing 40 CFR 124- is required to be held before submission of the Part B Permit. This PEWE preapplication hearing is highly important to the public because the PEWE processes high level radioactive wastes, heavy metals and volatile organic chemicals with potential severe public and worker health effects and accidents, including criticality accidents. (See Notice issues at Paragraph 6 below).
2. INEEL facilities under Interim Status met the same fate as the wooly mammoth on November 8, 1992. Halt the invalid use of Consent Orders as a RCRA permit substitute.
   a. The PEWE is an illegal facility which operates without a proper RCRA permit.
   b. The facility should be shut down as an illegal operation.
   c. 1996 document lists the PEWE as an "unpermittable" unit. What suddenly makes the PEWE a permittable facility?
      i. The same document listed the NWCF and the WERF as unpermittable units and neither one was able to conduct a successful trial burn.
      ii. It is clear that the Part B application process is a stratagem to continue the operation of facilities, such as the PEWE which are unpermittable and for which interim status has legally expired. The pressure to keep these illegal facilities operating comes from collusion by the Governor of Idaho, DEQ, DOE and EPA and unnecessarily exposes the public to dangerous radionuclides, volatile organic gasses and heavy metals.
3. DOE attempts to define the LET&D as a "reclamation" unit to avoid RCRA permitting process is unacceptable. LET&D is an unpermitted unit which is subject to RCRA and the PEWE cannot send hazardous waste to an unpermitted unit. The LET&D is a part of the operations of the PEW and was constructed to process condensate wastes from the PEWE in order to eliminate PEWE discharges to the service water wastes and then discharge to the Percolation Ponds. The LET&D is an unpermitted facility and did not even qualify for interim status because it was not "in existence" on or before July 3, 1986. DOE assertions that federal budgetary committments existed for the facility were not legally sufficient to show that the LET&D was "in existence" for interim status.
   a. 40 CFR 264 AA/BB apply to the LET&D.
4. Concerns regarding the PEWE system.
   a. What is the "Definition" of the PEWE? 9/21-22/99 Minutes state that a conference call was to be made to discuss the definition of the PEWE. Since I was excluded from that secret meeting, I will offer my own analysis. I also request the minutes of that meeting be sent to me and placed in a repository file for this proceeding.

i. 40 CFR 260.10 defines *Thermal treatment* as 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.

ii. 40 CFR 265 Subpart P covers facilities that thermally treat hazardous wastes in devices other than enclosed devices using flame controlled combustion.

iii. The PEWE releases solid or hazardous waste into the atmosphere, the PEWE is not a totally enclosed treatment unit. (See 5/1/87 Evaporator Used to Remove Water From Hazardous Waste where an evaporator treating aqueous waste hazardous because of its metal content met the definition of a thermal treatment device. www.epa.gov/rcraonline).

iv. Laboratories at INTEC are adding F-listed wastes to the ICPP Liquid Waste System which is being treated by the PEWE. (3/2-3/98 RCRA QM Minutes). F-listed wastes have EPA Hazardous Waste Numbers F020, F021, F022, F023, F026 OR F027.

v. F-listed wastes thermally treats in a facility such as the PEWE must comply with the standards and procedures in Sec. 265.383. (40 CFR 265.1(d)(v)). DOE must show that the PEWE complies with the performance standards of subpart O of part 264 when it treat these wastes. **It is believed that DOE has not complied with this section regarding certification that these standards can be met and is thus illegally operating pursuant to interim standard requirements.. Nor has any tentative decision of the Assistant Administrator issued with proper notification and opportunity for a public hearing.**

vi. 40 CFR 265.375 provides that waste analyses are required by 265.13. 265.13 requires that "**Before** an owner or operator treats, stores, or disposes of any hazardous waste...he must obtain a detailed chemical and physical analysis of a representative sample of the wastes... in accordance with this part and part 268 ..." **It is believed that DOE has not complied with this section regarding prior waste analysis and is thus illegally operating pursuant to interim standard requirements.**

vii. 40 CFR 265.377 sets forward monitoring and inspection requirements with which the PEWE is not in compliance and is illegally operating during interim status.

viii. 40 CFR 264 Subpart O requirements apply to the PEWE. Because these operating requirements have not been specified for the PEWE, PEWE has not operated in accordance with 40 CFR 264 Subpart O requirements. The PEWE is operating illegally. Interim status does not constitute a permit.

ix. There should be resolution of problems regarding input characterization, F-listed wastes from the laboratories going into the ICPP Liquid Waste System and discharges to non-permittable facilities. Offgas systems must be adequately identified and have not adequately complied with RCRA.

2

b. There is applicability of 40 CFR 264 subparts AA (Air Emission Standards for Process Vents), BB (Air Emission Standards for Equipment Leaks), and CC.
c. There is applicability of NESHAPs subparts A, C, E, H, I, U
d. There is applicability of MACT requirements
e. There is applicability of Trial burn requirements
f. There is applicability of Best Demonstrated Available Technology is vitrification of high level radioactive wastes. (63 FR 28575).
g. An environmental risk assessment sufficient to meet NEPA standards is required.
h. A Toxic Substances Control Act (TSCA) permit requirement exists given all the Volatile Organic Chemicals (VOCs) in the waste going through the PEW.
i. In reviewing the INEEL High-level EIS [C.6-289] it says the PEW has its own off gas system apparently not going to the Atmospheric Protection System (APS) and only going through HEPA filters. If this is true then all the volatile organic and semi-volatile RCRA/TSCA waste like mercury are going out the stack untreated. Where does the PEW/LET&D offgas go?
j. Some of the PEW waste feed tanks are the subject IDEQ Notice of Violations (NOV) 8/2/99 due to DOE failure to inspect overfill/spill control in the tank sumps. DOE has had a chronic instrument problem that shows how much overfill/spill waste is in the sumps. The tanks reportedly have secondary containment but it is uncertain that they meet full RCRA criteria (i.e., are the concrete curbs around the tanks with a floor drain to a sump fully compliant with RCRA that may require an impervious stainless steel lining and reliable sump monitoring?) The problem is the tanks are so "hot" that it is an extreme worker exposure issue to go in and physically check the sumps when the instruments fail as documents since 1997 show.

5. The PEWE is an interrelated system with other units at INEEL.
   a. PEWE, the LET&D and other INTEC facilities pose a significant risk of accident impacts to the workers and to the offsite public. (DOE/EIS-0287D).
      i. An accident analysis must be provided including potential for criticality.
      ii. Sampling of characteristics of source waste to prevent such accidents must be analyzed with description as to how accidents will be avoided given that there may be a lag time between treatment previous to sampling and the processing of wastes possessing incompatible characteristics.
      iii. Provide a complete list of all wastes which are/will be treated by the PEWE by the ***actual names of the chemicals*** next to the EPA waste code. Provide a table which shows which of these chemicals by name and code and in their respective quantity which will be off gassing from the PEWE and related facilities.
      iv. Show how compliance with RCRA waste minimization and Executive Order 13045 (Protection of Children From Environmental Health Risks and Safety Risks) will be met.
   b. All thermal treatment units must be collectively assessed to show cumulative dose. The entire system comprising the PEWE, not just the tanks must be examined.

Seismic and Floodplain analysis are required.

i. The interrelationships between the PEWE and all other units must be sufficiently analyzed including, but not limited to:

(1) Sources of wastes to be processed at the PEWE and the characterization of each waste type from those sources.

(2) The units which process PEWE wastes subsequent to the PEWE, including an analysis as to whether those units are RCRA permitted.

(3) Relationship to LET&D, HLLWE, all other steam operated evaporators, storage and treatment tanks, and other equipment with special emphasis on the RCRA permit status of those units and equipment.

(4) Relationship of the PEWE to the planned Debris Processing (Vol. 18).

c. Identify the total number of tanks associated with the PEWE and identify each tank as to whether it is a source of waste for processing by the PEWE or as a tank to which PEWE waste is sent.

i. DOE has a duty to determine what the status is of the 37 tanks described in the 9/29/99 Determination Report for Tanks included in the VCO Action Plan SITE-TANK-004 and either get them permitted or submit closure. Numerous tanks which are related to PEWE have been improperly excluded from DOE analysis for the PEWE. DOE's 9/29/99 *Determination Report for Tanks included in Voluntary Consent Order Action Plan* lists 37 RCRA units that are not specifically listed in the Part A application and they propose not modifying the Part A or the Part B until after the processes are permitted and even then the "design capacity and other information required of specific regulated units will not be included." Four tanks and two heat exchangers of the 37 are related to the PEW and are listed as interim status, which DOE will attempt to describe in the PEW permit (a separate partial Part B). Additionally, there are five other RCRA units that are multiple use but include PEW discharges that DOE wants to pass off and "describe in one of the permits to be developed." This approach is unacceptable under RCRA.

ii. Wastes stored in the tank farm and other process tanks must be characterized and resolved prior to the permitting of any units such as the PEWE which discharge to the tank farm facility.

iii. For each such tank identify the RCRA status as to whether it is permitted or other status.

iv. Identify the barriers to permitting for each tank.

v. For PEWE tank VES-WL-132 explain why this tank classification changed from a treatment tank to just a storage tank since the tank is equipped with "internal heating coils, and lifting lugs, such that when and if the tank is full of sand and other sediments, it could be removed from the cell..." This tank appears to be part of the treatment process. [6/00 RCRA Justification]. The tank is in a heavily shielded concrete cell with a one-ton concrete plug access port that can only be removed by a crane. Entry into the tank cell by workers would cause extreme radiation exposure. Since the instruments are chronically failing that monitor the leak sumps and DOE can not send workers in to physically monitor the leak detection system. This tank does not appear to be compliant with RCRA monitoring requirements.

(1) The 6/6/00 RCRA Work Plan lists a 1/00 revised Part A approved by DEQ on 4/3/00 and no mention of status of Part B. So it remains uncertain if the Part A/B were revised to include all the PEW related RCRA units. However, page 10 of this 6/6/00 RCRA Work plan lists seven PEW tanks with a note "volume 14 permit application is currently being revised" and the unit status for all is interim status. On page 12 it lists three "CPP-604 Tank Farm Tanks (VES-WL-100, 101, AND 102) will be permitted as feed, storage, and bottoms tanks in the PEWE Part B Permit Application." This sounds like DOE is merging the partial PEW permit as a partial Part B. And the status [page 12] of these tanks "operate under NON/CO and will be closed per schedule outlined in the NON/CO." These are in the "unpermittable" underground high-level tanks.

(2) The September 1999 Quarterly Meeting also lists (in addition to above tank farm tanks) the "Westside Waste Holdup Tanks for the "newly defined PEWE subsystems for Part B Permit applications." The Quarterly Meeting (3/98) "It was also stated that the DEQ will not grant a permit for units (such as the HLWE) that discharge to a non-permittable facility." Also noted is discussion of the off-gas systems; "It was determined that these off-gas systems will most likely fall under RCRA regulations." "A concern at the ICPP was discussed, regarding the volatile and semi-volatile compounds in the liquid waste being processed in the process off-gas system the off-gas from the thermal treatment units and the liquid waste fed into the units [PEWE, LET&D, NWCF, and NWCF ETS] will be sampled routinely." It appears that these other units would also need a TSCA permit.

vi. Identify ancillary equipment DOE claims is associated with the PEWE, provide all locations by description and drawing the position of such equipment.

(a) Identify the RCRA status as to whether it is permitted or other status.

(b) Identify the barriers to permitting for ancillary equipment.

(c) Identify and provide the age of all the piping service lines inside and outside connecting the various buildings and the

5

tank farm that are required to have stainless seamless secondary containment and leak detection systems. Identify lines which DOE has not replaced and the need to upgrade those lines so that they can be visually inspected and monitored for leaks.

(1) Effect of Calciner and WERF closure on reconfiguration of PEWE and other unit processes, such as the LET&D, on the operations of the PEWE and LET&D.

(2) Show how all operations of the PEWE, tanks, ancillary equipment and facilities to which PEWE sends waste for further treatment will comply with all regulatory requirements.

(3) Explain how units contributing to the PEWE are going to comply with waste minimization requirements of federal law and set forth what those reductions will be for each source.

6. Notice issues

i. No personal notice was sent to me of this meeting. Why aren't I on the INEEL facility mailing list as I have previously requested?

a. Secret RCRA Quarterly Permitting Meetings for at least nine years.

The failure of the DEQ to allow public attendance at the RCRA Quarterly Permitting Meetings and Teleconferencing Meetings has created a secret process for the DEQ and DOE to discuss permitting issues without public scrutiny. Matters which require public RCRA preapplication hearings are regularly discussed in seclusion between DEQ regulators and the DOE/INEEL far in advance of the preapplication hearing so that the public is excluded from meaningful participation with proper notice intended by the Expanded Public Participation Rule of RCRA. This hearing comes long after DEQ and DOE have already made major decisions with respect to the PEWE and how the permitting will be facilitated and handled. This hearing therefore fails to adequately address environmental justice concerns. (See 40 CFR parts 124 and 270).

b. A member of the public should not have to continuously file FOIAs to get at the truth as to what DOE and the DEQ are doing. There should instead be an open be an open public process available-- attendance at the RCRA Quarterly Permitting Meetings.

c. DOE has already submitted section F and Section D of Permit application for the PEWE to DEQ.

i. Not made available to public.

d. Discussions with DEQ and submissions of documents to DEQ using the secret RCRA hearings show that the RCRA Expanded Public Participation Rule is being violated with respect to the PEWE and other facilities at INEEL.

(1) The <u>5/29/99 PEWE Facility Assessment Completion Schedule</u> details a timetable for the Part B application well in advance of the RCRA preapplication hearing. The schedule addressed:

(a) Identify and review of regulations in 40 CFR; Comment

6

Resolution/Concurrence Meeting; tracing RCRA related components of the PEWE system; component evaluation against regulations and documentation of results; a revision of the draft Facility Assessment for additional information; BBWI review, DOE-ID review; assumptions; funding and LET&D facility assessment completion; initial sections of the LET&D Part B permit application; finalization of the HLLWE Facility Assessment.

(2) The 9/29/99 Determination Report for Tanks included in the VCO Action Plan SITE-TANK-004 stated the current plans are to complete the RCRA Part B Permits for the Liquid Effluent Treatment and Disposal (LET&D) facility, the Process Equipment Waste Evaporator (PEWE), and the High Level Waste Evaporator (HLLWE). Facility assessments will be performed for these three processes. The facility assessments will identify all units associated with these processes and will be used to assist in final RCRA permitting.

(3) The September 21-21. 1999 DEQ RCRA Quarterly Meeting Minutes show that the Facility Assessment for the PEWE was sent to DEQ for review with DOE asking for feedback from the DEQ. A conference call was suggested to discuss the "definition" of the facility. ****Where are the minutes of the conference call? I request a copy of those minutes be provided to me and placed within a document repository for this proceeding.**

(4) February 1-3, 2000 Quarterly Meeting Agenda included:

(a) Barriers to permitting, a Facility Assessment Scope of Work and a draft PEWE [Process Equipment Waste Evaporator] Part B permit application preparation and submittal schedule.

(5) The June 2000 Quarterly Meeting Minutes states, "The potential for conducting another session at the DEQ was discussed, and it was agreed that a higher level session presenting an overview of the INTEC functions and units and challenges to permitting was more appropriate. The intent of this [July 17, 2000] session will be to familiarize upper-level DEQ personnel with the INTEC and the type of information contained in the permit applications. Tentative plans are to set up this session in mid-July to coincide with the delivery/discussions of the PEWE Section D.

i. RCRA Public Expanded Public Participation Plan requires the public to be informed prior to the submission of the Part B Permit Application and its documents to the DEQ. Piecemeal submissions in advance to DEQ not within spirit and intent of the law. The DOE has the RCRA duty to inform the public of its intentions prior to the onset of presentation and processing

Part B permit applications with the DEQ for all facilities at the INEEL for which a Part B application will be sought by the DOE.

ii. Remedy-- DOE should provide a substantive record of all its discussions with the DEQ re the PEWE, allow a reasonable period for public review for all documents DOE has produced and or submitted to DEQ in a document repository and then hold a properly noticed RCRA preapplication hearing after the public has had a chance to review the record to the present.

e. No statement in the Notice as to what Volume the application is for.

David B. McCoy
2940 Redbarn Lane
Idaho Falls, ID 83404

Second Public Meeting June 20, 2001

INTEC Liquid Waste Management System Consisting of Process Equipment Waste Evaporator System and the Liquid Effluent Treatment and Disposal Facility

Proof of Publication

The Post Register

State of Idaho
County of Bonneville

I, ~~Danae Jacobsen or~~ Robert Park, first being duly sworn, depose and say: That I am the ~~Production Supervisor or~~ Asst. Prod. Supervisor of The Post Company, a corporation of Idaho Falls, Bonneville County, Idaho, publishers of The Post Register, a newspaper of general circulation, published daily at Idaho Falls, Idaho; said Post Register being a consolidation of the Idaho Falls Times, established in the year 1890, The Idaho Register, established in the year 1880 and the Idaho Falls Post, established in 1903, such consolidation being made on the First day of November, 1931, and each of said newspapers have been published continuously and uninterruptedly, prior to consolidation, for more than twelve consecutive months and said Post Register having been published continuously and uninterruptedly from the date of such consolidation, up to and including the last publication of notice hereinafter referred to.

That the notice, of which a copy is hereto attached and made a part of this affidavit, was published in said Post Register for 1 consecutive (days) weeks, first publication having been made on the 21ST day of MAY, 2001, last publication having been made on the 21ST day of MAY 2001 at the said notice was published in the regular and entire issue of said paper on the respective dates of publication, and that such notice was published in the newspaper and not in a supplement.

Robert Park

Subscribed and sworn to before me, this 25TH day of JUNE 2001

Cathy von Borstel
Notary Public

My commission expires ~~January 10, 2003~~ March 5, 2002

LEGAL NOTICE

Notice is hereby given that the U.S. Department of Energy, Idaho Operations Office, and Bechtel BWXT Idaho, LLC, hereinafter jointly referred to as the Permittee, will formally submit to the Idaho Department of Environmental Quality (IDEQ), a Hazardous Waste Management Act (HWMA)/Resource Conservation and Recovery Act (RCRA) Part B Permit Application on or before July 1, 2001 (the application). The application addresses the liquid waste management system located at the Idaho Nuclear Technology and Engineering Center (INTEC) at the Idaho National Engineering and Environmental Laboratory (Environmental Protection Agency Identification Number ID 4890008952). This application is being submitted in accordance with the Idaho Administrative Procedures Act (IDAPA) 58.01.05.008 and 012 [Title 40 of the Code of Federal Regulations (CFR) 264 and 270].

This application addresses the INTEC Liquid Waste Management System that includes steam-operated evaporators/fractionators, storage and treatment tanks, and ancillary equipment. The purpose of the application is to allow the INTEC Liquid Waste Management System to be removed from interim status and become a fully permitted unit under HWMA/RCRA regulation. The INTEC Liquid Waste Management System is used to collect, store, and process waste to reduce the volume of waste sent to the Tank Farm Facility. Reducing the volume of wastes sent to the Tank Farm Facility will support the State of Idaho mandated closure of the Tank Farm Facility.

This is the second public meeting regarding this application. The first public meeting was held on December 13, 2000 to describe the Process Equipment Waste Evaporator (PEWE) system. The application has since been expanded to include the Liquid Effluent Treatment and Disposal (LET&D) system.

The public meeting will be held in Conference Room A at the Idaho Falls Public Library, 457 Broadway, Idaho Falls, Idaho, on June 20, 2001, starting at 7:00 p.m. and ending at 8:00 p.m., or ending at 7:30 p.m. if members of the public do not attend. This meeting is being held to encourage public participation and input into the development of this application. Individuals needing special access to participate in the meeting are encouraged to contact the point of contact listed in this notice at least 72 hours before the meeting.

A fact sheet describing the unit to be permitted will be available at the meeting. Please direct comments and questions to Tim Safford who is the point of contact for this meeting. He can be contacted at (208) 526-5670 or at the following address:

Tim Safford
Department of Energy Idaho
Falls Operations Office
850 Energy Drive, M.S. 1216
Idaho Falls, Idaho 83401
Published: May 21, 2001

Clear Channel Communications

Broadcast Order Contract/Confirmation

KID-AM/Clear Channel Communications
P.O. BOX 998
POCATELLO, ID 83204-0998

Order #: 1209-00009
Description: SPECIAL ORDER
Order Date: 6/5/01
P.O.#:
Salesperson: Greenhalgh, Dave
Billing: Billed at end of each Calendar Month, Sorted by Date
Notary Required

I.N.E.E.L.
Attn: KIRK NIELSEN
P. O. BOX 1625 - MS3428
IDAHO FALLS, ID 83415-3428

On-Air Schedule

	Start Date	End Date	Station	Scheduled Time/Even	Repeated	Length	Quantity	Rate	Total	M	Tu	W	Th	F	Sa	Su	MDS Total
1	6/19/01	6/20/01	KID-AM	06:00:00 to 18:00:00	Weekly	:30	10	10.00	$100.00 •	0	5	5	0	0	0	0	

Order Start Date: 6/19/01 **Order End Date: 6/20/01** **Spots: 10** **Total Charges:** **$100.00**

		Gross Billing	Adj. Gross Billing
June	2001	100.00	100.00
	Total:	**100.00**	**100.00**

Confirmed & Accepted for KID-AM/Clear Channel Communications By: .

Accepted for I.N.E.E.L. By:

----------------------------- -----------------------------

Please Sign and Return One Copy

Printed: 6/25/01 At: 2:15 PM

LEGAL NOTICES

LEGAL NOTICE

Notice is hereby given that the U.S. Department of Energy, Idaho Operations Office, and Bechtel BWXT Idaho, LLC, hereinafter jointly referred to as the Permittee, will formally submit to the Idaho Department of Environmental Quality (IDEQ), a Hazardous Waste Management Act (HWMA)/Resource Conservation and Recovery Act (RCRA) Part B Permit Application on or before July 1, 2001 (the application). The application addresses the liquid waste management system located at the Idaho Nuclear Technology and Engineering Center (INTEC) at the Idaho National Engineering and Environmental Laboratory (Environmental Protection Agency Identification Number ID 4890008952). This application is being submitted in accordance with the Idaho Administrative Procedures Act (IDAPA) 58.01.05.008 and 012 [Title 40 of the Code of Federal Regulations (CFR) 264 and 270].

This application addresses the INTEC Liquid Waste Management System that includes steam-operated evaporators/fractionators, storage and treatment tanks, and ancillary equipment. The purpose of the application is to allow the INTEC Liquid Waste Management System to be removed from interim status and become a fully permitted unit under HWMA/RCRA regulation. The INTEC Liquid Waste Management System is used to collect, store, and process waste to reduce the volume of waste sent to the Tank Farm Facility. Reducing the volume of wastes sent to the Tank Farm Facility will support the State of Idaho mandated closure of the Tank Farm Facility.

This is the second public meeting regarding this application. The first public meeting was held on December 13, 2000 to describe the Process Equipment Waste Evaporator (PEWE) system. The application has since been expanded to include the Liquid Effluent Treatment and Disposal (LET&D) system.

The public meeting will be held in Conference Room A at the Idaho Falls Public Library, 457 Broadway, Idaho Falls, Idaho, on June 20, 2001, starting at 7:00 p.m. and ending at 8:00 p.m., or ending at 7:30 p.m. if members of the public do not attend. This meeting is being held to encourage public participation and input into the development of this application. Individuals needing special access to participate in the meeting are encouraged to contact the point of contact listed in this notice at least 72 hours before the meeting.

A fact sheet describing the unit to be permitted will be available at the meeting. Please direct comments and questions to Tim Safford who is the point of contact for this meeting. He can be contacted at (208) 526-5670 or at the following address:

Tim Safford
Department of Energy Idaho
Falls Operations Office
850 Energy Drive, M.S. 1216
Idaho Falls, Idaho 83401
Published: May 21, 2001

in St. Anthony, to Joseph Edward and Mary Jenkins Elliott. He grew up in St. Anthony, and he lived with his

Elliott

Flamm Funeral Home, 61 N. East, in Rexburg. The fam will receive friends Wednesd from 9:30 a.m. until 10:15 a. at the funeral home. Burial w be in the Parker Cemetery.

DEATHS

Athylene Klepper

LANCASTER, Calif. — Athylene Klepper, 75, of Lancaster, Calif., died May 1, 2001, in Lancaster.

Graveside services were held at Desert Lawn Memorial Park on May 5, 2001. A memorial service followed at the First Baptist Church in Palmdale.

Steven D. Stoddart

Steven Duane Stoddart, 43, of Idaho Falls, died May 19, 2001, at Eastern Idaho Regional Medical Center.

Funeral services will be Wednesday at 11 a.m. at Coltrin Mortuary, 2100 First St., in Idaho Falls.

Clarence W. Nelson

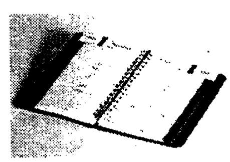
Clarence Wells Nelson, 83, of Idaho Falls, formerly of Driggs, died May 20, 2001, at Good Samaritan Nursi Center.

Funeral services will Wednesday at 1 p.m. at t Driggs LDS 1st Ward w Bishop Randy Berry officiatir The family will meet w friends Wednesday from 11: a.m. until 12:45 p.m. at t church. Burial will be in t Driggs Cemetery under t direction of Wood Fune Home in Idaho Falls.

Marie Moon

EGIN — Marie Moon, 92, Egin, Idaho, died May 19, 20 at the Rexburg Nursing Cent

Funeral services will Tuesday at 11 a.m. at the E Bench LDS Ward. The fam will receive friends Mond from 7 p.m. until 8:30 p.m. Flamm Funeral Home, 61 N. East, in Rexburg, and Tuesd from 10 a.m. until 10:45 a.m. the church. Burial will be Parker Cemetery.



COMMUNIT

Calendar items are published daily o clicking on the Datebook icon. For n

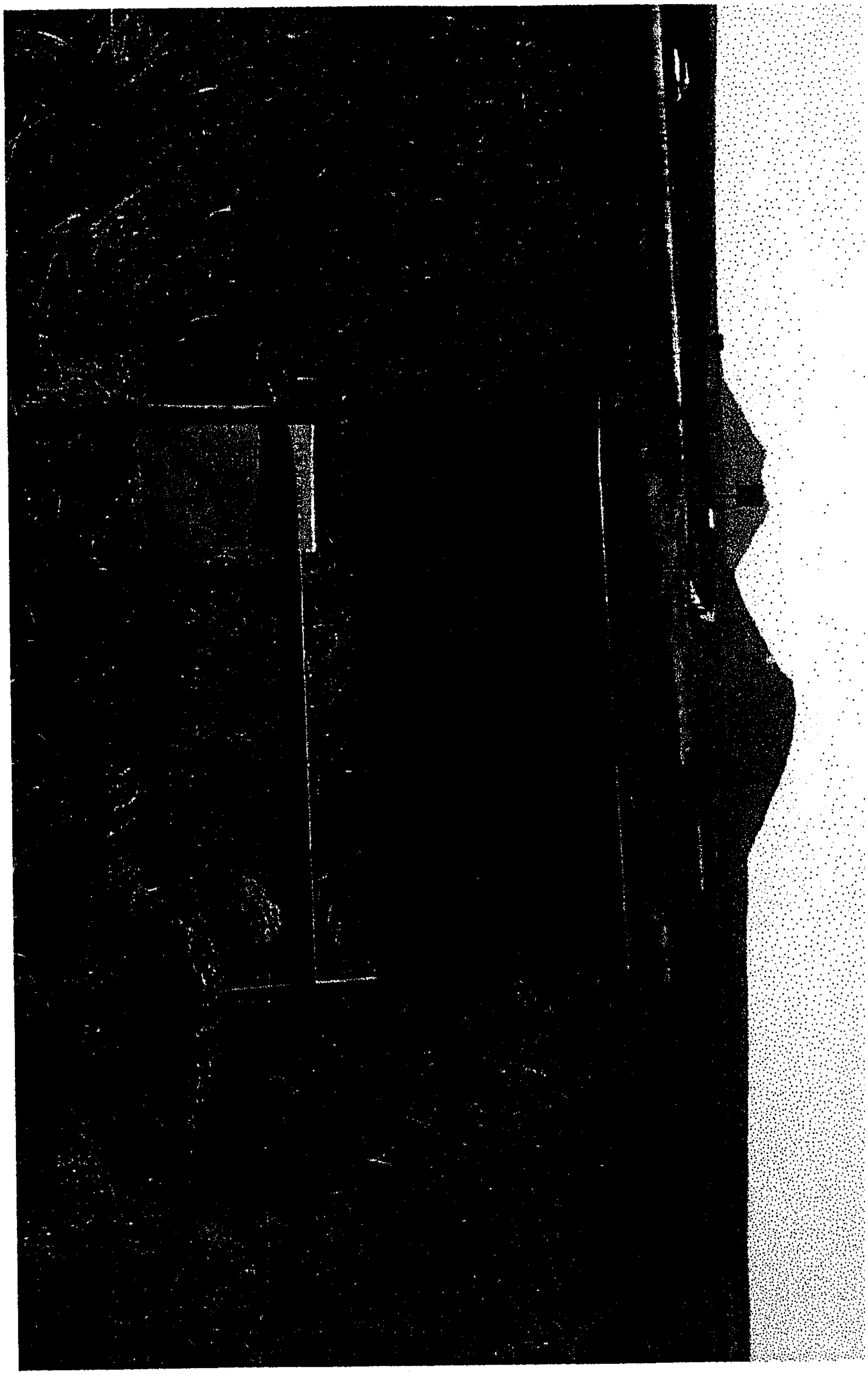
TODAY

The construction class at Rigby High School has built a home, which will be auctioned off at 7 p.m. May 30 at the school.

An open house will be from 8 a.m. to 7:30 p.m. today. Refreshments will be served. The construction of this house was a school-to-work project, and the home is 1,008 square feet, has two bedrooms and c bath. Bidding will start $21,500. Call Mark or Scott 745-7704.

■

The Home Horticultu Plant Diagnostic Clin staffed by the Bonnev County Master Gardeners cooperation with the Univers of Idaho Cooperative Extens System, is open every Mond Wednesday and Friday fron a.m. to 4 p.m., through Sept. Master gardeners will be av able to help with any home h ticulture questions, assist w plant problems, insect and s



Idaho National Engineering and Environmental Laboratory

June 7, 2001

Distribution

NOTIFICATION OF THE DEVELOPMENT OF A RESOURCE CONSERVATION AND RECOVERY ACT PART B PERMIT APPLICATION

Dear Citizen:

The U.S. Department of Energy, Idaho Operations Office and Bechtel BWXT Idaho, LLC are developing and will be submitting a Resource Conservation and Recovery Act Part B Permit Application to the Department of Environmental Quality (DEQ) for review and consideration. The application addresses the Idaho Nuclear Technology and Engineering Center (INTEC) Liquid Waste Management System that includes the Process Equipment Waste Evaporator and the Liquid Effluent Treatment and Disposal facility at the Idaho National Engineering and Environmental Laboratory.

The INTEC Liquid Waste Management System includes steam operated evaporators/fractionators, storage and treatment tanks, and ancillary equipment.

A second pre-application meeting regarding this application is being held. The first pre-application meeting was held on December 13, 2000. The application has since been expanded to include the Liquid Effluent Treatment and Disposal facility. This second pre-application meeting will be held in Conference Room A at the Idaho Falls Public Library, 457 Broadway, Idaho Falls, Idaho, on June 20, 2001, starting at 7:00 p.m. and ending at 8:00 p.m., or 7:30 p.m. if members of the public do not attend. This meeting is being held to solicit questions from the community and inform the community of the proposed hazardous waste management activities.

Additional information regarding this application is provided in the legal notice (attached). Questions should be directed to the contact personnel identified in the legal notice.

If you are no longer interested in receiving these notices or your address information has changed, please inform DEQ so that the mailing list may be updated.

Attachment

Distribution

DEQ INEEL Mailing List

P.O. Box 1625 • 2525 North Fremont Ave. • Idaho Falls, Idaho 83415 • (208) 526-0111

LEGAL NOTICE

Notice is hereby given that the U.S. Department of Energy, Idaho Operations Office, and Bechtel BWXT Idaho, LLC, hereinafter jointly referred to as the Permittee, will formally submit to the Idaho Department of Environmental Quality (IDEQ), a Hazardous Waste Management Act (HWMA)/Resource Conservation and Recovery Act (RCRA) Part B Permit Application on or before July 1, 2001 (the application). The application addresses the liquid waste management system located at the Idaho Nuclear Technology and Engineering Center (INTEC) at the Idaho National Engineering and Environmental Laboratory (Environmental Protection Agency Identification Number ID4890008952). This application is being submitted in accordance with the Idaho Administrative Procedures Act (IDAPA) 58.01.05.008 and 012 [Title 40 of the Code of Federal Regulations (CFR) 264 and 270].

This application addresses the INTEC Liquid Waste Management System that includes steam-operated evaporators/fractionators, storage and treatment tanks, and ancillary equipment. The purpose of the application is to allow the INTEC Liquid Waste Management System to be removed from interim status and become a fully permitted unit under HWMA/RCRA regulation. The INTEC Liquid Waste Management System is used to collect, store, and process waste to reduce the volume of waste sent to the Tank Farm Facility. Reducing the volume of wastes sent to the Tank Farm Facility will support the State of Idaho mandated closure of the Tank Farm Facility.

A second pre-application meeting regarding this application is being held. The first pre-application meeting was held on December 13, 2000. The application has since been expanded to include the Liquid Effluent Treatment and Disposal (LET&D) system.

The pre-application meeting will be held in Conference Room A at the Idaho Falls Public Library, 457 Broadway, Idaho Falls, Idaho, on June 20, 2001, starting at 7:00 p.m. and ending at 8:00 p.m., or ending at 7:30 p.m. if members of the public do not attend. This meeting is being held to solicit questions from the community and inform the community of the proposed hazardous waste management activities. Individuals needing special access to participate in the meeting are encouraged to contact the point of contact listed in this notice at least 72 hours before the meeting.

Please direct comments and questions to Tim Safford who is the point of contact for this meeting. He can be contacted at (208) 526-5670 or at the following address:

Tim Safford
Department of Energy Idaho Falls Operations Office
850 Energy Drive, M.S. 1216
Idaho Falls, Idaho 83401

Name and Address of Sender

BECHTEL BWXT IDAHO, LLC.
ENVIRONMENTAL AFFAIRS
MS 3428
PO BOX 1625
IDAHO FALLS ID 83415-3428

Cert. of mailing

Check type of mail:
- ☐ Express
- ☐ Registered
- ☐ Insured
- ☐ COD
- ☐ Return Receipt *(RR)* for Merchandise
- ☐ Certified
- ☐ Int'l Rec. Del.
- ☐ Del. Confirmation *(DC)*

If *Registered Mail* check below:
- ☐ Insured
- ☐ Not Insured

Affix stamp here if issued as certificate of mailing, or for additional copies of this bill.

Postmark and Date of Receipt

IDAHO FALLS JUN 13 2001 USPS

Line	Article Number	Addressee Name, Street, and PO Address	Postage	Fee	Handling Charge	Actual Value (If Reg.)	Insured Value	Due Sender If COD	RR Fee	DC Fee	SC Fee	SH Fee	SD Fee	RD Fee	Remarks
1		BILL ALLRED DEQ TWIN FALLS REGIONAL OFFICE 601 POLE LINE ROAD STE #2 TWIN FALLS ID 83303		25											
2		AMERICAN NUCLEAR SOCIETY 2175 TASMEN IDAHO FALLS ID 83404													
3		JILA BANAEE PO BOX 50471 IDAHO FALLS ID 83415													
4		REPRESENTATIVE JACK BARRACLOUGH IDAHO STATE LEGISLATURE 3018 WESTMORELAND CIRCLE IDAHO FALLS ID 83401													
5		GAYLE BECK IDAHO FALLS PUBLIC LIBRARY 457 BROADWAY IDAHO FALLS ID 83402													
6		T M BRADLEY NAVAL REACTORS OFFICE PO BOX 2469 IDAHO FALLS ID 83403-2469													
7		BEATRICE BRAILSFORD SNAKE RIVER ALLIANCE 310 E CENTER POCATELLO ID 83201													
8		CHUCK BROSCIOUS PO BOX 220 TROY ID 83871-0220													
9		MIKE BROWN CONTINENTAL LIME INC 3950 SOUTH 700 EAST STE 301 SALT LAKE CITY UT 84107													
10		SUSAN BURCH US FISH & WILDLIFE SERVICE 1387 S VINNELL WAY #341 BOISE ID 83709-1657													
11		JAMES C BURNHAM THOMPSON ASHCRAFT & BURNHAM PO BOX 699 BOISE ID 83701-0699													
12		TED L CARPENTER SHOSHONE-BANNOCK TRIBES PO BOX 306 FORT HALL ID 83203													
13		BUTTE COUNTY COMMISSIONERS PO BOX 737 ARCO ID 83213-0737													
14		REPRESENTATIVE HELEN CHENOWETH 304 N 8TH ROOM 454 BOISE ID 83702													
15		EDDIE CHEW 18 ASH AVE REXBURG ID 83440-2006													

IDAHO FALLS JUN 13 '01 ID
H METER

Total Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster, Per *(Name of receiving employee)*
15	15	JHoyer

The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstruction insurance is $50,000 per piece subject to a limit of $500,000 per occurrence. The maximum indemnity payable on Express Mail merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See *Domestic Mail Manual* R900, S913, and S921 for limitations of coverage on insured and COD mail. See *International Mail Manual* for limitations of coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.

PS Form 3877, April 1999

Complete by Typewriter, Ink, or Ball Point Pen

Name and Address of Sender ▶ **BECHTEL BWXT IDAHO, LLC.**
ENVIRONMENTAL AFFAIRS
MS 3428
PO BOX 1625
IDAHO FALLS ID 83415-3428

Check type of mail:
- ☐ Express
- ☐ Registered
- ☐ Insured
- ☐ COD
- ☐ Return Receipt (RR) for Merchandise
- ☐ Certified
- ☐ Int'l Rec. Del.
- ☐ Del. Confirmation (DC)

If Registered Mail, check below:
- ☐ Insured
- ☐ Not Insured

Affix stamp here if issued as certificate of mailing, or for additional copies of this bill. ▶ *Postmark and Date of Receipt*

IDAHO FALLS
JUN 13 2001

Line	Article Number	Addressee Name, Street, and PO Address	Postage	Fee	Handling Charge	Actual Value (If Reg.)	Insured Value	Due Sender If COD	RR Fee	DC Fee	SC Fee	SH Fee	SD Fee	RD Fee	Remarks
1		BILL CHISHOLM RT#3 BOX 431 BUHL ID 83316													
2		GAILA CLOUGH MARSHALL PUBLIC LIBRARY 113 SOUTH GARFIELD POCATELLO ID 83201													
3		AUDREY COLE DEQ POCATELLO REGIONAL OFFICE 224 SOUTH ARTHUR POCATELLO ID 83204													
4		PETE COLE 520 SKYLINE DRIVE POCATELLO ID 83204													
5		JOHN COMMANDER 170 FIELDSTREAM LANE IDAHO FALLS ID 83404													
6		MAYOR TOM CONDIE CITY OF TWIN FALLS PO BOX 1907 TWIN FALLS ID 83301													
7		SENATOR LARRY E CRAIG 304 N 8TH ROOM 149 BOISE ID 83702													
8		SENATOR MIKE CRAPO 304 N 8TH BOISE ID 83702													
9		REPRESENTATIVE DOLORES J CROW 203 11TH AVENUE SOUTH EXT NAMPA ID 83686													
10		SENATOR JUDI DANIELSON PO BOX 724 COUNCIL ID 83612													
11		MARK DELWICHE SNAKE RIVER AUDUBON SOCIETY PO BOX 2922 IDAHO FALLS ID 83403-2922													
12		DEEDEE DUDLEY PO BOX 7863 JACKSON WY 83002													
13		ENVIRONMENTAL SCIENCE & RESEARCH FOUNDATION 101 PARK AVE IDAHO FALLS ID 83402													
14		FARSHID FARSI SHOSHONE BANNOCK TRIBES PO BOX 306 FORT HALL ID 83203													
15		DAVE FINLEY WYOMING DEQ 122 W 25TH ST CHEYENNE WY 82002													

Total Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster, Per (Name of receiving employee)
15	15	J Hoge

The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstruction insurance is $50,000 per piece subject to a limit of $500,000 per occurrence. The maximum indemnity payable on Express Mail merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See *Domestic Mail Manual* R900, S913, and S921 for limitations of coverage on insured and COD mail. See *International Mail Manual* for limitations of coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.

PS Form 3877, April 1999

Complete by Typewriter, Ink, or Ball Point Pen

Name and Address of Sender

BECHTEL BWXT IDAHO, LLC.
ENVIRONMENTAL AFFAIRS
MS 3428
PO BOX 1625
IDAHO FALLS ID 83415-3428

Check type of mail:
- ☐ Express
- ☐ Registered
- ☐ Insured
- ☐ COD
- ☐ Return Receipt (RR) for Merchandise
- ☐ Certified
- ☐ Int'l Rec. Del.
- ☐ Del. Confirmation (DC)

If *Registered Mail*, check below:
- ☐ Insured
- ☐ Not Insured

Affix stamp here if issued as certificate of mailing, or for additional copies of this bill.

Postmark and Date of Receipt

JUN 13 2001

Line	Article Number	Addressee Name, Street, and PO Address	Postage	Fee	Handling Charge	Actual Value (If Reg.)	Insured Value	Due Sender If COD	RR Fee	DC Fee	SC Fee	SH Fee	SD Fee	RD Fee	Remarks
1		GEORGE FREUND COALITION 21 PO BOX 51232 IDAHO FALLS ID 83405													
2		ELLEN GLACCUM BOX 1173 KETCHUM ID 83340													
3		CAL GROEN IDAHO FISH AND GAME 600 S WALNUT BOISE ID 83707-0025													
4		MARTHA HAHN DIRECTOR BUREAU OF LAND MANAGEMENT 1387 S VINNELL WAY BOISE ID 83709													
5		JUDIE HAMPTON - CLERK OF THE COURT BINGHAM COUNTY COMMISSIONERS 501 N MAPLE ST #205 BLACKFOOT ID 83221-1700													
6		REPRESENTATIVE RANDY HANSEN 1888 CANDLERIDGE DR TWIN FALLS ID 83301													
7		MARTY HUEBNER COALITION 21 BOX 51232 IDAHO FALLS ID 83402													
8		DAVID HUNT THE NETWORK C/O 934 ELM STREET COEUR DALENE ID 83814													
9		JEFF HUNT WCM-122 USEPA REGION 10 1200 SIXTH AVE SEATTLE WA 98101													
10		HW PERMIT COORDINATOR DEQ STATE WASTE PROGRAM 1410 N HILTON BOISE ID 83706-1255													
11		JACI PO BOX 389 BOISE ID 83701													
12		IDAHO CONSERVATION LEAGUE PO BOX 844 BOISE ID 83701-0844													
13		IDAHO DEPT OF FISH & GAME 1515 E LINCOLN RD IDAHO FALLS ID 83401													
14		IDAHO DEPT OF WATER RESOURCES 900 N SKYLINE DR STE A IDAHO FALLS ID 83402													
15		IDAHO ENVIRONMENTAL COUNCIL 1568 LOLA STREET IDAHO FALLS ID 83402-2619													

Total Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster, Per *(Name of receiving employee)*
15	15	D Hoyt

The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstruction insurance is $50,000 per piece subject to a limit of $500,000 per occurrence. The maximum indemnity payable on Express Mail merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See *Domestic Mail Manual* R900, S913, and S921 for limitations of coverage on insured and COD mail. See *International Mail Manual* for limitations of coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.

PS Form 3877, April 1999

Complete by Typewriter, Ink, or Ball Point Pen

Name and Address of Sender ▶ **BECHTEL BWXT IDAHO, LLC.**
ENVIRONMENTAL AFFAIRS
MS 3428
PO BOX 1625
IDAHO FALLS ID 83415-3428

Check type of mail:
- ☐ Express
- ☐ Registered
- ☐ Insured
- ☐ COD
- ☐ Return Receipt *(RR)* for Merchandise
- ☐ Certified
- ☐ Int'l Rec. Del.
- ☐ Del. Confirmation *(DC)*

If *Registered Mail*, check below:
- ☐ Insured
- ☐ Not Insured

Affix stamp here if issued as certificate of mailing, or for additional copies of this bill. ▶ IDAHO FALLS JUN 13 2001 USPS

Postmark and Date of Receipt

Line	Article Number	Addressee Name, Street, and PO Address	Postage	Fee	Handling Charge	Actual Value *(If Reg.)*	Insured Value	Due Sender If COD	RR Fee	DC Fee	SC Fee	SH Fee	SD Fee	RD Fee	Remarks
1		INEEL SITE ADVISORY BOARD JASON ASSOCIATES 477 SHOUP IDAHO FALLS ID 83402													
2		CURTIS JACKSON KIFI CHANNEL 8 1915 N YELLOWSTONE HWY IDAHO FALLS ID 83402													
3		JIM JACKSON 962 E 10TH STREET IDAHO FALLS ID 83404-5064													
4		JEFFERSON COUNTY COMMISSIONERS PO BOX 281 RIRIE ID 83443													
5		JIM JOHNSTON DEQ IDAHO FALLS REGIONAL OFFICE 900 N SKYLINE STE B IDAHO FALLS ID 83402													
6		GOVERNOR KEMPTHORNE GOVERNORS OFFICE 700 W JEFFERSON BOISE ID 83702-0034													
7		JAY KUNZE COLLEGE OF ENGINEERING CAMPUS BOX 8060 POCATELLO ID 83209													
8		DAN KUTANSKI BUREAU OF LAND MANAGEMENT 1405 HOLLIPARK DRIVE IDAHO FALLS ID 83401-2100													
9		CHARLES LEMMON KMVT TV 1100 BLUE LAKES NORTH TWIN FALLS ID 83301													
10		JOHN LOGAN 2227 SANTALEMA DR IDAHO FALLS ID 83404													
11		MAYOR JAQUES MARCOTTE CITY OF ARCO PO BOX 196 ARCO ID 83213													
12		EDWARD A MARUGG SOUTHEASTERN DIST HEALTH DEPT 1901 ALVIN RICKEN DR POCATELLO ID 83201													
13		MARK MASARIK EPA IOO 1435 NORTH ORCHARD BOISE ID 83706													
14		ELMER MATTILA IDAHO VENEER INC PO BOX 339 POST FALLS ID 83854													
15		RALPH MAUGHAN THE SIERRA CLUB PO BOX 1173 POCATELLO ID 83201													

Total Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster, Per *(Name of receiving employee)*
15	15	RHorn

The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstruction insurance is $50,000 per piece subject to a limit of $500,000 per occurrence. The maximum indemnity payable on Express Mail merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See *Domestic Mail Manual* R900, S913, and S921 for limitations of coverage on insured and COD mail. See *International Mail Manual* for limitations of coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.

PS Form 3877, April 1999

Complete by Typewriter, Ink, or Ball Point Pen

Name and Address of Sender

BECHTEL BWXT IDAHO, LLC.
ENVIRONMENTAL AFFAIRS
MS 3428
PO BOX 1625
IDAHO FALLS ID 83415-3428

Check type of mail:
- ☐ Express
- ☐ Registered
- ☐ Insured
- ☐ COD
- ☐ Return Receipt (RR) for Merchandise
- ☐ Certified
- ☐ Int'l Rec. Del.
- ☐ Del. Confirmation (DC)

If *Registered Mail*, check below:
- ☐ Insured
- ☐ Not Insured

Affix stamp here if issued as certificate of mailing, or for additional copies of this bill.

Postmark and Date of Receipt

IDAHO FALLS JUN 13 2003 USPS

Line	Article Number	Addressee Name, Street, and PO Address	Postage	Fee	Handling Charge	Actual Value (If Reg.)	Insured Value	Due Sender If COD	RR Fee	DC Fee	SC Fee	SH Fee	SD Fee	RD Fee	Remarks
1		BOB MCENANEY SNAKE RIVER ALLIANCE PO BOX 1731 BOISE ID 83701													
2		KLISS MCNEEL BBWI PO BOX 1625 IDAHO FALLS ID 83415-3428													
3		MAYOR LINDA MILAM CITY OF IDAHO FALLS PO BOX 50220 IDAHO FALLS ID 83405													
4		SENATOR LAIRD NOH 3442 ADDISON AVENUE EAST KIMBERLY ID 83341													
5		PACE LOCAL 2-652 UNION PO BOX 50659 IDAHO FALLS ID 83405													
6		RENSAY D OWEN DEQ IDAHO FALLS REGIONAL OFFICE 900 N SKYLINE STE B IDAHO FALLS ID 83402													
7		LINDA PARKINSON TWIN FALLS PUBLIC LIBRARY 433 2ND ST E TWIN FALLS ID 83301													
8		BOB PEEL ROGERS & ASSOC/DAMES & MOORE 871 MIRAGE CT IDAHO FALLS ID 83404													
9		JOYCE POLE 1221 WICKLOW COURT IDAHO FALLS ID 83404													
10		CHARLES RICE CITIZENS ADVISORY BOARD 3505 SUN CIR IDAHO FALLS ID 83404-7257													
11		DR PETER RICKARDS 2672 E 400 N TWIN FALLS ID 83301-0123													
12		FRED SICA IDAHO FALLS CHAMBER OF COMMERCE 505 LINDSAY BLVD IDAHO FALLS ID 83401													
13		JULIE SIMPSON NEZ PERCE TRIBE ERWM PO BOX 365 LAPWAII ID 83540													
14		REPRESENTATIVE MIKE SIMPSON 304 N 8TH ROOM 325 BOISE ID 83702													
15		PAUL SLOAN 445 N YELLOWSTONE RIGBY ID 83442													

Total Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster, Per (*Name of receiving employee*)
15	15	AHoyle

The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstruction insurance is $50,000 per piece subject to a limit of $500,000 per occurrence. The maximum indemnity payable on Express Mail merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See *Domestic Mail Manual* R900, S913, and S921 for limitations of coverage on insured and COD mail. See *International Mail Manual* for limitations of coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.

PS Form 3877, April 1999

Complete by Typewriter, Ink, or Ball Point Pen

Name and Address of Sender ▶

BECHTEL BWXT IDAHO, LLC.
ENVIRONMENTAL AFFAIRS
MS 3428
PO BOX 1625
IDAHO FALLS ID 83415-3428

Check type of mail:
- ☐ Express
- ☐ Registered
- ☐ Insured
- ☐ COD
- ☐ Return Receipt (RR) for Merchandise
- ☐ Certified
- ☐ Int'l Rec. Del.
- ☐ Del. Confirmation (DC)

If *Registered Mail*, check below:
- ☐ Insured
- ☐ Not Insured

Affix stamp here if issued as certificate of mailing, or for additional copies of this bill.

Postmark and Date of Receipt

IDAHO FALLS JUN 13 2001

Line	Article Number	Addressee Name, Street, and PO Address	Postage	Fee	Handling Charge	Actual Value (If Reg.)	Insured Value	Due Sender If COD	RR Fee	DC Fee	SC Fee	SH Fee	SD Fee	RD Fee	Remarks
1		TIM SOLLE 2931 BLUEBIRD LANE IDAHO FALLS ID 83402													
2		MAYOR LYNN STATEN CITY OF ATOMIC CITY PO BOX 74 ATOMIC CITY ID 83215													
3		E MALONE STEVERSON PE SAIC - SCIENCE APPLICATIONS 950 ENERGY PL IDAHO FALLS ID 83401-1569													
4		SUPERINTENDENT CRATERS OF THE MOON PO BOX 29 ARCO ID 83213													
5		MARK TORF TORF ENVIRONMENTAL MANAGEMENT 1404 N 5TH ST BOISE ID 83702													
6		KATHLEEN TREVER INEEL OVERSIGHT PROGRAM 900 N SKYLINE STE C IDAHO FALLS ID 83402													
7		ROGER TURNER 307 N BUCHANAN POCATELLO ID 83204													
8		DOUG WALKER INEEL OVERSIGHT PROGRAM 900 N SKYLINE STE C IDAHO FALLS ID 83402													
9		BILL SEDIVY IDAHO RIVERS UNITED PO BOX 633 BOISE ID 83701													
10		GARY ROBINSON 11144 N. 70TH E. IDAHO FALLS. ID 83401													
11															
12															
13															
14															
15															

Total Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster, Per (*Name of receiving employee*)
10	10	[signature]

The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstruction insurance is $50,000 per piece subject to a limit of $500,000 per occurrence. The maximum indemnity payable on Express Mail merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See *Domestic Mail Manual* R900, S913, and S921 for limitations of coverage on insured and COD mail. See *International Mail Manual* for limitations of coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.

PS Form 3877, April 1999

Complete by Typewriter, Ink, or Ball Point Pen

Fact Sheet for the INTEC Liquid Waste Management System

Purpose

Bechtel BWXT Idaho, LLC (BBWI) and the Department of Energy Idaho Operations Office (DOE-ID) are developing and will submit a Hazardous Waste Management Act (HWMA)/Resource Conservation and Recovery Act (RCRA) Part B Permit Application for the Idaho Nuclear Technology and Engineering Center (INTEC) Liquid Waste Management System to the Idaho Department of Environmental Quality (IDEQ) on or before July 1, 2001. After July 1, 2001 the permit application will be available for viewing at the public reading room at the University Place in Idaho Falls, Idaho.

Idaho Administrative Procedures Act (IDAPA) 58.01.05.002 and .012 [40 Code of Federal Regulation (CFR) §§ 124.31 and 270.14(b)(22)] require that a pre-application public meeting be held to solicit comments and allow participation in the development of the application. This is the second pre-application meeting held concerning this permit application. The first pre-application meeting was held on December 13, 2000. IDAPA 58.01.05.012 [40 CFR § 270.10] requires owners or operators of units that treat, store, or dispose of hazardous waste to obtain a permit.

After the permit application is submitted to the Idaho Department of Environmental Quality they will review the application for completeness. If the application is determined to be complete, a technical review will be conducted. After the application is determined to be technically complete, the IDEQ would then issue a draft permit and allow the public 45 to 60 days for review and comment. After public comments have been resolved the IDEQ may then issue a permit.

Overview

This permit application will include portions of mixed (radioactive and hazardous) waste storage tank systems and miscellaneous mixed waste treatment units. These units include the Process Equipment Waste Evaporator (PEWE) and the Liquid Effluent Treatment and Disposal (LET&D) facility located on the Idaho National Engineering and Environmental Laboratory (INEEL) at the INTEC. The permit will request that BBWI and DOE-ID be allowed to store and treat mixed wastes in tank systems and allow miscellaneous treatment (evaporation/fractionation) of mixed wastes within the system.

Originally, the PEWE system was the only unit addressed in the permit application. The two units have been combined at this time to satisfy a IDEQ request to submit a LET&D permit application by the end of August 2001. To save money and resources the decision was made by BBWI and DOE-ID to combine the two units into one application. The New Waste Calcining Facility Evaporator Tank System (NWCF ETS) will be added to this permit at a later date as outlined in the INEEL Work Plan, available on line at http://www.inel.gov/x-web/other/framed.shtml/publicdocuments/pdfs/rcra-2001workplan.pdf.

Background

Originally established in the early 1950's, INTEC is located in the southwestern portion of the INEEL. Prior to April 1992, spent nuclear fuels were reprocessed and the resulting wastes were stored and treated at the INTEC. Since the Department of Energy's decision to cease reprocessing operations, the facilities at INTEC are primarily used to store spent nuclear fuels and radioactive wastes, treat radioactive and mixed wastes, and develop waste management technologies.

INTEC Liquid Waste Management System

Current waste streams are typically generated by laboratories and decontamination activities at INTEC and are slightly radioactive and acidic in nature. The transfer routes used to move liquids within the INTEC Liquid Waste Management System are compatible with the wastes. The purpose of the INTEC Liquid Waste Management System is to collect, store, and treat waste to reduce the volume of waste sent to the Tank Farm Facility. Reducing the volume of wastes sent to the Tank Farm Facility will support the State of Idaho mandated closure of the Tank Farm Facility.

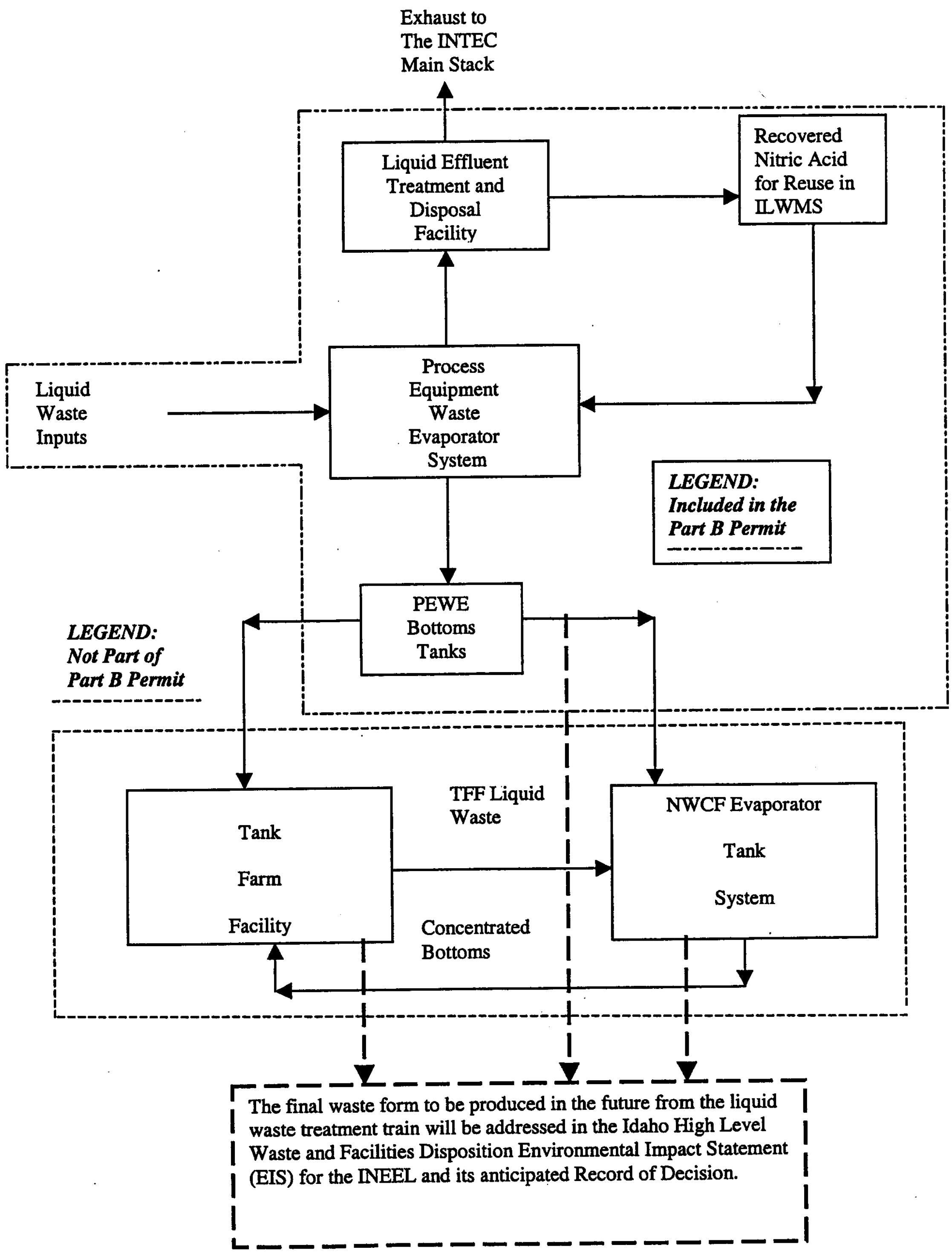
The PEWE system evaporates aqueous mixed wastes, producing concentrated wastes known as bottoms and condensed vapor known as overheads. The bottoms are transferred to the Tank Farm Facility for future treatment in the New Waste Calcining Facility (NWCF) Evaporator Tank System (also known as the High Level Liquid Waste Evaporator). The NWCF Evaporator Tank System concentrates the waste further, also generating an overhead stream and bottoms stream. The overhead stream is returned to the PEWE for treatment and the bottoms are returned to the Tank Farm Facility until a final treatment is determined by the pending High Level Waste and Facilities Disposition Environmental Impact Statement Record of Decision.

The PEWE overheads are transferred to the Liquid Effluent Treatment and Disposal facility for further processing that includes fractionating the feed into concentrated bottoms and condensed overheads. The bottoms are reclaimed nitric acid that is used within INTEC. The overhead fraction is exhausted to the INTEC main stack.

Point of Contact

Send requests for further information or comments/questions to the following contact:

Mr. T. J. Safford
Department of Energy Idaho Falls Operations Office
850 Energy Drive, M.S. 1216
Idaho Falls, Idaho 83401



Simplified Schematic of the INTEC Liquid Waste Management System

Pre-Application Public Meeting

June 20, 2001 from 7:00 to 8:00 p.m.
Idaho Falls Public Library, Conference Room A

Provide information to and solicit questions from the public on the Resource Conservation and Recovery Act permitting of the Idaho Nuclear Technology and Engineering Center Liquid Waste Management System (ILWMS) as part of the National Engineering and Environmental Laboratory (EPA Identification Number ID4890008952)

NAME (print)	Mailing Address	Telephone Number	Organization	Do you want to be added to the DEQ Mailing List?	How did you hear about this meeting: news paper ad, mailing, radio, posted sign, other (please specify)
Ann Boehmer	BBWI P.O. Box 1625 Idaho Falls ID 83415 MS 3428	208-526-7937	BBWI	Yes	All of the above
Stacey Francis	BBWI PO Box 1625 ~~[illegible]~~ Idaho Falls ID 83415	208 526-0015	BBWI	Yes	
Vicki Johnson	DOE 850 Energy Dr. Idaho Falls, ID 83401	208 526-8908	DOE	No	
John Walsh	1574 Newman Dr IF 83402	6-8646	BBWI	No	

NAME (print)	Mailing Address	Telephone Number	Organization	Do you want to be added to the DEQ Mailing List?	How did you hear about this meeting: news paper add, mailing, radio, posted sign, other (please specify)
Shanna Caspor	1632 Garfield I F. Id. 83401	522-4494		No	
Mike Heiser	547 Cliveley Blvd IF, Id 83402	522 0680		yes	
Alan Carvo	270 Lariat Ln. Idaho Falls, ID 83404	542-1529		No	Newspaper posting
Teri Tyler	477 Shoup Dr I.F., ID 83401	522-1662	CAB	No	Work
Keith B farmer	428N. 3800E. Rigby, Id 83442	745-8549		No	Newspaper/other
Scot Dickinson	5519E 49th Idaho Falls IA 83401	523-3760		No	media/other

NAME (print)	Mailing Address	Telephone Number	Organization	Do you want to be added to the DEQ Mailing List?	How did you hear about this meeting: news paper add, mailing, radio, posted sign, other (please specify)
DONNA ALTMAN	2246 So. Higbee I.F. 83404	529-5701		No	
Neil Hutten	1455 Fox Court IF 83404	542-1034		No	
Diane V. Croson	2894 Balboa Dr Idaho Falls, ID 83404	529-8952		No	
Jim Valentine	2123 Robbs Idaho Falls, Id 83402	522-5811		No	
DAVE McCOY	2940 Goldbarn IF 83404	5421449		YES - But you never do it	a friend called. No written notice as requested.
Kent Miller	24N 725W Blackfoot ID 83221	684-5422	BBWI	No	Public Notic

NAME (print)	Mailing Address	Telephone Number	Organization	Do you want to be added to the DEQ Mailing List?	How did you hear about this meeting: news paper add, mailing, radio, posted sign, other (please specify)
George Freund	PO Box 51232 I.F 83405	522-3647	Coalition 21	already on list	mailing
DARRELL LAKE	BBWI P.O. BOX 1625 IDAHO FALLS, ID 83415	208 526-7005	BBWI	No	
MIKE PATTERSON	1287 LOWELL DR. IDAHO FALLS, ID 83402	(208) 522-4920	—	No	Newspaper.

NAME (print)	Mailing Address	Telephone Number	Organization	Do you want to be added to the DEQ Mailing List?	How did you hear about this meeting: news paper add, mailing, radio, posted sign, other (please specify)
LINDA Petersen	~~[illegible]~~ 850 Energy Dr IF 83401	6-9100	DOE-ID	NO	email
Pam Cunningham	~~[illegible]~~ 3609 Creekside IF, ID. 83404	~~[illegible]~~	—	—	paper
Susanne Nielsen	1530 Ray Circle Idaho Falls, ID 83402	(208) 529-9259	—	—	posted sign
Tim Safford	U.S. DOE 850 Energy Drive Idaho Falls ID 83401	526-5670	DOE-ID	NO	

NAME (print)	Mailing Address	Telephone Number	Organization	Do you want to be added to the DEQ Mailing List?	How did you hear about this meeting: news paper add, mailing, radio, posted sign, other (please specify)
Ron Guymon	489N 4108 E Rigby, ID 83442	208 745-8925	BBWI	No	DOE Announcement
Erik Ringelberg	PO Box 4838 Jackson WY 83	307 732-2040	KYNF	Yes - Should been	Have yet to get a single notice for PEWE.
Mike MacConnel	360 N. Water Ave Idaho Falls, Idaho 83402	528-7690	BBWI	No	Boss
Scott Reno	2184 Rendezvous Idaho Falls, ID	529-3908	Citizen	Yes	Newspaper
Laura Young	605 Terrace Dr Idaho Falls ID 83402	522-2141	Citizen	yes	DOE Announcement
Jim Jackson	962 10th I.F., ID 83404	524-8484	Self	On it	DOE Announcement

Summary of the INTEC Liquid Waste Management System Pre-Application Public Meeting

- The Meeting began at 7:05pm at the Idaho Falls Public Library Meeting Room A on June 20, 2001.
- Please see attached roster for a list of individuals in attendance.
- Please see attached fact sheet.
- The issue of KYNF not being on mailing list was raised again. On 06/21/01 Darrell Lake notified the DEQ of people who marked yes that they wanted their name put on the mailing list.
- The issue of liquid wastes going to the percolation ponds from the PEWE was raised. Using the diagram that was provided it was demonstrated that no liquid waste from the PEWE is continuing to go to the percolation ponds.
- The issue of the PEWE and LET&D being subject to the MACT rule was raised. It was stated that the PEWE and LET&D raised operating temperature is achieved by using steam not an open flame. So the PEWE and LET&D are not subject to the MACT rules.
- The issue of the contents of the presented fact sheet is lacking in detail was raised. It was stated that a fact sheet or statement of basis is required when the agency issues a draft permit and the agency is responsible for developing the fact sheet.
- Problems with the notification process for the pre-application meeting were also raised by McCoy.
- KYNF requested a complete permit copy be provided on a compact disk. This request is being considered.
- A short discussion on waste characterization for the PEWE and the LET&D was presented.
- No written comments were presented at this meeting.
- The meeting adjourned at 7:50pm.

JUN 26 2001

June 23, 2001
Mr. Tim J. Safford
Department of Energy Idaho Falls Operations Office
850 Energy Drive, M.S. 1216
Idaho Falls, Idaho 83401

Comments Re: RCRA Part B Preapplication Meeting June 20, 2001 for PEWE and LET&D.

Dear Mr. Safford,

I am enclosing the following comments for the record in these proceedings.

In summary, as described below, the 40 CFR 124 preapplication meeting fell below the standards required for a RCRA preapplication meeting with respect to timeliness, notice, and the information provided.

1. Notice deficiencies.

40 CFR 124.31 (d) (1)(ii) requires that "The applicant shall post a notice on a clearly marked sign at or near the facility" and for "the sign to be large enough to be readable from the nearest point where the public would pass by the site." I drove on Highway 20 and went to the main INEEL gate on 6/17/01 and 6/18/01. I could see no sign from the highway. On 6/17 I spoke with the guard on duty at the main gate in the a.m. and asked if a sign was posted for any public meetings. I was told no sign was posted. I returned on 6/18 and spoke to Michelle Merrill in the office at the main gate and was informed that no sign existed for the June 20 preapplication meeting. No bulletin was posted in the office on any of the bulletin boards. I personally looked about the office and the surrounding outside grounds and saw no sign, bulletin or any other indication of the preapplication meeting.

At the 6/20 public meeting, DOE personnel stated that the sign blew away and that the sign is an 8 x 11 ½ sign which has to be placed 200 feet from the roadway. It is incomprehensible that DOE, charged with management of toxic wastes, somehow lacks the engineering skill to keep a sign from blowing away in the wind. These notice requirements for a sign at or near the facility and large enough to be seen were not fulfilled prior to the meeting at the INEEL facility.

Although I have asked at prior DOE and IDEQ meetings and sent letters to DOE and IDEQ to be placed on facility notification lists, I note that once again I did not receive personal notice of the preapplication meeting from either DOE or IDEQ by mail.

2. Lack of Timeliness.

The LET&D is being added to the Part B RCRA application. The DOE has known for several years that it intended to submit an application for the PEWE and the LET&D as well as the High Level Liquid Waste Evaporators. The DOE is delaying the process of bringing the addition of these facilities to the public attention, preferring instead to hide the regulatory ball and give the public notice less than two weeks before Part B application submittal.

The intent of §124.31 (b) as stated in Fed. Reg. 12/11/95 (Vol. 60, Number 337 pp. 63422-23) was to open early dialog with the community at the beginning of the permitting process. DOE is defeating the purpose of §124.31 (b) by coming forward with its plans in piecemeal fashion at the last hour so that the public involvement occurs as late as possible in the

1

permitting process. Coupled with the informational deficiencies described below, DOE is not making the "good faith effort to provide the public with sufficient information about the proposed facility operations." (Fed. Reg. 12/11/95 p. 63423).

3. Information deficiencies.

"The most important goal to achieve from the preapplication meeting is to open a dialogue between the permit applicant and the public." (Fed. Reg. 12/11/95 (Vol. 60, Number 337, p. 63422). This goal of dialogue cannot be achieved when the public is denied information necessary to understand the applicant's proposal and a reasonable time in which to digest the information and then respond with questions or comments prior to submission of the application.

Fed. Reg. 12/11/95 (Vol. 60, Number 337 pp. 63423-24) states that "... moreover the applicant should make a good faith effort to provide the public with sufficient information about the proposed facility operations... [The applicant] should provide the public with enough information to understand the facility operations and the *potential impacts on human health and the environment*." (Emphasis supplied). The DOE provided a 3 page Fact Sheet for the INTEC Liquid Waste Management System. No information contained in the fact sheet provided any indication of the potential for impacts on human health and the environment.

DOE has defaulted on its ability to address the PEWE and LET&D application to the level of detail that was practical at the time of the meeting. The PEWE has operated for approximately 50 years and the LET&D has operated since the mid-90s. The DOE could have, but did not provide written information regarding the type and components of the facilities, location, the types of wastes generated and managed, and implementation of waste minimization and pollution and control measures, risks of operation and procedures and equipment for preventing or responding to accidents or releases. (Fed. Reg. 12/11/95 p. 63423).

When I asked at the meeting for a list of the types of wastes that would be generated, I was informed that the information was contained in Section C in draft form. I asked for section C to be provided to me. However, I was informed by the moderator that I would not be able to obtain any copy of that until after the application was submitted and then made available on July 1 in the DOE reading room. Again, DOE provides the public with as little information as possible up until and prior to application submission. How can the public possibly know what the consequences or potential impacts for human health and the environment are when they are not informed of the nature of the wastes being processed to which the public could be exposed? I was previously informed by the DOE FOIA Officer that no legal basis exists for DOE's withholding permitting documents on the basis that such documents are predecisional.

Kirk Nielsen from DOE demanded that he be allowed to come to the public reading room where he believed I am required to make sections D and F available which I requested earlier by a FOIA. I informed Mr. Nielsen that I am under no FOIA duty to provide a public document reading room. Mr. Nielsen's belligerent remarks are not in keeping with good public relations. It would be more appropriate if DOE would provide timely information instead of making the public do FOIA requests to obtain pertinent information for permitting.

Moreover, the DOE did not have any documents at the meeting such as parts C, D and F which it has already submitted to the Idaho Department of Environmental Quality for the PEWE. It is unknown from the DOE presentation, what if any documents have been submitted for the LET&D facility. The public is being informed of the LET&D addition to the Part B application less than two weeks prior to the application submittal.

Apparently, DOE intends to add the NWCF Evaporator to the application. No information regarding the NWCF facility, which has operated for decades, was provided that would indicate its potential for effects on human health and the environment in conjunction with PEWE and LET&D operations. Instead the DOE referred information for the NWCF in the INEEL Workplan available at a website. DOE could have brought a printed copy of the information at the website for review by members of the public who may not have internet access. Information known to the DOE is not accessible at the meeting although DOE has had information regarding these facilities for many years.

The facilities' operations are not covered to any extent by the HLW/EIS. Indeed, there is no mention of the PEWE or the LET&D or the NWCF Evaporator in the HLW/EIS index so the public can even readily look up information on the facilities. Tucked away at Table 5.3-22 is reference to the PEWE, LET&D and NWCF as "existing INTEC facilities with significant risk of accident impacts to the noninvolved workers and to the offsite public." DOE didn't mention any of this at the meeting.

My perception is that the DOE is submitting applications for segmented operations for which no overall, cumulative analysis exists as to potential effects for the human environment from extensive operations which are to be linked at some point in the future. By making piecemeal submittals the public cannot know what analysis to make of the actual plans DOE really intends to unroll.

4. Additional Comments.

On June 14, 2001, DOE was served a Notice of Intent to Sue regarding the PEWE by myself and Chuck Broscious. For the record, I incorporate by reference that document and its attachments as my additional comments to this letter.

5. Questions

Please provide me with Section C of the Part B application and any sections which have been submitted for the LET&D.

How do the PEWE, LET&D and NWCF Evaporators qualify as tank treatment systems rather than being classified as thermal treatment units?

Has DOE previously obtained an air permit for the LET&D and NWCF Evaporator (HLLWE) facilities? Please provide a copy of those permits.

Sincerely,

David B. McCoy

David B. McCoy
2940 Redbarn Lane
Idaho Falls, ID 83404
542-1449

cc: Brian Munson, IDEQ

June 14, 2001

Spencer Abraham, Secretary
U.S. Department of Energy
1000 Independence Ave., S.W.
Washington, D.C. 20585

Christine Todd Whitman, Administrator
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

Charles C. Clark
Regional Administrator, Region X
U.S. Environmental Protection Agency
1200 Sixth Avenue
Seattle, WA 98101

C. Stephen Allred, Director
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706

Beverly A. Cook, Site Manager
U.S. Department of Energy
Idaho Operations Office
850 Energy Drive, MS 1108
Idaho Falls, ID 83401

RE: Notice of Intent to Sue Over DOE's Failure to Comply with the Resource Recovery and Conservation Act, 42 U.S.C. § 6901 et seq., the Clean Air Act the National Environmental Policy Act (NEPA) and other statutes in operation of the Process Waste Equipment Evaporator (PEWE) at the Idaho National Engineering Laboratory.

Dear Sirs/Madams:

In accordance with the notice requirements of 42 U.S.C. §§ 6972 (c) and 7604(b), the undersigned parties, Charles Broscious, and David McCoy, attorney and Idaho Falls resident, hereby provide you notice of our intent to commence a civil action under 42 U.S.C. §§ 6972(a) and 7604(a) for operating the facility known as the Process Waste Equipment Evaporator (PEWE) and the PEWE interrelated operational units at the Idaho National Engineering and Environmental Laboratory ("INEEL") in violation of the Resource Conservation and Recovery

Act, 42 U.S.C. § 6901 et seq. ("RCRA") and the Clean Air Act, 42 U.S.C. § 7601 et seq. ("CAA"), National Environmental Policy Act ("NEPA"), Toxic Substances and Control Act ("TSCA") and other federal statutes enumerated herein. Pursuant to 42 U.S.C. § 6972(c), we reserve the right to sue prior to sixty days for violations of hazardous waste management under RCRA Subchapter III.

Background

The PEWE is located at the INEEL site within the two-hundred acre Idaho Nuclear Technology and Engineering Center (INTEC) formerly called the Idaho Chemical Processing Plant (ICPP or in the DOE literature called "CPP."). The four decade old PEWE located in INTEC CPP-604, processes high-level radioactive and hazardous liquid wastes. The PEWE is an old and complex system which is connected to virtually every waste processing unit at INTEC and, via imports from other INEEL facilities, the whole INEEL site. DOE has yet to document that all the components (including pipes and off-gas emission control systems) are RCRA compliant.

The PEWE is a series of evaporators that use steam heat to boil off hazardous waste into several parts (fractions). These fractions are 1.) the "bottoms" or the least easily boiled parts that stay in the bottom of the evaporator, 2.) the "overheads" or the part that boils off easily. There are two parts to the overheads; 1.) the volatile organic/inorganic compounds, and volatile radionuclides that go out the INTEC Main Stack without additional treatment other than particulate filters and, 2.) the overhead condensates that are sent to the Liquid Effluent and Disposal Facility (LET&D) that remove the nitric acid constituents and recycle them back to the high-level waste system.

I. Resource Conservation Recovery Act

A. The PEWE Violates the Resource Recovery and Conservation Act

The PEWE has been operating without a permit under RCRA since the early 1950's and has claimed so-called "interim status" long past the November 8, 1992 date when RCRA interim status expired. This violates both the spirit and the letter of RCRA. RCRA was enacted in order to ensure that hazardous waste management practices are conducted in a manner which protects human health and the environment. 42 U.S.C. § 6902. The goal of the law was to require "that hazardous waste be properly managed in the first instance thereby reducing the need for corrective action at a future date."

By failing to comply with the permit requirements stated in RCRA, the DOE has defeated and nullified the objectives and national policies set forth in RCRA by the impermissible use of interim status for the PEWE. The Idaho Department of Environmental Quality (IDEQ) and Environmental Protection Agency (EPA) have failed to enforce the objectives and policies of RCRA by not requiring permitted operations for the PEWE and failing to force closure of the PEWE and other non-compliant operations. Despite the requirements of 42 U.S.C. § 6925 (a) and (c) no final permit has ever been issued or denied for the PEWE as a hazardous waste treatment facility. Violations of RCRA provisions include, but are not limited to, DOE's failure to provide the information reasonably required to process its application, *see* 42 U.S.C. § 6925(e)(1)(c), and its failure to include interrelated operations and units in the RCRA Part B application .

The PEWE operates without any RCRA permit and has no interim status under RCRA because interim status for unpermitted facilities expired in 1992. No complete RCRA Part B Application has been submitted by the DOE. The PEWE illegally processes hazardous wastes which are required to be processed by a facility other than an evaporator. A RCRA Part B Permit Application for the PEWE was not submitted by the DOE to the IDEQ until 11/7/00. The PEWE violates air quality emissions requirements, and has not met the environmental review requirements of the National Environmental Policy Act ("NEPA"). The PEW received waste from the Waste Calcining Facility, receives waste from the New Waste Calcining Facility (NWCF), the High-level Liquid Waste Evaporator, the Tank Farm Facility (TFF), the CPP-601 Deep Tanks, and other facilities at the INEEL which also have no RCRA permits. (See Attachment B).

Hazardous waste means a hazardous waste as defined in 40 CFR § 261.3. Hazardous waste constituent means a constituent that caused the Administrator to list the hazardous waste in part 261, Subpart D, of this chapter, or a constituent listed in table 1 of Sec. 261.24 of this chapter. The 128 EPA waste codes treated by the PEWE fall within the hazardous waste constituents listed in Sec. 261.24.

The PEWE, located in CPP-604, processes Calciner (now temporarily closed), High-level Liquid Waste Evaporator off-gas scrub solutions, and other high-level treatment plant wastes. The decontamination/decommissioning process operations continue to generate considerable liquid waste volumes. (See below). RCRA hazardous wastes normally processed by the PEWE evaporator include the following:

1. Laboratory wastes produced by analyses of ICPP discharge effluent (including service waste and stack monitor samples and process samples.
2. Liquid wastes from the atmospheric protection system, the Calciner, the High-level Liquid Waste Evaporator, and other waste processing operations which are mixed high-level and highly radioactively contaminated.
3. Rainwater ingressing and tank leaks that collect in the high-level tank farm vaults and vault sumps.
4. Decontamination solutions.
5. Process solutions.
6. Liquid mixed hazardous and radioactive waste from other INEEL operations.
7. HEPA Filter and Debris liquid waste treatment liquid effluent.
8. Spent reactor fuel water storage pool filter back flush waste liquids.
9. Off-gas from the High-level Tank Farm
10. Radioactive Liquid Waste Management System

The two PEW evaporators, EVAP-WL-129 & WL-161 are thermal treatment units. EVAP-WL-129 includes the evaporator tank VES-WL-129 plus heat exchanger HE-WL-307, and condenser HE-WL-308. EVAP-WL-161 includes the evaporator tank VES-WL-161 plus heat exchanger HE-WL-300, and condenser HE-WL-301. These PEW thermal treatment units accept liquid waste from the feed tanks and subject it to high temperatures (via steam heat exchanger) which concentrates the liquid waste by means of evaporation. Three RCRA waste streams flow out of the PEWE: 1. vaporized off-gas overheads, 2. non-vaporized condensed overheads, and 3. concentrated bottoms.

The PEWE overhead stream (vapor) is passed through a condenser which yields a condensate and non-condensable off-gas. The vaporized off-gas goes through the HEPA filters and out the Main Stack (CPP-708). The overhead condensate is classified as a RCRA mixed low-level waste with 128 individual hazardous waste codes, and is recycled back to the evaporators or sent to the LET&D to remove the nitric acid constituent.

The concentrated bottoms are managed as high-level mixed waste and sent to the Tank Farm for eventual calcination, or other final treatment. (See Attachment D-- PEWE/LET&D process flow chart).

The PEWE has not received proper analysis as to its air emissions as a result of the wide variation of unanalyzed liquid waste processed by the PEWE. No mass balance analysis has been presented to the public so that it can be determined how many gallons of liquid waste are vaporized by the PEWE and go out the stack. Estimated rates of the volume of liquid waste processed by the PEWE vary considerably.

The HLW/EIS rates the PEWE partial throughput of Type II waste at 105,000 gallons/year with the volume reduction to 5,000 gallons [at a rate of 400 gal/hr or 9,600 gal/day]. (C.6-37) That is a net volume reduction ratio of 21:1. The Fact Sheet for the Process Equipment Waste Evaporator presented at a recent DOE public meeting in Idaho Falls (p. 2) states that "The PEWE system is capable of evaporating up to 24,000 gallons a day of mixed wastes..." This would be a potential annualized amount of 8,760,000 gallons. Applying the HLW/EIS ratio of 21:1 to the PEWE Fact Sheet 24,000 gal/day there is a potential for 8,342,000 gallons/year of mixed volatile organic chemicals and semi-volatile compounds and radionuclides going out the CPP Main Stack that the HEPA particulate filters will not block. It is uncertain how much of the effluent release fractions to the Main Stack are from the PEWE and how much from the LET&D but in either case only HEPA filters are used. (See Attachment D).

B. The PEWE operates illegally and cannot be permitted because it is accepts certain hazardous wastes which are required under federal law to be treated by other types of processes.

Of the 128 listed hazardous waste constituents in the PEWE waste, no less than 37 require treatment with carbon absorption, chemical oxidation, wet air oxidation, or combustion in order to meet EPA Treatment Standards. (40 CFR 268.40). (See attached list of 37 hazardous waste constituents in Appendix (A). The PEWE does not have the technical capacity to legally treat these wastes. These wastes are inherent in the waste feed to the PEWE and no treatment is available to remove, treat, monitor and sample for the presence of these hazardous waste constituents prior to processing by the PEWE. The single exception is the removal of D002 corrosive waste in which subsequent treatment in the LET&D facility extracts the nitric acid component.

The other 91 listed hazardous constituents in the PEWE condensate waste stream cannot exceed specified concentration levels listed in 40 CFR 268.40 and the Universal Treatment Standards in 268.48 without receiving appropriate treatment. Internal DOE documents indicate that DOE intends to leave the high-level Tank Farm heels permanently in place which means the PEWE is practically speaking the final treatment.

1. Independent sampling of PEWE and other INTEC effluent release points is warranted because of DOE's history of falsifying reports required by statute to confirm legal emission compliance to environmental regulators.

The Federal District Court for New Mexico ruled in 1997 in Concerned Citizens for Nuclear Safety v. U.S. DOE (Civ. No.94-1039) that DOE could not be trusted to self monitor, so the Court imposed an independent "comprehensive technical auditing" process. The Consent Decree states that: " The purpose of the comprehensive independent technical audits is to verify whether LANL [Los Alamos National Laboratory] is in full compliance with the Clean Air Act radionuclide NESHAP, 40 CFR 61.90-61.97 Subpart H, during the term of the decree." DOE was required to provide the $700,000 costs for the independent audits.

Reports by auditors at the INEEL are strongly suggestive that independent sampling of PEWE and service wastes is essential due to the INEEL sampling/monitoring violations enumerated in a 1996 False Claims suit. Environmental Compliance Auditors employed by INEEL contractors allege extensive violations of environmental statutes in Mock/Lebow v. Lockheed et.al. False Claims suit.[No. CIV 96-0061-E-BLW].

The following internal INEEL "Air Legacy Issues" report gained by EDI through a Freedom of Information Act request acknowledges turning off stack air monitors.

> "For much of the last 3 years, INEL has chosen to not operate the ICPP Main Stack Iodine-129 monitor based on a "literal" reading of the NESHAP's regulations. (NESHAPs requires continuous monitoring of those constituents which represent 10% or more of the potential INEL dose.) I-129 from the ICPP Main Stack represents the single largest actual dose contributor at the INEL (at times, 50% of the site dose).It is our belief (and that of ORNL personnel) that the current monitoring policy for I-129 on the CPP Main Stack is not consistent with the intent of the regulations and represents a significant liability. (Even if defendable in court, it is difficult to explain to the public why it is a good idea to "not operate an already installed monitor" for the largest dose contributor on the INEL.) (Note that the I-129 monitor is now on-line for the startup of the High Level Waste Evaporator, but future intent is to take it off-line again.) (INEL Notegram, July 25, 1996 to C.L. Tellez from M.E. Feldman).

2. The LET&D Is an Unpermitted, Illegally Operating Facility physically connected to the PEWE.

The LET&D unit receives the PEWE overhead condensate, and consists of two evaporators, also referred to as fractionators (FRAC-WLL-10 and FRAC-WLK-171). These evaporators/fractionators treat (T-04) the PEWE condensate primarily to remove nitric acid.

DOE states (1998 NESHAP pg.8 DOE/ID-10342(98)) that the LET&D acid portion of bottoms are used at the NWCF or stored in the Tank Farm and the remaining gaseous overheads are discharged to the Main Stack after passing through HEPA filters.

The LET&D facility has a design capacity of 1100 gal/hr. The PEWE and LET&D off-gas system also only uses HEPA filters prior to going to the main stack which means all volatilized hazardous and radioactive material escape to the atmosphere. HEPA filters only remove a small size range of particulate and do not remove any contaminate in vapor phase.

A large proportion of the PEWE/LET&D vaporized overheads are volatile compounds that simply pass right through the HEPA filters and out the Main Stack. The PEWE and LET&D operations are physically connected, and should be legally required to be permitted as a whole along with influent and effluent tanks. Neither the LET&D nor the PEWE or related installations (described below) are legally permitted under RCRA. (See IDEQ March 2-3/98 Quarterly Meetings 1998).

The PEWE waste can originate from various points within the INTEC (including the high-level Tank Farm) and also waste water from other INEEL facilities. CPP-604 PEW feed/storage and treatment tanks (VES-WL-132, 102, and 133) have a 43,800 gallon/day capacity. According to the INEEL Hazardous Waste Management Act Work Plan:

> "CPP-601 Tanks consist of four units (VES-WG-100, and 101, and VES-WH-100 and 101 used for storage and treatment (S02 and T01). These tanks receive waste primarily from laboratories and process operations in the CPP-601, CPP-602, and CPP-684. The waste is sent to the PEW Feed/Storage and Treatment Tanks (VES-WL-132, 102, and 133) prior to evaporation in the PEW evaporators system. CPP-604 PEW Condensate/Effluent Storage and Treatment Tanks consists of three storage (S02) and treatment (T01) tanks (VES-WL-106, VES-WL-107, and VES-WL-163). These tanks receive condensate from the PEW Evaporator prior to going to the LET&D Storage Tanks and eventually the LET&D Evaporators." (INEEL Hazardous Waste Management Act Work Plan 6/6/2000 pp. A3&4)

It is important to note that the above quotes apply the term "treatment" to these tanks thereby acknowledging that the tanks cannot be designated as ancillary which designation DOE is currently attempting to use. Many of the PEWE tanks and service pipe lines are old and do not meet RCRA standards both in terms of containment but also daily inspection accessability requirements. DOE is attempting to avoid RCRA permitting requirements by classifying tanks and service pipe lines as ancillary equipment and thus exempt. (INEEL Hazardous Waste Management Act Work Plan 6/6/2000 page A3&4).

3. DOE is arbitrarily shifting operational units to avoid compliance.

DOE is trying to remove active hazardous waste treatment units from the hazardous waste treatment process category and shift them to the ancillary and/or off-gas category which does not have the strict RCRA operational requirements. For instance the active PEWE VES-WL-132 removes suspended solids from the evaporator feed. The tank contains heating coils and lifting lugs, such that when the tank is full, it can be removed from the cell via crane for disposal. DOE contends incorrectly that the RCRA Part A can be modified to delete this tank from the T01 treatment category. (DOE/ID Justification RCRA Part A Permit Modification Request INTEC Process Equipment Waste Evaporator System Tank VES-WL-132).

Another report (Determination Report for Tanks included in Voluntary Consent Order Action Plan Site-Tank -004, 9/29/99) identifies 37 INTEC units actively involved in mixed hazardous waste treatment/storage that DOE wants to shift over to the ancillary category. Six of these tanks are related to the PEWE and LET&D. DOE is improperly trying to classify the LET&D effluent tank as a "nitric acid product storage tank" for the NWCF and thus not a RCRA controlled unit. Approximately twenty-eight other units which DOE is trying to delist as non-RCRA units are connected to the PEWE/LET&D off-gas system. The underlying reason DOE is trying desperately to change to the ancillary category is because "These units are in locations where daily visual inspections can not be performed" due to high levels of radioactivity. These units cannot comply with RCRA requirements for daily inspection.

The total number of waste tanks associated with the PEWE is over fifty, many of which date back to 1953. (See Attachment B, PEWE Related Tank List). The PEWE tanks have been the subject of Notices of Violations since at least 1996 and recently 8/2/99 for failure to monitor tank leak sumps. (NOV-8/2/99). The fact (established by IDEQ) that the PEWE tanks can not be inspected or monitored because they are so highly radioactive and thus preclude anyone going in, adds to the risk that a criticality accident could occur. An internal INEEL report states:

> "The PEWE collection tanks do not empty from the bottom and in fact a minimum level is maintained in the tanks to avoid the possibility of a nuclear criticality occurring. This is required by the DOE Orders (and corresponding facility technical specifications) implementing the Atomic Energy Act. By maintaining an acidic heel in each tank, uranium material is sufficiently diluted so that a nuclear fission chain reaction will not commence or sustain itself."(Letter to B.R. Bowhan, DOE/ID 4/28/92 from R.S. Rothman, WINCO)(PTG-6-92 pg. 4).

Suspended transuranic elements such as plutonium extracted by the Atmospheric Protection System (APS), and other waste feed sources, and sent to the PEWE as suspended solids are further concentrated in the PEWE evaporator bottoms. Therefore the PEWE bottoms tanks are a ***criticality hazard*** because of the confined geometry of the tanks. The HLW/EIS also lists the PEWE tank as a criticality hazard [DOE/EIS-0287D, 5-206).

The PEWE is an old and complex system located in at least three separate buildings, and DOE has yet to document that all the components (including the connecting pipes and off-gas emission control system) are compliant with 40 CFR 265.193. The building in which the PEWE is located was built in the 1950s. Upon information and belief, the building has been so bombarded with heat and radiation that the concrete in the building is in a state of disintegration and chunks.

of concrete break off. The building cannot qualify as a containment building. Despite the deteriorating condition of the PEWE facility, the DOE HLW/EIS envisions the continued use of the PEWE facility through the year 2035 as a high level liquid waste treatment facility. (DOE/EIS-0278D pg. C.6-37) It is doubtful that the engineered design life for the PEWE facility was originally envisioned for an eighty-five year operational period (fifty years to date plus an additional 35 years in the future).

4. The PEW discharges its wastes to other unpermitted, illegally operating facilities such as the Liquid Effluent Treatment and Disposal (LET&D) facility and the Tank Farm.

The LET&D is an integral functioning part of PEWE operations. The LET&D has no RCRA permit and lacks interim status. The LET&D is not included in the Part B Application for the PEWE. Assuming the PEWE were RCRA permitted (which it is not) it would be a violation of RCRA for the PEWE to send RCRA waste to the LET&D as a non-compliant RCRA facility. A similar lack of permit status and the same results exist for the tank farm which receives wastes from the PEWE and the LET&D.

The LET&D operates without a RCRA permit. The LET&D lacked the contractual commitments to qualify for legal existence prior to the statutory cut-off date necessary for a facility to receive interim status under RCRA. The LET&D therefore has lacked interim status and operated without a RCRA permit. The Tank Farm operates without RCRA permits. The PEWE, the LET&D and the Tank Farm were identified by the DOE in 1996 as "unpermittable." (Attachment E).

The LET&D has evaporators located in CPP-1618. Evaporators are high temperature thermal treatment devices. (See discussion below). As of 1/30/99, no request for interim status had been submitted for the LET&D evaporators. (INEEL RCRA Permitting Point of Contact (POC) Matrix, p. 2.)

The DOE is attempting to define the LET&D as a "reclamation" unit. The LET&D is not a reclamation unit which recycles wastes but functions to remove condensates from the PEWE and send them to the tank farm.

The LET&D was constructed because regulators objected to the high-levels of hazardous and radioactive waste going directly from the PEWE to the percolation ponds. DOE built the LET&D to reduce the nitric acid contaminant loading on the percolation ponds. At the time of construction of the LET&D, the DOE had not resolved issues with respect to Land Disposal Restrictions (LDR) which were in effect. Wastes subject to LDR prohibitions were generated by the LET&D construction and start up activities. The activities included installation of mixers in the PEW condensate collection tanks, operation and cold testing, wash down of the main stack and associated sampling, and related construction, maintenance and support activities. DOE went ahead with the LET&D Acid Recycle Project which was also in conflict with Land Disposal Restrictions. (7/13/92 LDR Interpretation Request (AM/SES-ESD-92-260) and 7/2092 Letter of Orville Green Re: Request for a DEQ Concurrence on Operation of LET&D).

C. PEWE Is A Thermal Treatment Facility But Has Been Incorrectly Defined by Regulatory Agencies As A Tank Treatment Unit.

The DOE and IDEQ have defined the PEWE as a tank treatment unit (see EPA form 8700-23 in RCRA permit application) because the agencies know the PEWE cannot comply and fulfill RCRA permit requirements as a thermal treatment facility. The IDEQ and the DOE are lowering permit requirements as a way to keep the PEWE operating despite its illegality.

The use of high temperature heat treatment devices is by legal definition thermal treatment. (40 CFR 261.10). Under the definition provided by 40 CFR § 261.10 the PEWE is a thermal waste treatment unit because the PEWE is using evaporators to treat hazardous and high-level radioactive waste using elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste.

Without allowing notice or opportunity for any public comment on the legal "definition" to be applied to the PEWE, in 2000 the IDEQ agreed with the DOE in an unnoticed, secret meeting to define the PEWE as "Tank Treatment." The DOE and IDEQ represented publicly, however, that the PEWE was to be in the category of a T04 facility.. The T04 category is not correct definition for the PEWE.

The process codes T01/T04 do not exist nor correlate with the process codes required to be utilized under 40 CFR 264 Appendix I. The EPA Process Code utilized (on EPA Form 8700-23) the code of T01 for the PEWE and T04 for the LET&D. T01 process code for the PEWE indicates that the process utilized by the PEWE would be ***tank treatment***, which is as preposterous as it is clearly erroneous given that DOE repeatedly stated in the 9/29/99 "Determination Report for Tanks in Voluntary Consent Order Action Plan Site-Tank-004" that the PEWE is a ***thermal treatment*** unit. The PEWE should instead be classified under Evaporator (40 CFR § 1202 Appendix as T57 or as X03 (Thermal Unit under Subpart X).

40 CFR § 265 Subpart P should instead be applied to the PEWE since Subpart P covers facilities that thermally treat hazardous wastes in devices other than enclosed devices using flame controlled combustion. Since the PEWE releases solid or hazardous wastes into the atmosphere, the PEWE is not a totally enclosed treatment unit and meets the definition of a thermal treatment device.

By applying the incorrect definition of tank treatment unit to the PEWE, the DOE and IDEQ are attempting to circumvent the stricter permit requirements pertaining to the PEWE as a thermal treatment unit necessary to the protection of the public health and safety. Once again IDEQ and DOE are lowering the legally applicable RCRA standards in order to facilitate RCRA permitting. <u>Improper use of process designation on the EPA process codes and design capacities form constitutes an application which is false, and does not comply with the RCRA requirements for furnishing information reasonably required to process the PEWE application.</u>

With respect to the PEWE, IDEQ and the DOE are continuing a prior history of defining facilities at a lower standard of protection for the public health and safety to avoid more stringent RCRA permitting requirements. For example, the NWCF Calciner was defined as a "thermal treatment unit" instead of as an "incinerator" to avoid the more stringent RCRA requirements of 40 CFR 264 Subpart O necessary to permit and operate the Calciner as an incinerator.

Additionally, IDEQ sacrificed public health and safety by allowing the Calciner to process inorganic waste in violation of 40 CFR § 268.3 which prohibits combustion of the hazardous waste codes listed in Appendix XI of that part. Those codes include, but are not limited to prohibition of combustion of waste that resulted in emissions from the Calciner of toxic wastes such as: arsenic, barium, beryllium, cadmium, chromium, lead and mercury.

1. A Combustion technology is Required for the Treatment of F-listed Wastes. PEWE Treats F-listed Wastes, But PEWE Is Not a Combustion Technology. As an Evaporator, the PEWE Is Not Qualified to Treat F-listed Wastes with EPA Hazard Waste Code Numbers F-001, F-002, F003, and F-005. Trial Burns are Required Prior to Treatment of F-listed wastes.

The "F listed" wastes include groups of spent halogenated solvents, and non-halogenated solvents for which EPA Universal Treatment Standards ***require dedicated combustion technology as the only approved treatment.*** F-listed wastes generated by laboratories and other INEEL sources are thermally treated in the PEWE. Treatment of F-listed wastes requires that the PEWE comply with the standards and procedures in 40 CFR 265.383. (40 CFR 265.1 (d)(v)).

DOE must demonstrate compliance with 40 CFR 264 Subpart O when it treats F-listed wastes. 40 CFR § 265.383 requires certification from the Assistant Administrator for Solid Waste and Emergency Response that the performance standards of Subpart O of Part 264 can be met containing the information required in Secs. 270.19 and 270.62. Trial burns are not planned and have never been conducted under restricted conditions, in violation of 40 C.F.R. § 270.62.

DOE's RCRA Permit revision #19 (4/99) lists the PEWE waste codes that include 128 individual hazardous waste processed by the PEWE (See Attachment A). This list of waste codes also identifies five "F code" waste solvents in the PEWE waste stream. The "F list" and the other listed waste codes processed by the PEWE do not meet the Universal Treatment Standards in 40 CFR § 268.40.

Evaporators are the worst possible "treatment" for F-listed wastes because the volatile organic compounds (VOC) and radionuclides go out the stack untreated. That is why EPA requires dedicated <u>combustion units</u> or <u>carbon absorption</u>, <u>chemical oxidation</u> or <u>wet air oxidation</u> to destroy the VOC's. Appropriate <u>off-gas scrubbers/resin filters</u> which are not utilized by PEWE operations, are necessary to remove the products of incomplete combustion (PIC). The HEPA filters used for PEWE off-gases only remove the larger particulate material in the off-gas.

2. PEWE RCRA Part B Application states that (Section D, p. 5 &25):

"The temperature of the evaporator liquid is controlled below 110 degrees Celsius. At higher temperatures (i.e., 125 degrees Celsius) it is possible to form unstable chemical compounds." (P. 5)

"To prevent the possibility of organic ignitable vapors in the PEWE, the PEWE Waste Acceptance Criteria (WAC) establishes an ignitability limit for wastes that are discharged to the PEWE system. The main source of organic was fuel reprocessing in the CPP-601. Fuel reprocessing is no longer performed at the INTEC." (P. 25).

These statements are an admission that sufficient concentrations of volatile organic compounds exist in the PEWE throughput, which poses a significant hazard of flash point/explosion if the PEWE temperatures exceed the threshold temperature of 110 degrees Celsius. The fact that the PEWE is processing high-level waste with high-levels of volatile organic compounds (VOC) from previous reactor fuel reprocessing, directly contradicts DOE's above claim that VOCs are no longer a hazard because "fuel reprocessing is no longer performed." Moreover, the DOE plans to restart spent nuclear fuel reprocessing to extract plutonium for the NASA program in addition to plans to reprocess for commercial power reactors. DOE has an obligation to include foreseeable future PEWE throughput into the Permit.

(See discussion above regarding improper treatment of waste codes by the PEWE.)

D. Failure to characterize PEWE Waste Feed and Monitor PEWE Emissions.

The PEWE emits hazardous, highly toxic wastes into the atmosphere. The mixed hazardous high-level radioactive wastes in the Tank Farm Facility are pumped to the PEWE. The Tank Farm Facility, the Deep Tank wastes and other INEEL laboratory facilities' wastes which feed the PEWE have never been adequately characterized as required by RCRA. The wastes vary highly from tank to tank as well as within the individual tanks depending on the depth of the strata from which the wastes are drawn. Wastes from varying tanks are mixed together in the pipes which feed wastes to the PEWE feed tanks.

The PEWE permit application suffers from the same deficiencies as the Calciner and other high-level radioactive and hazardous waste treatment operations due to the fundamental inability and/or refusal of DOE to monitor what goes out the stack. For example, stack air monitors for radioactive iodine which vents from operations at the PEWE and other high level waste treatment operations were turned off for several years by the DOE. (See <u>Mock/Lebow v Lockheed</u> para. 377. See also, Carlos Tellez Air Legacy Issue Notegram, July 25, 1996). The high-level waste treatment operations, such as the High-level Liquid Waste Evaporator, PEWE, and the Liquid Effluent Treatment and Disposal (LET&D) are all tied to the same problematic, storage tank, emission control, and monitoring systems.

The evaporation of wastes by the PEWE evaporators is not an RCRA approved treatment for high level liquid waste (HLLW) under the Environmental Protection Agency's (EPA) Universal Treatment Standards. (40 CFR 268.40). Moreover, as previously discussed, this may be the last "treatment" this waste receives before being permanently grouted in the High-level Tank Farm.

1. PEWE Operates Illegally Because The Wastes Treated Have Not Been Characterized Prior To Treatment Of Those Wastes

40 CFR § 265.375 provides that waste analyses are required by § 265.13. Subpart 265.13 requires that "***<u>Before</u>*** an owner or operator treats, stores, or disposes of any hazardous waste...he must obtain a detailed chemical and physical analysis of a representative sample of the wastes... in accordance with this part and part 268 ..." (Emphasis supplied). DOE has not complied with this section regarding prior waste analysis and is thus illegally operating pursuant to interim standard

requirements.

40 CFR § 265.377 sets forward monitoring and inspection requirements with which the PEWE is not in compliance and is illegally operating pursuant to interim status requirements.

2. DOE Has Known of and Knowingly Failed to Comply with the Requirements of 40 CFR § 265.1032 (Subpart AA for Process Vents) Since at Least 1994.

The 9/29/94 Notegram of T.L. Carlson regarding ICPP Radioactive Liquid Waste Management (TLC-07-94) by Westinghouse Idaho Nuclear Company (WINCO) acknowledged that the waste feed to both the PEWE and LET&D exceeded regulatory limits. This acknowledgment conflicted sharply with the 2/15/94 submission to the EPA of the 1993 WINCO President W. C. Moffit Hazardous Waste Report assertion that information about operations at INEEL was "true, accurate and complete."

The Carlson Notegram stated:

"Under 'Standards: Process Vents' found in Subpart AA of RCRA Part 265 (265.1032), interim status [Treatment Storage Disposal] TSD facilities with process vents associated with 'distillation, fractionation, thin-film evaporation, or...air stripping operations managing hazardous wastes with organic concentrations of at least 10 ppmw' are required to reduce organic emission to 3 lb/hr and 3.1 tons/yr, or by the 95% using a control device. **Based on historical data and recent analytical results for PEW evaporator overhead condensate (LET&D) feed, it appears that the feed to both the PEW evaporator and the LET&D fractionator exceeds 10 ppmw organic (measured as total organic carbon, or TOC, per EPA).**" [pg 5 - 6]. (Emphasis supplied).

"When waste was being discharged to the radioactive liquid waste management system....characteristics of the waste were not verified.... and analytical results should be obtained demonstrating that the waste meets the associated waste acceptance criteria (it may or may not be the PEW-CRM chloride limit..." [pg2]

"ICPP receives (at CPP-1619) bulk shipments of wastes from INEL facilities including TRA and PBF for treatment in the PEW system." "Although the [Waste Management Authority] WMA approves these shipments, little knowledge, if any is available on how representative the samples are of the waste present in the tanks." [pg 3-4]

"TOC [total organic carbon] analysis of these [PEW & LET&D] samples, in combination with process flow data for the units at the time the samples are taken, should allow us to calculate air emissions by mass balance. Depending on our findings regarding organic emissions from the PEW evaporator and LET&D fractionator, further actions may be necessary to demonstrate compliance with Subpart AA." [pg. 6]

Although the Carlson Notegram discussed steps to be attempted to "develop a rough estimate of the emissions based on chemical usage at ICPP" the steps were not taken. In a "Memorandum regarding 12/20/94 Meeting" (p. 6) between DOE and DEQ, Mr. Birrer (DOE) "stated DOE will submit the AA/BB packages for the Calciner, PEW System, and the LET&D for DEQ-OPB review during the permitting process." A 1/31/97 Lockheed Inter-department Communications indicated that three years later there still were not procedures in place to track waste materials. The WINCO pilot project for an electronic data collection system to set up tracking of new waste generated by the NWCF, which includes the PEWE to resolve this issue was not continued by Lockheed Martin International Corp. (LMITCO). [pg 1]

The fact that as of 1998 the compliance with Subpart AA did not exist is shown by the March 2-3, 1998 Quarterly Meeting Minutes which stated:

> "A concern regarding the ICPP was discussed regarding the volatile and semi-volatile properties in the liquid being processed and in the off-gas as a result of the process. The off-gas and liquids of the ***thermal treatment units*** (PEWE, LET&D, NWCF and NWCF ETS) will be sampled routinely." (Emphasis supplied).

In other words, no sampling had begun by 1998.

3. Waste Characterization, Tracking, Verification Requirements for ICPP Radioactive Liquid Waste Management System.

The WINCO electronic data collection system set up track new waste generated by the NWCF which includes the PEWE to "resolve this issue and that WINCO had funded a pilot project; however, the project had not been continued by LMITCO." Lockheed Inter-department Communications 1/31/97, p. 1):

> "Waste characterization, tracking, and verification requirements for ICPP Radioactive Liquid Waste Management System"[attachment to Carlson memo] were/are inadequate. There were no means in place for verification of what waste was entering their treatment system:
>
> "Currently, our analytical chemistry laboratories inspect samples received from off-sites, and are in the process of revising the project checklist to include a block documenting that an off-site sample has been verified. Any other samples or wastes received from off-site, including the IRC bioassay waste, also need to be inspected with appropriate documentation. [TLC-07-94, pg 2 & 3]

4. INEEL's Environmental Compliance Inventory Report further reveals the inadequacy of waste characterization and inadequate data to determine INEEL facility compliance with radiological emission requirements and states the following:

> "Adequate characterization of wastes discharged to WG/WH PEWE Feed tanks is not being documented in the operating record. The [Waste Management

Authority] WMA does not approve discharge of unused samples or spent samples until after results are obtained. The [CPP] Lab does not forward results to the [Waste Management Authority] WMA to ensure that the WG/WH [tank] waste acceptance criteria are met." (pg. 2.2-24) (See also, Attachment B for listed WG/WH tanks]

"CPP Labs: There is concern over the management of hazardous liquids generated during the analytical processes. Currently, liquids are collected in ~1 gal jugs and transferred to the [Temporary Accumulation Area] TAA or discharged to the PEW at the end of a shift. The removal of the hazardous material from the 1 gal jugs is not documented at the end of the shift. In addition, it needs to be determined if the 1 gal jugs should be managed as [Satellite Accumulation Areas] SAAs or if they are considered part of the analytical process." [p. 2.2-36]

"CPP SAAs; Wastes located within the tank farm, PEW, LET&D and NWCF carry numerous acutely hazardous EPA codes. Satellite Accumulation Areas (SAAs) used to accumulate waste in these areas and possibly laboratory areas typically exceed 1 kilogram." [p. 2.2-37]

"CPP Hazardous Waste Training; Maintenance personnel conducting repairs, replacement or removal operations within a [treatment storage disposal facility] TSDF do not have documentable training (i.e. pre-job briefings) relating specifically to hazardous waste management. ...A review of the work orders did not reflect adequate training for hazardous waste management specific to the activities proposed." [p. 2.2-39]

"CPP Interim Status; The Part B Permit Applications are being used as Interim Status documents at the CPP. However, not all active Interim Status Units are addressed in the Part B Applications. [pg. 2.2-20]

"Sample Management; Management of analytical samples is not in full compliance with RCRA in terms of performing solid waste determinations, hazardous waste characterization, and timely disposition." [p. 2.2-1]

"CAA Issues; The INEL has not defined the requirements and responsibilities for determining and reporting actual annual radiological releases. This activity is primarily performed by Environmental Affairs personnel at year end. Few INEL facility personnel take an active role in evaluating actual releases, and a number of facilities take no action during the course of the year to ensure adequate data is available. This results in Annual INEL Dose estimates which are of questionable accuracy." [p. 2.1-8]

"CPP Labs; The general concerns and issues noted included the following: expired standards, unlabeled containers with materials, samples without log numbers, expired reagents, storage of used sample bottles, housekeeping and undated samples." [p. 2.2-41]

"CPP 604; Due to the number of drain lines leading to the PEW System, there is concern that wastes are discharged to the system without characterization or approval..While wastes are received in a tank and the tank is sampled prior to batch discharge to the PEW, not all wastes going to the tanks have characterization data." [p. 2.2-46]. (Environmental Compliance Inventory of the INEL, Volume I ECI Results December 1996, INEL-96/0389, Lockheed Martin).

5. DOE Headquarters Enforcement Notices Indicate Absence of Adequate Air Emission Monitoring at INTEC Main Stack.

DOE Headquarters Office of Enforcement and Investigation issued a Noncompliance Report to Lockheed Martin in August 4, 1998 that: addresses *a repetitive problem of maintaining the operability of radiation monitoring instrumentation* and systems referenced in nuclear facilities authorization basis documents." Specifically, the report states that the "Idaho Chemical Processing Plant (ICPP)... flow instrument for online stack monitor was removed from service without verification that other system was on line." [NTS-ID-LITCOSITEW-1998-001]
In October 1999, Bechtel BWXT Idaho assumed operation of INEEL.

The noncompliance issues identified under Lockheed management remained uncorrected. DOE issued another Enforcement Letter on December 7, 2000, this time to Bechtel, noting that "Two of the Noncompliance Tracking System reports involved specific events that occurred before October 1, 1999, when BBWI began operation INEEL but was responsible for implementing corrective actions. The remaining three reports involved programmatic breakdowns that continued to occur after BBWI assumed contractor operator status at INEEL."

E. The PEWE Part B Application is Not a Good Faith Application Submittal and Piecemeal Submissions of Applications Are Not Appropriate under RCRA

The IDEQ and the DOE are again using the stratagem of a sham application submittal to create the appearance of legitimate waste processing at the PEWE despite the knowledge of both agencies that PEWE: 1.) has no interim status; 2.) no permit; 3.) the wastes being processed by the PEWE have not and possibly cannot be adequately characterized; 4.) emissions are inadequately monitored; 5.) that the PEWE cannot comply with RCRA thermal treatment standards; 6.) processes inappropriate hazardous wastes; and 7.) the public cannot be protected. No good faith Part B Application for the PEWE has been submitted or shown to the public for its consideration under the RCRA Expanded Public Participation Rule.

As previously cited, DOE's internal INEEL Environmental Compliance Inventory Report admits that: "The Part B Permit Applications are being used as Interim Status documents at the CPP. However, not all active Interim Status Units are addressed in the Part B Applications." (Environmental Compliance Inventory of the INEL, Volume I ECI Results December 1996, INEL-96/0389, Lockheed Martin). [pg. 2.2-20]

RCRA requires that operating a hazardous waste facility requires a permit. (42 USC § 6925). RCRA required that all interim status hazardous waste facilities must have a permit or close by Nov. 8, 1992. (42 U.S.C. § 6925 (c) (2) (B) and (C)). 40 C.F.R. § 264.1 (a) states that RCRA interim status does not constitute a permit.

Any permit issued under 42 U.S.C. § 6925 (c) was to be issued "for a fixed term, not to exceed 10 years in the case of any land disposal facility, storage facility, or incinerator or other treatment facility." EPA and IDEQ have allowed PEWE, LET&D, and Tank Farm Facility units to run on interim status far longer than could be allowed even if the units had been fully permitted under RCRA.

Interim status requires the filing of a two-part (Part A and Part B) application by certain dates. (40 C.F.R. §§ 270.10 (e) (4), 270.73 (f)). 40 C.F.R .§ 270.73 (b) provides for termination of interim status as provided in 40 C.F.R. § 270.10 (e) (5). Part B of an application must be filed before a permit can be issued. 40 C.F.R. § 270.10 (e) (5) provides that the failure to furnish the information necessary for the Part B application in full or on time is grounds for the termination of interim status. Part B of the application consists of general information requirements and specific information requirements of 40 C.F.R. § 270. These requirements are important with respect to public health and environmental safety and are necessary in the application for the EPA to be able to determine whether 40 C.F.R. § 264 standards have been met.

EPA and IDEQ have allowed the use of interim status to circumvent the RCRA permit process where a hazardous waste unit cannot qualify for a RCRA permit. On 4/26/96 as part of the Part B Permit Application for the NWCF (Calciner), the DOE admitted to IDEQ that the Calciner along with numerous other units at INEEL were "unpermittable" facilities. IDEQ was informed of this fact by a memorandum which it received from DOE on 4/26/96 when DOE furnished IDEQ notice of units that were deemed "unpermittable" under RCRA. The 4/26/96 DOE memorandum is proof that additional units at the INEEL also were unpermittable, including, but not limited to: the CPP 603 Storage tank; CPP 604 PEW Evaporators; CPP 604 Tank Farm Tanks; the CPP 659 NWCF Evaporator Tank System, the NWCF Storage and Treatment Tanks (VES-NCC-101, -102, -103, -108, -109, & -122; the CPP 1618 LET & D Evaporators; the Calcined Solids Storage Facility; and the ICPP Tank Farm. (See true and correct copy attached as Attachment F).

The IDEQ and DOE have previously proffered Part B applications to provide the apparent legitimacy of a pending application to keep other illegal facilities at INEEL operational. Between 1980 and 2000, twenty-four RCRA Part A & B revisions have been submitted for INEEL. [INEEL HWMA/RCRA Part A Permit Application, January 2000] . The same stratagem was used to keep two unpermitted facilities operating, the Waste Experimental Reduction Facility (WERF) and the New Waste Calciner Facility (NWCF). Both DOE and IDEQ knew years prior to the submission of Part B Applications for the WERF and the NWCF, that neither facility could fulfill RCRA Part B permit requirements, especially the waste characterization and trial burn requirements. The WERF and NWCF Part B applications were submitted as a strategy to continue operations at these two facilities which had both been designated as "unpermittable" units in 1996 and kept on a supposed "interim" operation status. "Interim status" operation of hazardous waste facilities expired under RCRA in 1992.

F. The PEWE Part B Application is a piecemeal submittal to IDEQ which neither contains sufficient information to allow public comment nor for a regulatory agency such as IDEQ to make a decision whether to approve or deny the permit. DOE is required to submit a complete RCRA application for consideration.

The PEWE RCRA Part B pre-application notice and meeting denied the public information which the DOE had available. The DOE had already presented Sections D and F of the application to the IDEQ. Despite public requests, DOE refused to provide the public with copies of these parts of the application and failed to provide any reasonably adequate descriptions of the Part B application to the public. The public was informed at the pre-application meeting that a Freedom Of Information Act request would have to be submitted to obtain Sections D and F. The public could not know what the DOE planned with respect to the PEWE and thus the public was denied reasonable opportunity for comment. The DOE knew well in advance of the pre-application meeting what its plans for the PEWE were and secretly met with the IDEQ to discuss those plans and incorrectly define the PEWE. DOE submits less than complete applications to the IDEQ instead of complete applications. The IDEQ fails to require a repository for the information and the public cannot keep abreast of the issues involved in the permit application.

Attorney David McCoy was informed on 5/10/01 by a DOE representative that the DOE intends to add the High Level Liquid Waste Evaporator (HLLWE) to the PEWE Part B Application after the PEWE Part B Application is submitted in its entirety in July 2001. The DOE presented no such information to the public in its preapplication notice or public meeting for the PEWE Part B. The addition of the HLLWE to the Part B Application would create a substantially different permit application. The DOE is continuing to use piecemeal submittals to avoid public scrutiny of what is actually planned for hazardous waste treatment and disposal in Idaho. Environmental justice concerns of the RCRA expanded Public Participation Rule are knowingly flouted by DOE. The public is entitled to full disclosure of DOE's plans with respect to the PEWE and related facilities.

G. Many Tanks and Vessels integrally associated with the PEWE are not compliant with RCRA permit requirements, are structurally inadequate, lack secondary containment, exceed design life, and have been inappropriately omitted from the PEWE RCRA Part B Application.

Attachment B lists what is currently publicly known about the tanks and vessels related to the PEWE system. Of the more than fifty-four currently known PEWE feed and effluent tanks:

- Twenty-eight are not identified and/or characterized in the RCRA Part B Application.
- All fifty-four tanks lack fully qualified RCRA secondary containment.
- Forty tanks have no known structural certification, that includes static, seismic, and caustic resistance.

- Some of the more ludicrous claims DOE makes for RCRA secondary containment are forty-year-old epoxy sealants, mere drip pans, high pressure waste line "troughs" to qualify for stringent RCRA containment criteria.
- An unknown but significant number of tanks have already exceeded their design life.
- Numerous tanks have been in service since the early 1950's, far exceeding their design life. Yet DOE wants to continue this system indefinitely without requisite analysis of the individual components physical status.

II. National Environmental Policy Act Violations

The above ongoing violations represent not only a willingness on the part of DOE and its regulatory overseers EPA and IDEQ to default on their statutory obligations, but also it presents a serious and immediate environmental risk that our environmental laws are intended to avoid.

NEPA requires federal agencies to evaluate the environmental impacts of all major federal actions significantly affecting the quality of the human environment. (42 U.S.C. § 4332 (2)(c)). Continuing PEWE operations along with the other non-compliant operations in the overall high-level waste (HLW) program is, in addition to violation of RCRA, also a violation of the National Environmental Policy Act (NEPA).

A. The public has not been provided any environmental analysis for the PEWE and its operations by either the 1999 High Level Waste/ Environmental Impact Statement (HLW/EIS), the 1994 Site Wide INEEL Environmental Restoration and Waste Management Programmatic EIS, or by any environmental analysis under RCRA.

The High Level Waste/ Environmental Impact Statement offers only a few dozen words spread over four different sections on the PEW's evaporators. No listing for the PEWE even exists in the HLW/EIS index. A fundamental flaw in the HLW/EIS is failure to provide the substantive analysis of all the interrelated systems for the PEWE and their cumulative effect on the environment.

The "functional equivalence test" requirement for RCRA to meet the substantive requirement in NEPA also has not been met. There is no holistic analysis of the cumulative impacts of the PEWE and joint facilities operation, because the IDEQ and DOE's approach to permitting the PEWE is to separate it out as a facility unrelated to the facilities whose wastes the PEWE processes. The PEWE operations are physically connected via waste transfer pipes and ducts to other operations and there must be an analysis of the connected operations in order to determine whether the joint effects of the connected operations may be significant.

B. No analysis of the cumulative environmental and public health impacts of all ongoing thermal treatments operations has ever been performed at the INEEL. (RCRA Quarterly Permitting Meeting Minutes, 11/16/95, p. 4).

The connected action analysis is required even if the environmental effects of the proposed action are not significant. (We argue the effects are significant). No consideration of appropriate alternatives to exhausting massive amounts of toxic chemicals into the atmosphere from PEWE operations and other thermal treatment operations at INEEL has been considered. Nor have alternatives been considered to the dumping of massive amounts of toxic liquid wastes into the sole source aquifer via percolation ponds and injection wells been considered. The HLW/EIS does not contemplate alternatives or cumulative effects from the proposed PEWE operations.

IDEQ and DOE fail to acknowledge that PEWE operations are physically connected by pipes, ducts, and tanks, and therefore all operations must meet regulatory requirements and also must be permitted collectively. The failure of IDEQ and DOE to include non-RCRA units in the PEWE Part B Application demands that a closure plan must be submitted for the non-RCRA approved units and immediately implemented to assure the public that the old "unpermittable" units will not be surreptitiously used.

Since its operation, the PEWE and related facilities have experienced numerous accidents and safety failures and have posed serious threats to human health and safety. (See Attachment C for an outline of these incidents).

C. The NEPA process additionally obligates the DOE to demonstrate full compliance with all policies, regulations and public laws which DOE has failed to provide for the PEWE. (42 U.S.C. § 4332).

The PEWE is also in violation of the interim status regulations which are intended to protect human health and the environment pending the approval or denial of an application under RCRA. (40 C.F.R. § 264). For example, the DOE admitted in its January 2000 Emissions Inventory that it is unable to characterize the offgas and process solid and liquid streams as required under 40 C.F.R. §§ 264, and 265. DOE is not performing continuous real time monitoring at the PEWE. DOE is not monitoring for particulate emissions, including alpha emitters such as plutonium and volatile organic compounds from PEWE emissions. Monitors have been turned off or are destroyed by the toxic and corrosive stack gasses. The wastes from the feed tanks to the PEWE have not been sufficiently characterized. (Attachment to 9/29/94 T. L. Carson ICPP Radioactive Liquid Waste Management. See also, March 2 and 3, 1998 Quarterly Meeting Minutes, p. 2 & 3-- unresolved issues of "F-listed wastes, volatile and semi-volatile compounds in the liquid waste processed in the PEWE and LET&D, and unresolved characterization of wastes in tank farm facility.)

Other violations of 40 C.F.R. § 265 include, but are not limited to: (1) trial burns are not planned and have never been conducted under restricted conditions, in violation of 40 C.F.R. § 270.62); (2) waste feed to the PEWE was not monitored to see if it was within physical and chemical composition limits specified by a permit; (3) in violation of 40 C.F.R. § 264.345 (b) (3) no treatment of principal organic hazardous constituents to the standard for each waste feed to be burned, in violation of 40 C.F.R. § 264.343 (b)(1); (4) no assurances as to design, construction and maintenance so that, when operated in accordance with operating requirements specified under 40 C.F.R. § 264.345; (5) no strict monitoring of the stack emissions.

Given the ongoing violations and inability to comply with RCRA, the incomplete, piecemeal PEWE permit application can in no way be considered as having met the functional equivalency test for satisfying the NEPA.

III. Clean Air Act

The DOE is in violation of the standards of the Clean Air Act, 42 U.S.C. § 7401 *et seq.* 40 C.F.R. Part 61, Subpart A- General Provisions and 40 C.F.R. Part 61, Subpart H - National Emission Standards for Emissions of Radionuclides Other than Radon From Department of Energy Facilities - apply to any facility owned or operated by the DOE that emit any radionuclide other than radon in the air.

40 C.F.R. § 61.92, provide that emissions of radionuclides to the ambient air from DOE facilities shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/year. The standards, at 40 C.F.R. § 61.93, prescribe the required emission monitoring and test procedures to be followed. At 40 C.F.R. § 61.94, the standards set out the compliance and reporting requirements, including a requirement that an annual report containing the monitoring results shall be submitted by each facility by June 30. The annual report must be certified as true, accurate and correct by the public official in charge of the facility. DOE at the INEEL facility has been and continues to be in violation of all the standards set out above.

The standards, at 40 C.F.R. § 61.05 (c), require that "ninety days after the effective date of any standard, no owner or operator shall operate any existing source subject to that standard in violation of the standard, except under a waiver granted by the Administrator under this part or under an exemption granted by the President under Section 112 ©) (2) of the Act." 42. U.S.C. § 74122 (I)(4), 1990 Clean Air Act Amendments. INEEL has been operating in violation of the relevant standards for far in excess of ninety days after the effective date of the standards delineated above, without either a waiver from the Administrator or an exemption from the President. INEEL is not entitled to either a waiver or an exemption.]

The PEWE fails to comply with the CAA's National Emission Standards for Hazardous Air Pollutants (NESHAPs"). 40 CFR § 61.01 lists pollutants which require monitoring, compliance, and operating permits for stationary sources, such as the PEWE, which emit these pollutants. The listed substances have serious health effects, including cancer, from ambient air exposure to the substances. The EPA waste codes for the PEWE (Attachment F lists 128 RCRA controlled wastes) show that the PEWE emits pollutants which are listed in § 61.01, including, but not limited to, Arsenic, Cadmium, Mercury, Nickel, Carbon Tetrachloride, Chlorinated Benzines, Chloroform, Trichloroethylene and Radionuclides such as radioactive Iodine (see below).

A. The PEWE uses INTEC Main Stack CPP-708 to vent emissions.

There are no descriptions in the NESHAP Report (1998 INEEL National Emission standard for Hazardous Air Pollutants-Radionuclides Annual report June 1999, DOE/ID-10342(98)) of the actual monitoring instruments and how they operate, calibrating frequency, or any methodology on emission data collection or quality assurance process. There is no definition of what "continuous monitoring" means or for what specific hazardous/radionuclide contaminate is exiting the Main Stack.

The monitoring requirements of 40 CFR §§ 61.14 and 61.94 have not been met for the PEWE. Monitoring systems have not been installed for the various PEWE effluents which are subject to the Part 61 standards. Even assuming that a mass emission standard applies for the INEEL, the proper monitoring systems are not in place for the effluents from all the other INEEL sources which are subject to Part 61 standards.

a. INEEL has failed to evaluate every release source from an operation which uses radionuclides by using the approved EPA computer model to determine doses received by the public, as required by 40 C.F.R. § 61.93(a).

b. INEEL has failed to carry out a comprehensive inventory of release points necessary to identify each point that has the potential to deliver more than 1% of the effective dose equivalent standard, as required by 40 C.F.R. § 61.93(B)(4). The evaluation of emissions potential is to be performed by estimating the dose without taking any credit for any emission controls on the effluent stream. The results of this modeling are needed to determine which release points must be monitored continuously, in compliance with § 61.93(b), and which release points must be monitored periodically to confirm continuing low emissions.

c. INEEL has failed to install stack monitoring equipment on all its regulated point sources, in accordance with 40 C.F.R. § 61.93.

d. INEEL has failed to conduct and comply with the appropriate quality assurance programs, pursuant to 40 C.F.R. § 61.93(b)(2)(iv).

e. INEEL has not adhered to the "compliance and reporting" requirements. It has failed to calculate the highest effective dose equivalent in accordance with the standards described in subparagraphs (a) through (e) above, and as required by 40 C.F.R. § 61.94.

f. INEEL has failed to file a true, accurate and complete annual report, as required by 40 C.F.R. § 61.94(b)(9). The failure to inventory all release points, the lack of monitoring equipment on all of its regulated sources, the absence of appropriate quality assurance, and the failure to include the appropriate data and to perform the appropriate computer modeling make the annual report incomplete and inaccurate.

The Environmental Compliance Inventory of the INEL, (Volume I -- ECI Results December 1996, INEL-96/0389, Lockheed Martin) shows that the INEELdoes not have the necessary programs in place to ensure accurate identification, monitoring or control of emissions. The ECI states the following:

> "The INEL has not defined the requirements and responsibilities for performing Periodic Confirmatory Measurement (PCM) of the unabated potential radiological releases for affected facilities to ensure that appropriate monitoring is in place for significant sources required by NESHAPs; this activity is currently conducted

largely as a paper exercise by Environmental Affairs personnel at year end. Few INEL facilities are aware of the requirement to perform PCM, and fewer take measures during the course of the year to accurately determine their unabated potential releases. This may result in prolonged use and operation of a radiological release point with inadequate monitoring capabilities." (see 40 CFR 61.93(b))[pg. 2.1-10]

"The CPP Main Stack is one of 5 sources at the INEL which have unabated potential doses in excess of 0.1 mrem/yr, thereby requiring continuous monitoring of rad releases per NESHAPs. Since I-129 has been the single largest actual dose contributor for the INEL over the past several years it should be monitored to ensure compliance. Operation of the I-129 monitor has been unfunded and has not operated for most of the last 3 years due to the fact that CPP main Stack I-129 releases do not exceed the regulatory threshold of 10% of the unabated potential dose. An INEL policy is needed which will assure this monitor remains funded and operational that the I-129 contribution to INEL site dose can be adequately determined and reported." [2.1-6]

"CAA; A number of facilities INEL-wide rely on monitoring equipment, policies, and practices which may underestimate the radiological release estimates (and periodic confirmatory measurements (PCM) of unabated potential releases) required by NESHAP. This includes issues such as inadequate sample transport systems, sample rates, and sampling periods. Radiological monitoring practices must be evaluated regularly for adequacy to ensure accurate release reporting." [2.1-6]

B. DOE acknowledges in its December 1999 INEEL High-level Waste Environmental Impact Statement (HLW/EIS) noncompliance with air emission requirements:

"In order to continue to run the Calciner, DOE must submit to the State of Idaho an application for a RCRA Part B permit that included emission and waste characterization data. " [pg S-7]

" Some of these considerations include technical constraints, which have hindered DOE'S efforts to sample off-gas emission from the New Waste Calcining Facility Calciner, as well as logistical problems associated with obtaining representative constituent samples from the large volumes of mixed transuranic waste/SBW [Sodium Bearing Waste] stored in the tanks. Emissions and waste characteristics data is needed to support a RCRA Permit application which DOE must submit to the State of Idaho in order to continue running the Calciner" (page 2-2):

This is a clear admission by DOE that as late as 12/99 the Calciner and its waste treatment component, the PEWE, which treats the Calciner off-gas are not in compliance with air emission monitoring requirements. The PEWE Part B Permit offers no substantive changes in the treatment/monitoring compliance program, and therefore PEWE must be assumed to be in continuing non-compliance.

DOE and INEEL have failed to abate the violations of the Clean Air Act and come into compliance with the standards. DOE and INEEL also have neglected to allocate the substantial resources necessary to eliminate the violations.

IV. Failure to Analyze Applicable Standards for Permitting. IDEQ and DOE Seek To Avoid Numerous Other Legal Requirements By Defining PEWE as Something less than a Thermal Treatment Unit

- There is failure to comply with 40 CFR 264 Subpart AA (Air Emission Standards for Process Vents), BB (Air Emission Standards for Equipment Leaks), and CC (Air Emission Standards for Tanks, Surface impoundments, and Container).
- There is failure to comply with NESHAP Subpart A, C, E, H, I, U
- There is failure to comply with Trial burn requirements (40 CFR 264 Subpart O). Trial burn requirements exist where F-listed wastes are processed. (See F-listed waste sections supra).
- There is failure to comply with Best Demonstrated Available Technology is vitrification of high level radioactive wastes. (63 FR 28575).
- An environmental risk assessment sufficient to meet NEPA standards is required.
- A Toxic Substances Control Act (TSCA) permit requirement (15 U.S.C.§2605(e); 2619 (a)(1)] [40 CFR 761) exists given the Volatile Organic Compounds (VOC) in the waste going through the PEWE.

V. Intent to Sue under RCRA, NEPA, the CAA and Other Applicable State and Federal Statutes.

The current operation of the PEWE violates multiple aspects of state and federal law, and cannot be allowed to continue. The PEWE has no valid RCRA interim status. The PEWE has no RCRA permit. The PEWE does not have an RCRA permit application which contains sufficient information to process that application. The facilities which discharge to the PEWE are not RCRA permitted facilities. The PEWE does not discharge to RCRA permitted facilities. The facilities from which the PEWE receives wastes and the facilities to which the PEWE discharges wastes lack interim status and permits. The PEWE illegally processes wastes which are required by federal law to be processed in other facilities. The PEWE off gases are not adequately monitored and pose great danger to the public health and the environment.

The PEWE violates provisions of the Clean Air Act and NEPA.

We request that DOE immediately halt operations of the PEWE and related operations, and suspend any further operation until such time as: 1.) appropriate NEPA analysis has been

Jun-13-01 14:03 mccoy 12085520565 P.01
BROSCIOUS PAGE 01

provided; 2.) RCRA permit(s) have been issued for the PEWE; and 3.) that the PEWE and all the interrelated facilities operating with the PEWE comply with all federal laws, including RCRA, CAA, TSCA and NEPA. Additional public notices and hearings which comply with the full requirements of RCRA must be provided for the public. There must be a stay of further permit processing for the PEWE until DOE adequately informs the public what is intended with respect to the PEWE and all its related facilities.

We believe this notice of intent to sue sufficiently states the grounds for complaint. This notice covers those violations evidenced by information currently available to us. Our complaint, when filed, may address other violations as may become apparent or may occur after service of this notice letter. If DOE fails to immediately suspend operation of the PEWE and related facility operations, as requested, we intend to file suit over these violations in federal court. We will seek injunctive and declaratory relief, as well as any available penalties and recovery of reasonable attorney fees, expert witness fees, and costs incurred in the action.

Please do not hesitate to contact us at the phone numbers and addresses below, if you wish to discuss means to avoid litigation over this matter.

Sincerely,

David B. McCoy

David B. McCoy
Attorney at Law (In Pro Per)
2940 Redbarn Lane
Idaho Falls, Idaho 83404
208-542-1449 V
208-522-0565 F

Charles M. Broscious
P.O. Box 220
Troy, Idaho 83871
208-835-6152 V
208-835-5407 F

CC:
U.S. Attorney General
5111 Main Justice Bldg.
10th and Constitution Ave., N.W.
Washington, D.C. 20530

Page 24 of 25

Dirk Kempthorne, Governor
State of Idaho
Statehouse
Boise, ID 83720-0010

Darryl Early, Esq.
Assistant Attorney General
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706

Katherine Thompson
Environmental Protection Agency
Office of Inspector General
801 I St. #264
Sacramento, CA 92814

Attachment A: List of Hazardous Waste PEWE Not Qualified to Treat

Attachment B: List of PEWE Related Tanks

Attachment C: List of PEWE and INTEC Related Accidents

Attachment D: PEWE/LET&D Process Flow Charts

Attachment E: 1996 Unpermittable Facilities Document

Attachment F: List of PEWE RCRA listed waste codes

Attachment A

PEWE Hazardous Waste Constituents Requiring Carbon Absorption, Chemical Oxidation, Wet Air Oxidation or Combustion Treatment to meet 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	Paraldehyde
U055	Cumene	U191	2-Picoline
U056	Cyclohexane	U201	Resorcinol
U103	Dimethyl sulfate	U218	Thioacetamide
U108	1,4-Dioxane	U219	Thiourea
		U328	o-Toluidine
F001	see 40 CFR 268.40	F002	see 40 CFR 268.40
F003	see 40 CFR 268.40	F005	see 40 CFR 268.40

PEWE waste codes D001 (Ignitable) and D002 (Corrosive) require deactivation in see 40 CFR 268.40

Page A - 1 of 2

Sources of Organics to PEWE Feed

1. Analytic Laboratories
2. Radioactive Liquid Waste Management System
    - Annual decontamination of evaporator with oxalic acid
    - Floor and Cell washings (EDTA)
    - NWCF Decontamination Shop
    - Tank Farm valve box cleanings
3. CPP-666 FAST
    - Spent Nuclear Fuel Pool Water Filter Back-flush Waste
4. CPP-637 Laboratories
    - Trybutyl phosphate
    - Dodecane
    - Crown ethers
    - Octanol
    - Other specialized chemicals
5. Maintenance Services
    - Organic based cleaning solutions

[Carlson Memo TLC-07-94 page 6]

EDI\PEWE\PEWE.Not.Attach.A

Attachment B

Process Equipment Waste Evaporator (PEWE) and Related Tank List

Unit Identification	Location at INTEC	Function	Process & Treatment Code & Waste Type	Tank Vol. Gal.	Year of Operation	Design Standards Tank Mat.	Secondary Containment	Reference
VES-WL-132 In PartB	CPP-604	Feed and Sediment tank	S02 T01 B,D	4,700	1983	ASME Sec. VIII, Div. 1 Nitronic-50	2.5 foot SS pan	NOV-041 11/25/97 Part B Per.
VES-WL-133 In PartB	CPP-604	Feed & Sediment Collection from HLW Tank Farm Vaults, Sumps & Valve boxes	S02 T01 B/D	19,000	1983	ASME Sec. VIII Div. 1 Nitronic-50	5 foot SS pan	NOV-041 11/25/97 Part B Per.
VES-WL-108 In PartB	CPP-604	Condensate Collection Tank & Feed to VOG	S02 A/D					Part B Per.
VES-WL-109 In PartB	CPP-604	Head Feed Tank	S02 B/D	270 gal	1953	Unknown Note # 10 347 SS		NOV-041 11/25/97 Part B Per.
VES-WL-129 In PartB	CPP-604	Evaporator EVAP-WL-129	S02 T04 4d B/D	1,000	1985	ASME Sec. VIII Div. 1 Nitronic-50	One foot SS pan	NOV-041 11/25/97 Part B Per.
VES-WL-161 In PartB	CPP-604	Evaporator EVAP-WL-161	S02, T04,4d B/D	1,000	1984	ASME Sec. VIII Div. 1 Nitronic-50	3 foot SS Pan	NOV-041 11/25/97 Part B Per.

VES-WL-162 In PartB	CPP-604	Separator (Mist eliminator)	A/D					Part B Per.
VES-163 Not In Part B	CPP-604	Feed Tank	B/D		1984	ASME Sec. VIII Div. 1 304 SS		
VES-WL-130 In PartB	CPP-604	Demister	A/D					Part B Per.
VES-WL-131 In PartB	CPP-604	Condensate Surge Tank	S02 A/D	66	1975	Unknown Note # 10 304 SS		NOV-041 11/25/97 Part B Per.
VES-WL-134 In PartB	CPP-604	Surge Tank	Ancillary A/D	500	1984	ASME Sec. VIII Div. 1 304 SS		NOV-041 11/25/97 Part B Per.
VES-WL-106 Not In Part B	CPP-604	Condensate Collection Tank	A/D		1953	Unknown Note # 10 347 SS		NOV-041 11/25/97 Part B Per.
VES-WL-107 Not In Part B	CPP-604	Condensate Collection Tank	A/D		1953	Unknown Note # 10 347 SS		NOV-041 11/25/97 Part B Per.
VES-WL-163 Not In Part B	CPP-604	Condensate Collection Tank	A/D		1984	ASME Sec. VIII Div. 1		NOV-041 11/25/97 Part B Per.
VES-WL-100 Not In Part B	CPP-604 Tank Farm	Collection Tank	S02 ; 2 B/C/D					RCRA Part B Per. Workplan
VES-WL-101 In PartB	CPP-604 Tank Farm	Evaporator Bottoms Collection Tank	S02;T01 2; B/C/D	18,400	1951	Unknown Note # 10 347 SS	-	NOV-041 11/25/97 Part B Per.

Page B - 2 of 10

VES-WL-102 In PartB	CPP-604 Tank Farm	Feed Settling & Surge Tank for VES-WL-133	S02;T01 2 B/C/D	19,000	1951	Unknown Note # 10 347 SS		RCRA Workplan Part B Per.
VES-WL-111 In PartB	CPP-604	Evaporator Bottoms Collection Tank	S02 T01 B/C/D	1,400	1995	ASME Sec. VIII Div. 1 304 SS		NOV-041 11/25/97 Part B Per.
VES-WG-100 In PartB	CPP-601	Feed Tanks "Deep Tanks" Note # 1	SO2; TO1 2,4c; B/ D	4,500	1953	Unknown Note # 10 347 SS	4 foot SS pan	RCRA Workplan Part B Per.
VES-WG-101 In PartB	CPP-601	Feed Tanks "Deep Tanks" Note # 1	SO2 T01 B/D	4,500	1953	Unknown Note # 10 347 SS	4 foot SS pan	Part B Per.
VES-WH-100 In PartB	CPP-601	Feed Tank "Deep Tanks" Note # 1	S02 T01 2,4c B/D	4,500	1953	Unknown Note # 10 347 SS	4 foot SS pan	RCRA Part B Per. Workplan
VES-WH-101 In PartB	CPP-601	Feed Tank "Deep Tanks" Note # 1	S02 T01 2,4c B/D	4,500	1953	Unknown Note # 10 347 SS	4 foot SS pan	RCRA Workplan Part B Per.
VES-WH-104 Not In Part B	CPP-601	Feed Tank "Deep Tanks" Note # 1	S02 T01 2,4c B/D					RCRA Workplan Part B Per.

VES-WL-103 In PartB	CPP-641 WEST SIDE Holdup Storage Tanks	Feed Tank	S02 T01 2 A/D	5,000	1961	None Note # 10 304 L SS	Epoxy Coating Note # 5	RCRA Workplan Part B Per.
VES-WL-104 In PartB	CPP-641 WEST SIDE Holdup Storage Tanks	Feed Tank	S02 T01 2 A/D	5,000	1961	None Note # 10 304 L SS	Epoxy Coating Note # 5	RCRA Workplan Part B Per.
VES-WL-105 In PartB	CPP-641 WEST SIDE Holdup Storage Tanks	Feed Tank	S02 T01 2 A/D	5,000	1961	None Note # 10 304L SS	Epoxy Coating Note # 5	RCRA Workplan Part B Per. Pg 24
VES-WM-100 In PartB	CPP-604	Feed Tank CPP-604 Tank Farm	S02 T01 2 B/D	18,400	1953	Unknown Note # 10 347 SS	3 foot SS pan	RCRA Workplan Part B Per.
VES-WM-101 In PartB	CPP-604	Feed Tank CPP-604 Tank Farm	S02 T01 2 B/D	18,400	1953	Unknown Note # 10 347 SS	3 foot SS pan	RCRA Workplan Part B Per.

VES-WM-102 In PartB	CPP-604	Feed Tank CPP-604 Tank Farm	S02 T01 2 B/D	18,400	1953	Unknown Note # 10 347 SS	None	RCRA Workplan Part B Per.
VES-WM-191 Not In Part B		Feed Tank						
VES-NCD-123 Not In Part B	CPP-659	Feed Tank	S02, T01 2, 4c C/D			Unknown Note # 10		RCRA Workplan Part B Per.
VES-NCD-129 Not In Part B	CPP-659	Feed Tank	S02, T01 2, 4 C/D			Unknown Note # 10		RCRA Workplan Part B Per.
VES-NCC-119 Not In Part B	CPP-659	Feed Tank	C/D			Unknown Note # 10		Part B Workplan Part B Per.
VES-NCC-122 Not In Part B	CPP-659	Feed Tank	C/D			Unknown Note # 10		Part B Workplan Part B Per.
VES-FT-134 Not In Part B	CPP-666	Feed Tank SNF Storage Pool Filter Backflush						
VES-SFE-106 Not In Part B	CPP-603	Feed Tank SNF Storage Pool Filter Backflush	S02 T01 2 A/D			Unknown Note # 10		RCRA Workplan Part B Per.
VES-SF-126 Not In Part B	CPP-603							Part B Per

VES-WL-150 Not In Part B	CPP-604							Part B Per.
VES-WL-195 Not In Part B	CPP-1618	Feed Tank	A/D			Unknown Note # 10		Part B Workplan
Not In Part B	CPP-	High-level Tank Farm Off-gas collection system	B/D			Unknown Note # 10		Part B Workplan
Process Waste Liquid Collection System Not In Part B		Feed Tank	A/D			Unknown Note # 10		Part B Workplan
Truck Unloading Station Not In Part B	CPP-1619	Feed Tank Off-site Liquid waste import shipments	A/D			Unknown Note # 10		Part B Workplan
NWCF Debris Treatment System Not In Part B	CPP-659	Collection in CPP-659 Feed to PEWE	T04 1,4c,4i,4j,4k,4l ,6 C/D			Unknown Note # 10		RCRA Work Plan
HE-WL-300 In PartB	CPP-604	Evaporator EPAP-WL-161 Heat Exchanger Re-boiler	T04 4d B/D			Unknown Note # 10		Part B Workplan
HE-WL-307 In PartB	CPP-604	EVAP-WL-129 Heat Exchanger Re-boiler	T04 4d B/D			Unknown Note # 10		Part B Workplan

HE-WL-301 Not In Part B	CPP-604	Overheads Condenser for EVAP-WL-161	T04 A/D			Unknown Note # 10		Part B Workplan
HE-WL-308 In PartB	CPP-604	Overheads Condenser for EVAP-WL-129	A/D			Unknown Note # 10		Part B Workplan
PWL Not In Part B	CPP-604, 605, 649, 708	Feed Tanks to PEWE						Part B Per.
Not In Part B	CPP-659	Feed to PEWE from HLLWE	B/D					Part B Per. Pg 10
VES-NCD-141 Not In Part B	CPP-659	Collection Tank Feed to PEWE NWCF HEPA Leach System	T03 4c C/D			Unknown Note # 10		RCRA Work Plan
VES-NCD-142 Not in Part B	CPP-659	Collection Tank Feed to PEWE NWCF HEPA Leach System	T03 4c C/D			Unknown Note # 10		RCRA Work Plan
VES-WLL-195 Not in Part B	CPP-1618 LET&D	Stores PEWE Overhead Condensates	T04 A/D			Unknown Note # 10		RCRA Work Plan
VES-WLK-197	CPP-1618 LET&D	Stores PEWE Overhead Condensates	A/D			Unknown Note # 10		RCRA Work Plan
FRAC-WLL-170 & 171	CPP-1618 LET&D	LET&D fractionators	T04 A/D			Unknown Note # 10		RCRA Work Plan

Note # 1; Wastes are received in the CPP-601 WG/WH tanks from floor and lab drains or transfers from processes in CPP-601, 602, 627, 640, 666, and 684; then transferred to PEWE feed sediment tank VES-WL-132; then to VES-WL-133; or the INTEC Tank Farm Facility. These waste streams are not fully characterized in the Part B Permit Application

Note # 2; The PEWE system tanks vent to the INTEC Vessel Off-Gas System (VOG) which provides vacuum and filtration for the off-gas from the tanks in the connected facilities. The VOG system flows to the process Atmospheric Protection System (PS) filters, which are located in CPP-649 and from the APS, the off-gas is exhausted to the INTEC Main Stack in CPP-708. The APS is not a RCRA permitted system.

Note # 3; Tank Treatment includes use of chemicals such as aluminum nitrate, sodium hydroxide, nitric acid, calcium nitrate, boric acid, and oxalic acid to limit the potential for corrosion, prevent precipitation of solids from the waste solution, and provide for criticality control measures. It is uncertain that these hazardous chemicals are included in the PEWE RCRA waste codes.

Note # 4; Tank and secondary containment material noted as Nitronic-50, and Stainless Steel (SS). It must be noted that the pans are not capable of containing the whole volume of the tank, and therefore not compliant with RCRA for full secondary containment. Additionally, there is inadequate information about the sumps having full secondary stainless steel containment with connected welds to the containment pans that drain to the sumps. Nitronic 50 is an austenitic stainless steel, as is Type 304. However, Nitronic 50 has a higher Cr & Ni content and is more corrosion resistant and stronger than say Type 316 austenitic stainless steel. Good choice for a corrosion resistant tank - depending on the corrosive, however only ten of the forty-two PEWE tanks are Nitronic-50 or Type 304 stainless steel.. Most stainless steels don't perform very well in hot (>60C) chlorides. The PEWE normal operating temperature is 110 degrees Celsius. The high PEWE operating temperature, highly corrosive waste, plus the age of the tanks make these significant compliance issues not addressed in the PEWE RCRA Part B Application.

Note # 5; Epoxy secondary containment is a painted on coating that does not meet RCRA compliance, not to mention the fact that it is over forty-years old and beyond its design life even as a minimal sealant. Additionally, concrete does not meet RCRA criteria for secondary containment because of it porosity and lack of resistance to corrosives. Therefore, concrete tank vaults, sumps or building walls do not qualify as secondary containment despite DOE's claims to the contrary. Compliant secondary containment by RCRA definition must, in this case, have a stainless steel liner with capacity to hold the entire contents of the tank/vessel.

Note # 6; Design Standards; only the American Society of Mechanical Engineers (ASME) has any regulatory structural/seismic significance additionally, ASME has no relevance with respect to RCRA requirements (i.e. secondary containment or daily access/inspection). Also the ASME standards at the time (1950s) of instillation are not necessarily the same as those currently in place.

Note # 7; The notation that a unit is "In Part B" refers to the INEEL RCRA Part B Permit Application July 2000. All other units "Not In Part B" are not included in the Permit but remain fundamental parts of the PEWE system and illegally not fully characterized.

Note # 8; Approximately 54 tanks and vessels are connected to the PEWE as feeder or effluent units.
There are 28 tanks that are feeder/effluent units to the PEWE that are identified but not characterized in the Part B Application.
There are 54 tanks that do not have full qualified secondary containment capable of containing the tank volume.
There are 40 tanks that have no known structural certification.
There is an unknown but significant number of tanks that have already exceeded their design life.

Note # 9; The service waste lines connecting all the PEWE related tanks and vessels are not fully characterized in the Part B Permit Application even though the same secondary containment criteria that applies to tanks also applies to the waste service line piping. In some cases DOE attempts to take credit for stainless steel "troughs" in concrete beds for some pipes, this does not meet full containment for highly pressurized lines using steam as the propellent that a "trough" could not possibly contain.

Note # 10; Tank Design Standards described in INEEL RCRA Part B Permit Application July 2000 (Table D-2 pg 15) for twelve tanks as the following: "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 ASME Standards." No documentation is offered to verify this vendor claim therefore the "tank design" must be legitimately listed as "unknown," which by itself is enough to disqualify the use of the tank in a RCRA permitted operation.

Process Types

1. Container Storage
2. Tank Storage
3. Incinerator
4. Treatment
    a. Stabilization/solidification
    b. Volume reduction
    c. chemical treatment
    d. thermal treatment
    e. blending
    f. evaporation
    g. ion exchange
    h. surface impoundment
    i. macro-encapsulation
    j. physical treatment
    k. micro-encapsulation
    l. repackaging

Process Codes

S01 Container Storage
S02 Tank Storage
T01 Tank Treatment
T02 Surface Impoundment
T03 Incineration
T04 Other

Waste Types

A. Low-level
B. High-level
C. Transuranic
D. Hazardous
E. Undetermined

Sources:

1. INEEL Interim Status RCRA Part B Workplan (GZ00-048G)
2. Hazardous Waste Management Act/Resource Conservation Recovery Act INEEL Work Plan For INEEL; EPA No. ID4890008952, 6/6/2000
3. INEEL RCRA Interim Status Document for PEWE, Nov. 25, 1997
4. INEEL RCRA Part B Application Volume 14 Section D 7/2000

EDI\PEW\PEWE.Not.Attach.B

1 **Table D-1.** PEWE Tanks.

Tank Number/ Description	Year of Operation	Materials of Construction	Design Standards
VES-WL-132 Evaporator Feed Sediment	1983	Nitronic 50	ASME Section VIII Stamped (Dwg. 161907)
VES-WL-133 Evaporator Feed Collection	1983	Nitronic 50	ASME Section VIII Stamped (Dwg. 161346)
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 (Dwg. OMNI SK-207-A)
VES-WL-161 Evaporator	1984	Nitronic 50	ASME Section VIII Stamped (Dwg. 097722)
VES-WL-131 Condensate Surge	1975	Type 304L SS	Unknown
VES-WL-134 Condensate Surge	1984	Type 304L SS	ASME Section VIII Stamped (Dwg. MABE Industries 83-1529)
VES-WL-111 Bottoms Collection	1995	Type 304L SS	ASME Section VIII Stamped (Dwg. Heat Transfer Systems 12067)
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 (Dwg. 111803)
VES-WL-104 WWH tank	1961	Type 304L SS	Not Stamped (Dwg. 111802)
VES-WL-105 WWH tank	1961	Type 304L SS	Not Stamped (Dwg. 111802)
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

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.

7*

Table F-1. PEW Evaporator System Regulated Tanks

Tank Number/Description	Year of Operation	Materials of Construction	Design Standards
VES-WL-102 Evaporator Feed Collection	1951	Type 347 SS	Unknown
VES-WL-132 Evaporator Feed Sediment Tank	1983	Nitronic 50	ASME Section VIII Division 1
VES-WL-133 Evaporator Feed Collection	1983	Nitronic 50	ASME Section VIII Division 1
VES-WL-109 Evaporator Head Tank	1953	Type 347 SS	Engineer's Spec. For the Construction of Unfired Pressure Vessels
VES-WL-129 Evaporator	1985	Nitronic 50	ASME Section VIII Division 1
VES-WL-161 Evaporator	1984	Nitronic 50	ASME Section VIII Division 1
VES-WL-131 Surge	1975	Type 304L SS	Unknown
VES-WL-134 Surge	1984	Type 304L SS	ASME Section VIII Division 1
VES-WL-106 Condensate Collection	1953	Type 347 SS	Engineer's Spec. For the Construction of Unfired Pressure Vessels
VES-WL-107 Condensate Collection	1953	Type 347 SS	Engineer's Spec. For the Construction of Unfired Pressure Vessels
VES-WL-163 Condensate Collection	1984	Type 304L SS	ASME Section VIII Division 1
VES-WL-101 Bottoms Collection	1951	Type 347 SS	Unknown
VES-WL-111 Bottoms Collection (proposed)	To Be Determined	Type 304L SS	ASME Section VIII Division 1

ATTACHMENT C

Accidents at the INTEC (formerly Idaho Chemical Processing Plant (ICPP) between 1988 and September 1999 Related to the Process Equipment Waste Evaporator

Source: U.S. DOE Office of Nuclear and Facility Safety, Operating Experience Weekly Summary and U.S. DOE Daily Field Management Reports, unless otherwise cited.

*** 1988***

October 30: An INTEC Explosion causing one fatality and also resulted in a Radioactive ruthenium filter gel release of 0.17 curies at the Main Stack.

1991

Jan.29; INTEC stack monitor found out of calibration.

June 10; The State of Idaho files RCRA air/water quality violations and fines totaling $127,793.

July 4; Denitrator Off-gas drain malfunction results in high alpha contamination at ICPP (Zone-III).

Sept.13; Failure of the INTEC off-gas atmospheric protection system (APS) High Efficiency Particulate Arrester (HEPA) filters. The HEPA filters, numbers F-OGF-100/101/102 failed a special requested DOP (dioctylphthalate) test after nine months of service. When the filters were changed out it was discovered the filter media had deteriorated. Two of the filters had the filter media missing or partially missing. The third filter's media was intact, but was discolored. Depending on when the filters failed, the APS may have operated for the entire nine months without HEPA filters. ID-WINC-ICPP-1991-1058.

Nov.28; ICPP evacuated after radiation alarms sound. [Times News November 28, 1991]

Dec. 22; ICPP-604 Process off-gas System HEPA filter monitors inoperable.

1992

Jan.6; Inspection found 9 alarms disconnected at the ICPP.

Jan.19; ICPP Process Off-gas System blowers failed for two days while Calciner and other operations continued to operate.

Jan.24 ICPP exceeded State limits on nitrogen oxide on five different occasions between 6/89 to 1/92.

Apr. 1; Unauthorized removal of criticality alarm system warblers at the ICPP.

Apr. 2; Employees forced to stay inside of ICPP due to an unplanned radiation release from the main stack containing 3 millirem per hour (mrem/hr) beta-gamma. [ID-WINC-ICPP-1992-0035]. Contaminants spread beyond the ICPP boundary fence. Judge Ryan cited flakes the size of quarters falling on 40 acres around ICPP, and DOE sent notice of this incident to Idaho and the Fort Hall Reservation with a cover page erroneously stating "This is a Drill." [Ryan @ 53][also see Daily Operations Brief of 4/3/92, stating flakes 2 inches in diameter were released]. The released radionuclide composition was Cs-137, Sb-125, and Ru-106.

June 25; Personnel contamination to 3,000 cpm beta-gamma at the ICPP

July 1; ICPP HEPA filter failure due to rapid pressure rise and defective or failed filter material. This incident occurred while spare filter bank was undergoing filter change out and was not available for use. Three hours elapsed before the decision was made to shut down.

Aug.2; Power failure at ICPP and 70 mph wind storm causes significant building damage.

Aug.21; Release of radioactivity from ICPP main stack - 25,000 counts per minute (cpm).

Aug.25; Unauthorized disconnection of alarms in ICPP-637.

Sept.1; Loss of stand-by power to evacuation sirens at the ICPP Remote Analytical Lab.

Sept.12; Personnel contaminated to 20,000 dpm (disintegrations per minute measured on a radiation instrument) at the ICPP.

Sept.17; Power outage at ICPP-604 Waste Treatment and loss of instrumentation and ventilation - these facilities operate the ICPP off-gas emission systems.

Sept.21; Personnel contamination to 10,000 dpm in the ICPP-604 sample corridor.

Sept.27; Sixteen radiation monitors found out of compliance at ICPP and instead of replacing the monitors managers chose to rescind the compliance order.

Nov.19; Personnel contamination to 10,000 cpm (counts per minute measured on a radiation instrument) at the ICPP Calciner.

Nov.28; ICPP evacuated because of radionuclide particulate releases

Dec.1; ICPP High-level waste tanks WM-101 and 102 vault sump level instrument probes (leak detection) were discovered to be connected to the transmitter in reverse.

1993

Jan.4; Criticality Alarm System Warblers found Inoperable in CPP-651 and 603.

Jan.6; Unsafe entry into ICPP WL-101/102 Tank vaults by health physics technicians not wearing proper protection.

Jan 9; New Waste Calciner forced to shut down due to plugged final off-gas filter plugging

Jan.28; New Waste Calciner again forced to shut down due to defective off-gas filters

Mar.9; Calciner worker contaminated to 12,000 Disintegrations per minute (dpm) and other areas of the mezzanine where the worker was were found to be contaminated to 100,000 dpm

Mar.13; Worker contamination to 800 dpm at CPP-604 tank farm.

1996

June 5; Worker exposed to 40,000 dpm (Disintegrations per minute measured on a radiation instrument) of Gd-153, Eu-152, and Co-60 during decontamination of Hot Cell Facility despite wearing a double set of Personnel Protective Equipment. [6/9/97 DOB].

Aug 25; Five workers were exposed to nitrogen oxides while conducting a remote video inspection of underground ICPP Calciner valve box. NIOSH safety limits of 5 ppm (parts per million) were exceeded but the immediately dangerous to life limit of 20 ppm were not exceeded.

Aug 25; State of Idaho Division of Environmental Quality sent DOE/ID a Notice of Non-Compliance for 135 violations of Hazardous Waste Management Act and set penalties at $892,725.

Sept 19; DOE Office of Enforcement and Investigation issued Notice of Violation under the Price-Anderson Act to Lockheed Martin Idaho Technologies and INEEL Operations Office for six Severity Level III safety violations.

1998

Jan 6; INTEC fire resulted from an overheated diesel powered water pump when the discharge line froze; caused when an engine overheated and caused a fire because the cooling water drain was plugged with ice and prevented circulation of cooling water through the engine coolant heat exchanger.

Aug.9; INTEC plant wide emergency communications and alarm system failed and the backup power system and battery backup also failed.

Oct.7; Fire Alarms found inoperable at INTEC.

Sept.; DOE Office of Oversight Progress Report September 1998 found that "Workplace safety at INEEL has deteriorated since 1994" and that "corrective actions plan found that deficiencies were not resolved and that lessons learned from previous accidents were not being effectively applied. In environmental management and controls, data indicate weak regulatory compliance and inadequate, short-term, quick-fix solutions. Long term solutions are only in the conceptual stages, with no defined strategies, plans of action, or milestones." "Specifically, one-fifth of all INEEL occurrences in 1997 were related to radiation protection (personnel contamination) and environmental management occurrences have increased by one-third from 1994 through 1997."

Sept.1; INTEC radiation laboratory analysts received internal plutonium-239 exposure from inhalation that measured 0.1 mrem (millirem) from unprotected work on plutonium-contaminated graphite molds.

Sept. ; DOE Oversight Analysis Group issues Office of Oversight Progress Report covering INEEL s non-compliance with environmental regulations, poor implementation of worker safety and health programs and privatization issues. The report cited, "workplace safety performance has deteriorated," "recurring problems in work control and facility authorization basis, noncompliance with environmental regulations...." "INEEL has not established an effective process to pro-actively track and prioritize corrective actions. Further, ES&H functions and activities are not always integrated into programs or work planning." "Worker competence and safety performance are also impacted by the reduction enforce at INEEL since the beginning of integrated management. The reductions have affected the experience level of workers and reduced morale. Since 1994, INEEL has experienced to workplace fatalities, a serious electrical shock, and many unplanned exposures and near misses involving workplace hazards." "Significant weaknesses are also noted in INEEL s environmental management program as shown by the site s having received four Notices of Violation from the State of Idaho for environmental non compliance since 1994, as well as 4 of the 26 DOE Enforcement Actions issued by DOE through June 1998." "In recent years, weakness in work planning and controls have resulted in two Type A accidents as well as many near misses involving workplace hazards. The identified programmatic deficiencies include insufficient worker training, lack of hazard identification and control, and inadequate supervision of work."

Representative Undated uncontrolled hazardous/high-level radioactive mixed waste releases and spills [40 CFR 265.31] related to Waste Area Group 3 (INTEC) Remedial Investigation and Feasibility Study*. These releases contributed to significant ground water contamination. The High-level Tank Farm is used as a liquid waste storage for the PEWE.

1. High-level Tank Farm service pipe to the Calciner leaked 2,500 gallons near Valve Box A-2 releasing 46,400 curies of radioactivity, identified as CPP-79.
2. Leak between tank WC-119 and WL-102 identified as CPP-25
3. Steam Flush Explosion high-level tank lines resulted in 13 acres contaminated, identified as CPP-26.
4. High-level waste tank WL-102 released 300 gallons containing 1,000 curies of radioactivity identified as CPP-37 & 33.
5. High-level tank WM-181 line leaked 3,629 gallons containing 46,400 curies of radioactivity, identified as CPP-28.
6. High-level tank WM-183 line leaked 14,000 gallons containing 40,988 curies of radioactivity,. identified as CPP-31.
7. High-level liquid waste above ground pipe leak at Valve Box B-4, identified as CPP-32.
8. PEWE Evaporator hazardous/radioactive 20,000 gallon leak, PEWE condensate identified as CPP-58E. The leak was caused by a failure of the condensate transfer line between the PEWE Evaporator and the Service Waste Diversion System
9. High-level waste transfer line leaked 750 gallons containing 8.44 curies of radioactivity, identified as CPP-36.

* Reference
Waste Area Group 3 Remedial Investigation/Feasibility Study Final Work Plan, August 1995, prepared for US Department of Energy Idaho Operations Office, INEEL-95-0056.

Attachment D

PEWE and LET&D Process Flow Charts

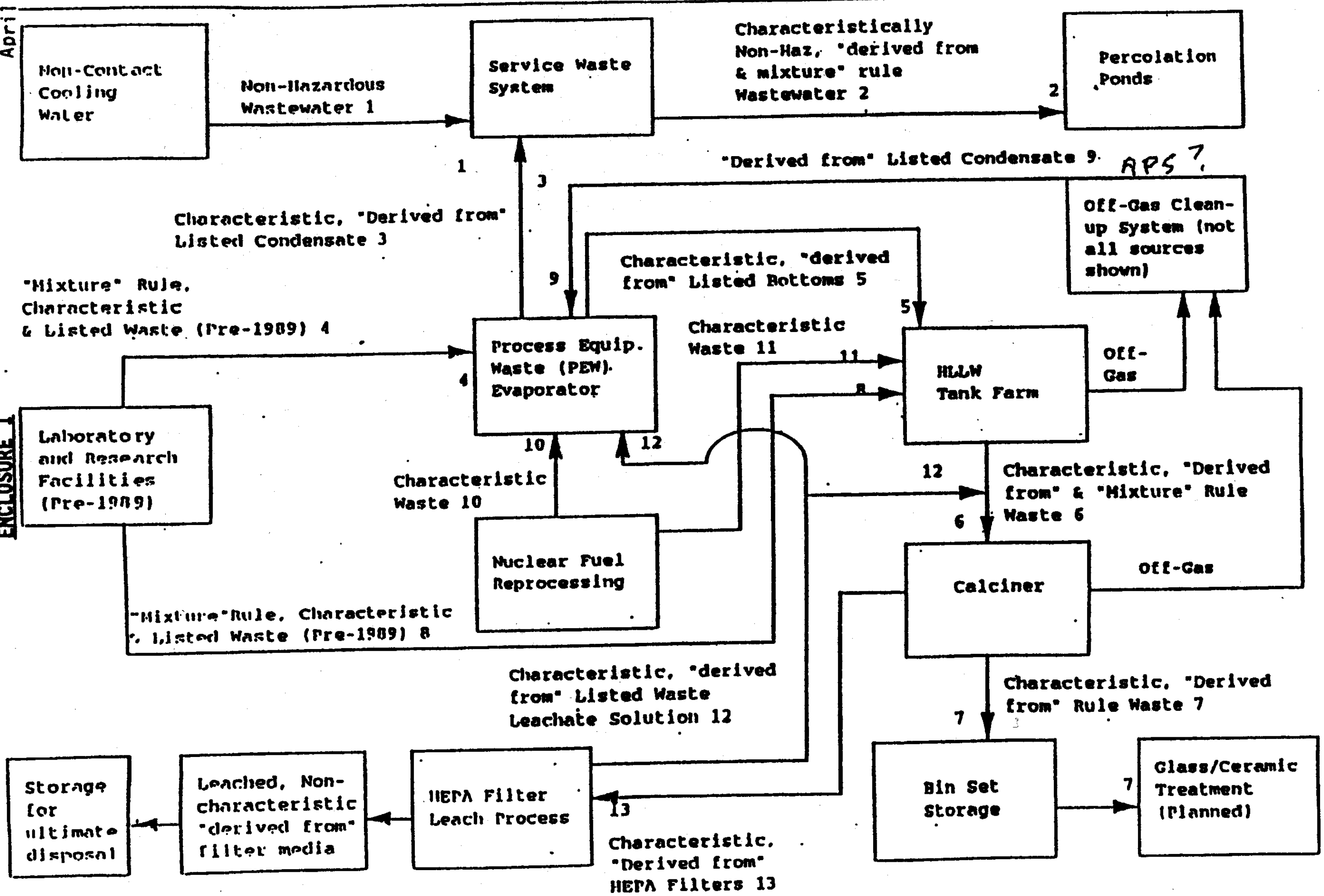
PTG-6-92
April 28, 1992

ENCLOSURE 1

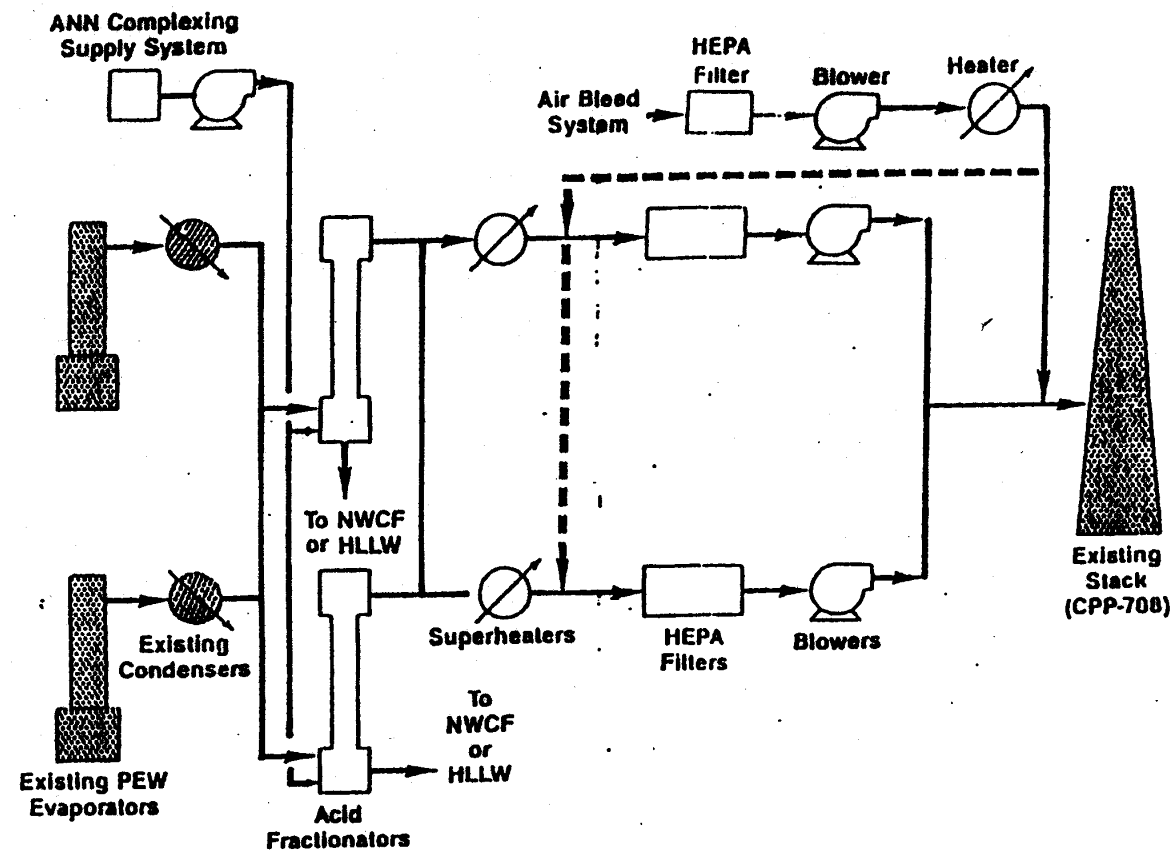
EXHIBIT 1

Simplified "Derived from" & "Mixture" Rules Schematic
Application of Existing Rules

PTG-6-92



PEW SYSTEM
(LET & D PROJECT)
SIMPLIFIED FLOW DIAGRAM



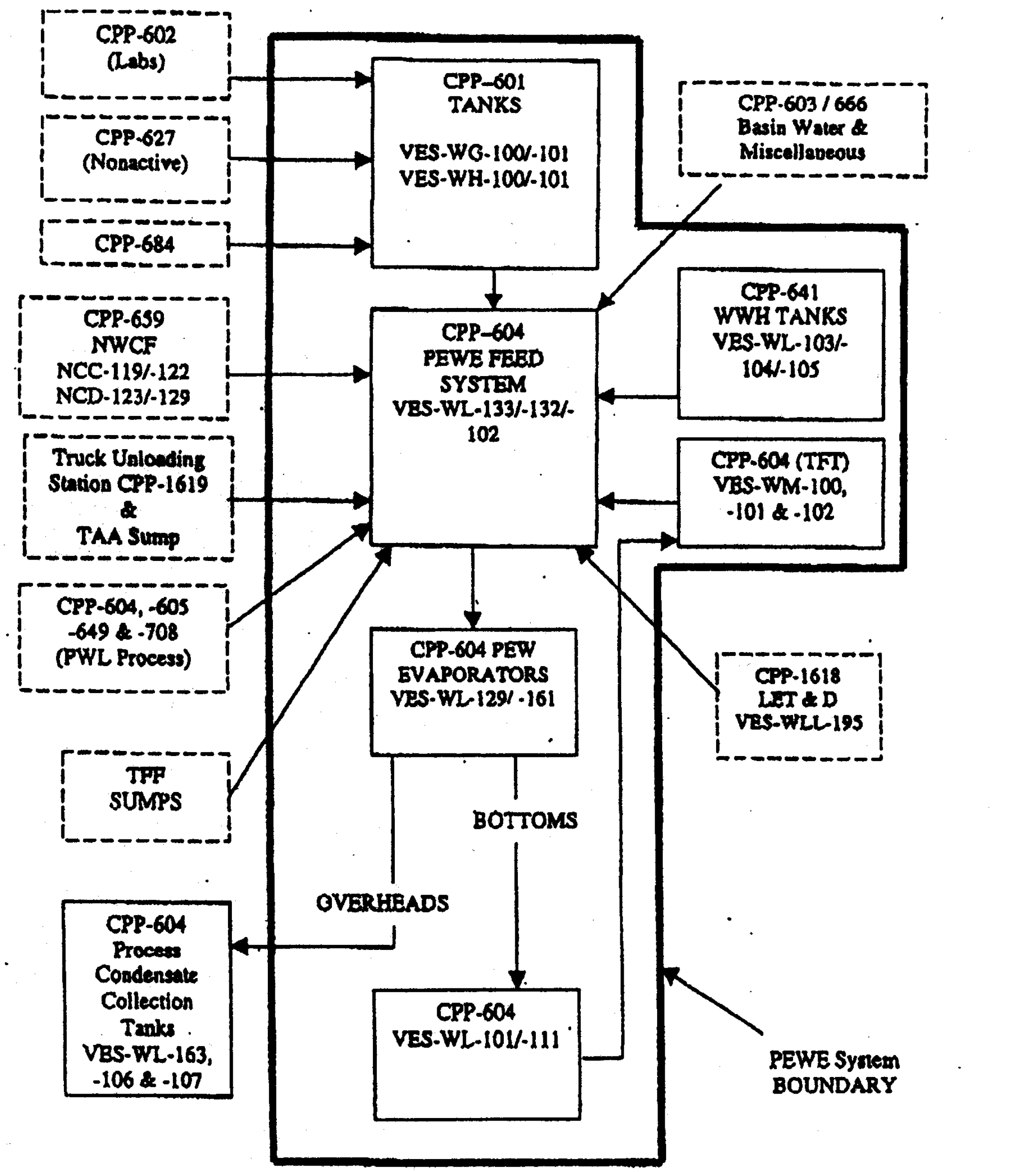
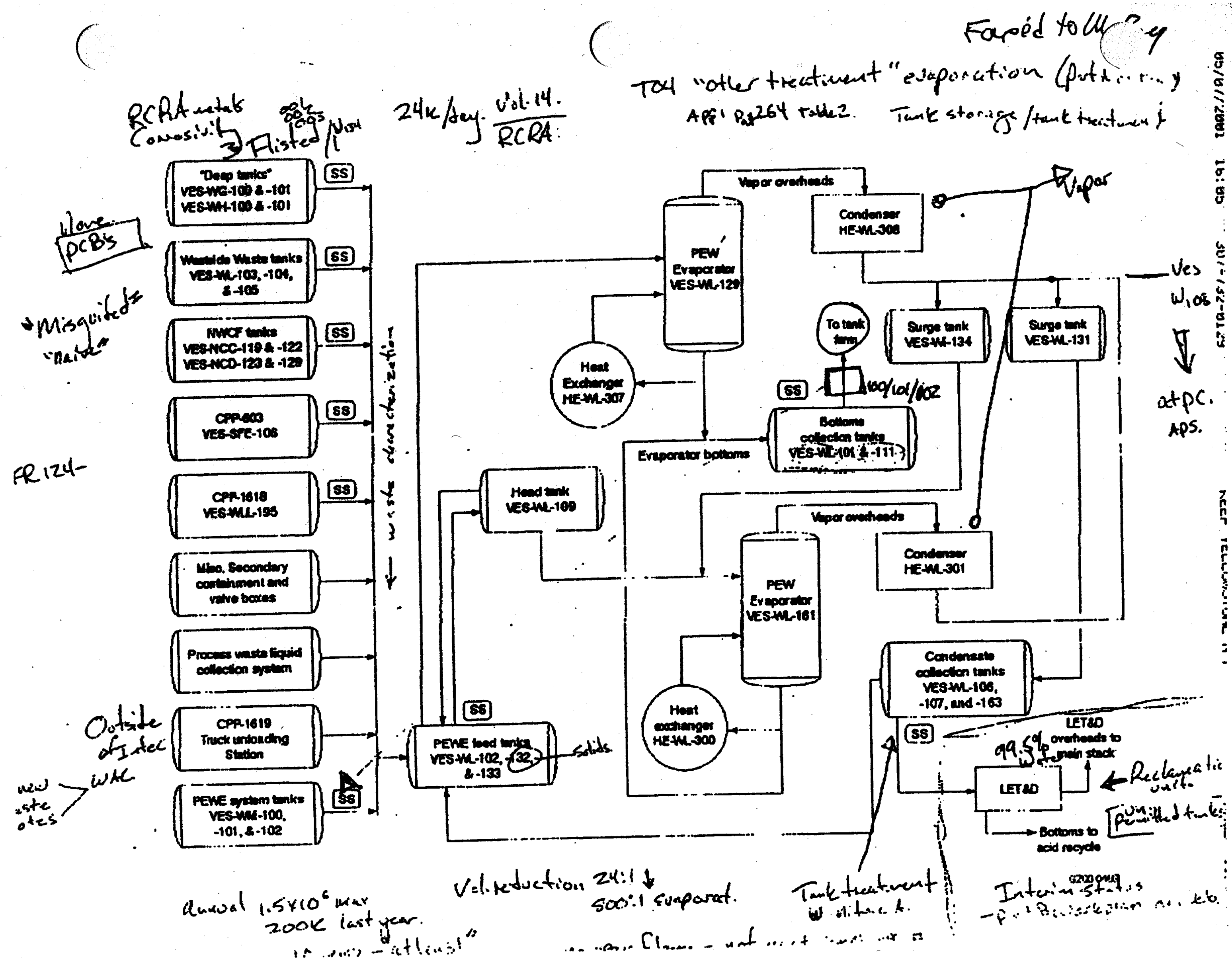


Exhibit D-2. PEWE system boundary/inputs and outputs.


"Deep tanks" VES-WG-100 & -101 VES-WH-100 & -101
Westside Waste tanks VES-WL-103, -104, & -105
NWCF tanks VES-NCC-119 & -122 VES-NCD-123 & -129
CPP-603 VES-SFE-106
CPP-1618 VES-WLL-195
Misc. Secondary containment and valve boxes
Process waste liquid collection system
CPP-1619 Truck unloading Station
PEWE system tanks VES-WM-100, -101, & -102
SS
PEWE feed tanks VES-WL-102, -132, & -133
Head tank VES-WL-109
Vapor overheads
PEW Evaporator VES-WL-129
Heat Exchanger HE-WL-307
Condenser HE-WL-306
To tank farm
Surge tank VES-WL-134
Surge tank VES-WL-131
Bottoms collection tanks VES-WL-101 & -111
Evaporator bottoms
PEW Evaporator VES-WL-161
Condenser HE-WL-301
Heat exchanger HE-WL-300
Condensate collection tanks VES-WL-106, -107, and -163
LET&D overheads to main stack
LET&D
Bottoms to acid recycle
Faxed to
TO4 "other treatment" evaporation
App I Part 264 table 2. Tank storage / tank treatment
RCRA metals Corrosivity
F listed
24k/day. Vol. 14. RCRA
PCBs
Misguided "Naive"
waste characterization
FR 124
Outside of Intec
WAC
Solids
Vapor
Ves W, 08
at PC.
Reclamation
100/101/102
99.5%
Vol. reduction 24:1
500:1 evaporat.
Tank treatment
Interim Status
annual 1.5x10⁶ max
200K last year.

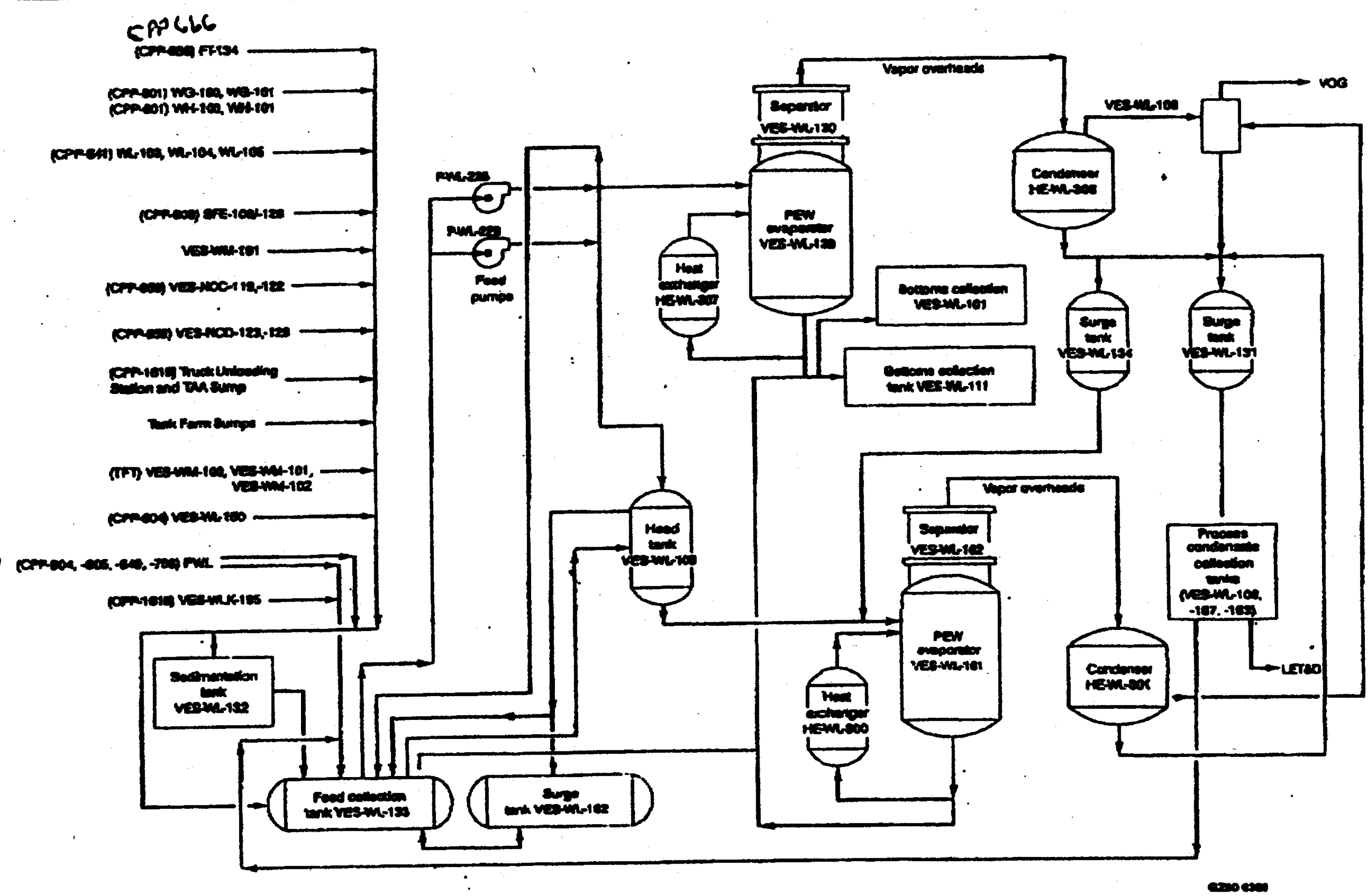


Exhibit D-1. PEWE System flow diagram and inputs.

Attachment E
Unpermittable Units

The Quarterly RCRA minutes of February 1996 of the DOE and IDEQ contain a listing regarding the INEEL waste management processes to be operated under interim status /consent order. Even more revealing is the attached April 26, 1996 INEEL Waste Management Processes to be operated under interim status/consent order list of "unpermttable" units under the Resource Conservation Recovery Act (RCRA). These units that were deemed "unpermittable" under RCRA and will continue to operate for another 35 years under interim status and a consent order issued by the State of Idaho. Among the facilities were the following (* designates units connected to the PEWE directly or indirectly as feed/effluent units):

* CPP 601 WG/WH cells Storage and Treatment Tanks
* CPP 603 Storage Tank
* CPP 604 PEW Evaporators
* CPP 604 PEW Feed/Storage and Treatment Tanks
* CPP 604 PEW Condensate/Feed Storage Tanks
* CPP 604 Tank Farm Tanks
* CPP 641 Westside Holdup Storage Tanks
CPP 659 NWCF Calciner
* CPP 659 NWCF Evaporator Tank System
* CPP 659 NWCF HEPA Filter Leaching System
* CPP 659 NWCF Storage and Treatment Tanks
* CPP 1618 LET&D Evaporators
* CPP 1618 LET&D Nitric Acid Recycle Storage Tank
* CPP 1618 LET&D Storage Tanks
Calcined Solids Storage Facility
* ICPP Tank Farm

Clearly, the Idaho public had an interest to know about the above major operating facilities at INEEL which could not qualify for RCRA permits and which were exposing the public to radionuclides such as plutonium, heavy metals such as mercury, volatile organic compounds like dioxins and releasing enormous amounts of greenhouse gases. The IDEQ's and DOE's later submission of Part B Permit Applications would seem to have been nothing more than hollow gestures to keep unpermittable facilities operating. Additionally, the facilities were illegally maintained on interim status for eight years past the RCRA requirement that interim status facilities had to be permitted by November 8, 1992.

The minutes of 4/23/96 demonstrate that decisions are approved at quarterly meetings whereby Consent Orders are used by DOE and IDEQ to keep facilities operating when the facility cannot be permitted under RCRA. "CPP-601 WG/WH Cells Storage and Treatment Tanks may be put under the consent order with adequate justification if no justification can be provided they need to be permitted."

Attached is a copy of the actual Donald Rasch Memo (4/26/96) from DOE to Idaho Department of Environmental Quality (IDEQ) document gained through an Environmental Defense Institute Public Information Request to IDEQ. For more information about the physical status of these units and why they are "unpermittable" see Attachment B.

PEWE\PEWE.Not.Attch.E

INEL WASTE MANAGEMENT PROCESSES TO BE OPERATED UNDER INTERIM STATUS/CONSENT ORDER

The following is a list of units that has been deemed "unpermittable" under RCRA and will continue to operate under interim status and a consent order. A comprehensive supplement to the Part A will be provided for these units.

CPP 603 Storage Tank
CPP 604 PEW Evaporators
CPP 604 Tank Farm Tanks
CPP 659 NWCF Calciner
CPP 659 NWCF Evaporator Tank System
CPP 659 NWCF Storage and Treatment Tanks (VES-NCC-101, -102, -103, -108, -119, & -122)
CPP 1618 LET&D Evaporators
Calcined Solids Storage Facility
ICPP Tank Farm

Post-it® Fax Note 7671 | Date 4/26 | pages 1
To [illegible] | From [illegible]
Co./Dept. DEQ | Co. DOE-ID
Phone # 373-0285 | Phone # 526-1511
Fax # 373-0417 | Fax # 526-[illegible]

RCRA QUARTERLY MEETING
Page 4

FEBRUARY 9

WERF

A conference call with Ms. Catherine Massimino of EPA Region 10 was held from 8:30 a.m.-10:30 a.m. in order to discuss issues associated with the WERF Trial Burn and Risk Assessment. The OPB had prepared some initial comments on the Trial Burn Plan and Risk Assessment which were made available to DOE-ID/LITCO approximately one week before. This conference call greatly clarified the concern outlined by the OPB and EPA. Understandably, these comments are not all inclusive but should represent the "big ticket" items that need to be addressed. It is the OPB's goal to have the remainder of the application reviewed by mid-late March. In the interim, a response to comments on the Trial Burn and Risk Assessment will be prepared. Once the OPB has completed a comprehensive review and provided comments, a schedule for formal response and submittal of a revised application will be determined.

Part A

The OPB provided a handout outlining Part A requirements and what will be expected in future Part A submittals. A copy of this handout is attached. The OPB emphasized a need for significant revision to the Part A for those units that will operate under interim status and not be permitted units. Once the Part B work plan has been revised and mutually agreed upon, the Part A will be revised. It is expected that the work plan will be revised by March 31, 1996, and the Part A revisions will begin shortly thereafter.

Volume 17 Permit - The OPB has received the latest revision and has begun a technical review. There is still some disconnect on waste stream identification but through discussion with the OPB and some clarification it appears that this issue can be resolved.

Mixed Waste Analysis Plan (MWAP) - The OPB has accepted the MWAP as final. This satisfies the Volume 7 Permit condition which required the MWAP. The MWAP will have to be fully implemented within two years. While the MWAP doesn't fully address all of the waste analysis concerns at the INEL, those outstanding concerns will be addressed in the facility specific waste analysis plans as permits are submitted.

ICPP Units - At the request of the OPB, a list of units that will continue to operate under Interim Status was prepared. Since a majority of these units operate in conjunction with or as an integral part of the NWCF, continued operation under a Consent Order in lieu of permitting appears to be the best option. A list of the proposed units is attached. Comprehensive Part A submittals will be prepared for each unit that will operate under the Consent Order. Additionally, a Screening Level Risk Assessment (SLRA) will be performed for all emission to and from the NWCF stack This SLRA should follow the format used for WERF ɔv-26-00 14:18 mccoy 12085520565 P.02

ICPP TSD UNIT WITH A PART B PERMIT

Volume 8 CPP-620 Annex Hazardous Chemical Waste Handling and Neutralization Facility

ICPP TSD UNITS TO BE PERMITTED

Volume 17

- CPP-601/627 Container Storage
- CPP-1617 Radioactive Mixed Waste Staging Facility
- CPP-1619 Hazardous Chemical and Radioactive Waste Storage Facility

Volume 18

- CPP-659 NWCF Containment Building Storage and Debris Treatment
- CPP-659 NWCF HEPA Filter Leaching System
- CPP-659 NWCF HEPA Filter Storage
- CPP-666 FAST HEPA Filter Storage

ICPP TSD UNITS TO BE CLOSED UNDER INTERIM STATUS

- CPP-633 WCF Evaporator
- CPP-633 WCF Storage Tanks
- CPP-633 WCF HEPA Filter Storage
- CPP-640 Headend Holdup Storage Tanks
- CPP-666 FAST Storage and Treatment Tanks

ICPP TSD UNITS TO BE COVERED UNDER THE CONSENT ORDER

- CPP-601 WG/WH Cells Storage and Treatment Tanks
- CPP-604 PEW Evaporators (included in Volume 14)
- CPP-604 PEW Feed/Storage and Treatment Tanks (included in Volume 14)
- CPP-604 PEW Condensate/Feed Storage Tanks (included in Volume 14)
- CPP-641 Westside Holdup Storage Tanks
- CPP-659 NWCF Calciner (included in Volume 6)
- CPP-659 NWCF Evaporator Tank System (included in Volume 10)
- CPP-659 NWCF Storage and Treatment Tanks (included in Volume 6)
- CPP-1618 LET&D Evaporators (included in Volume 10)
- CPP-1618 LET&D Nitric Acid Recycle Storage Tank (included in Volume 10)
- CPP-1618 LET&D Storage Tanks (included in Volume 10)
- Calcined Solids Storage Facility (included in Volume 14)
- ICPP Tank Farm
- CPP-603 Tanks

INEEL
IDAHO NATIONAL ENGINEERING & ENVIRONMENTAL LABORATORY

LOCKHEED MARTIN

Lockheed Martin Idaho Technologies Company
P.O. Box 1625 Idaho Falls, ID 83415

RECEIVED
MAR 15 1999
DIV. OF ENVIRONMENTAL QUALITY
HAZARDOUS WASTE

March 11, 1999

Distribution

TRANSMITTAL OF THE MINUTES FOR THE IDAHO DIVISION OF ENVIRONMENTAL QUALITY/IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY (IDEQ/INEEL) PERMITTING/CLOSURES QUARTERLY MEETING, DECEMBER 9, 1998 -- KM-23-99

Enclosed are the Minutes for the IDEQ/INEEL Permitting/Closures Quarterly Meeting held at the IDEQ Oversight Office in Idaho Falls, Idaho, on December 9, 1998.

K. McNeel

K. McNeel, Manager
RCRA/TSCA Policy and Permitting Department

PJS:pam

Enclosure

Distribution

ANL-W
W. G. Bass, MS 6000

DOE-ID
N. Brooks, MS 1146
P. H. Contreras, MS 4201
D. N. Rasch, MS 1146
D. L. Wessman, MS 1146

IDEQ
R. E. Bullock
B. L. English
D. Little
B. A. McPherson
R. D. Owen
C. Roberts

LMITCO
D. J. Blumberg, MS 5117
T. L. Carlson, MS 8101
T. L. Clements, Jr., MS 4201
P. R. Cunningham, MS 3428
S. K. Evans, MS 3428
W. M. Heileson, MS 4201
M. B. Heiser, MS 3133
J. E. Hovinga, MS 5108
W. F. Howell, MS 4109
J. M. Jackson, MS 3428
J. R. Jansen, MS 3427
D. Kvamme, MS 3428
M. S. Rosenberger, MS 3428
M. D. Sandvig, MS 0313
P. J. Smith, MS 3428
M. C. Tiernan, MS 8101
L. C. Tuott, MS 3428
M. Vorachek, MS 5208
L. L. Weidert, MS 5237

SAIC AMWTP Team
D. Nishsimoto

cc: K. McNeel File

INEEL RCRA PERMITTING POINT OF CONTACT (POC) MATRIX

01/30/99

VOLUME #/ REV. DATE	WASTE MANAGEMENT UNIT DESCRIPTION	UNIT LOCATION	UNIT STATUS	INEEL POC	DOE POC	DEQ POC
1 and 2 3/95	Part A Permit Application	INEEL	LMITCO ANL-W	Pam Cunningham 208-526-0300 Maureen Finnerty 208-533-7924	Nicole Brooks 208-526-0709	TBD
3 7/93	General Information for INEEL Waste Management Units	INEEL	LMITCO	Pam Cunningham 208-526-0300	Nicole Brooks 208-526-0709	TBD
4 7/98	ANL-W Storage Units				Greg Bass 208-533-7184	Beth McPherson 208-373-0483
	Radioactive Scrap and Waste Facility	ANL-771	Permitted 1/24/94	Tom Zahn 208-533-7217		
	Radioactive Sodium Storage Facility	ANL-797	Permitted 1/24/94	Roy Grant 208-533-7400		
	Hot Fuel Examination Facility	ANL-785	Interim Status	Maureen Finnerty 208-533-7924		
	Building 703, Sodium Storage Building	ANL-703	Interim Status	Roy Grant 208-533-7400		
5 1/97	ILTSF (PAD 2)	RWMC	Permitted 11/13/95	Kelly Galloway 208-526-0902	Nicole Brooks 208-526-0709	Charlene Roberts 208-373-0316
	RWMC Waste Storage Facility	RWMC	Permitted 11/13/95			
	TSA-3 (SWEPP)	RWMC	Permitted 9/30/96			
5 TBD	NWCF Calciner	CPP-659	Interim Status	Kirk Nielsen 208-526-6163	Nicole Brooks 208-526-0709 Don Rasch 208-526-1511	TBD
	NWCF Evaporator Tank System	CPP-659	Interim Status			
	NWCF Storage & Treatment Tanks	CPP-659	Interim Status			
7 2/97	Hazardous Waste Storage Facility	CFA-637	Closed 2/4/97	N/A	N/A	N/A
3 5/95	Hazardous Chemical Waste Handling and Neutralization Facility (HCWHNF)	CPP-620 Annex	Permitted 5/1/95	Kirk Nielsen 208-526-6163	Nicole Brooks 208-526-0709	Beth McPherson 208-373-0483

INEEL RCRA PERMITTING POINT OF CONTACT (POC) MATRIX

01/30/99

VOLUME #/ REV. DATE	WASTE MANAGEMENT UNIT DESCRIPTION	UNIT LOCATION	UNIT STATUS	INEEL POC	DOE POC	DEQ POC
9 3/97	WERF Incinerator WERF Waste Stabilization	PBF/SPERT-III PBF/SPERT-III	Interim Status Interim Status	Tim Solle 208-526-8568	Nicole Brooks 208-526-0709 Don Rasch 208-526-1511	Brian English 208-373-0425
10 1/01	PEW Evaporators PEW Feed/Storage & Treatment Tanks PEW Condensate/Feed Storage Tanks LET&D Evaporators LET&D Storage Tank LET&D Nitric Acid Recycle Tank	CPP-604 CPP-604 CPP-604 CPP-1618 CPP-1618 CPP-1618	Interim Status Interim Status Interim Status Interim Status to be requested Interim Status Interim Status	Ann Boehmer 208-526-7937	Nicole Brooks 208-526-0709	TBD
11 1/99	Mixed Waste Storage Facility (MWSF) MWSF Portable Storage Units WERF Waste Storage Building TAN Hazardous Waste Storage Area WERF Macroencapsulation WERF Sizing	PBF/SPERT-IV PBF/SPERT-IV PBF/SPERT-III TAN-628 PBF/SPERT-III PBF/SPERT-III	Interim Status Interim Status Interim Status Interim Status New Unit New Unit	Paul Smith 208-526-0611	Nicole Brooks 208-526-0709	Charlene Roberts 208-373-0316 Beth McPherson 208-373-0483
12	TAN Hazardous Waste Storage Area (This unit was incorporated into Volume 11 in January of 1999. Volume 12 is no longer needed.)	TAN-628	Interim Status	N/A	N/A	N/A
13	TSA-RE Retrieval Modification Facility Waste Characterization Facility (These units will not be permitted)	RWMC RWMC	Interim Status Interim Status	N/A	N/A	N/A
14	Calcined Solids Storage Facility	INTEC	Interim Status	Kirk Nielsen	Nicole Brooks	TBD

INEEL RCRA PERMITTING POINT OF CONTACT (POC) MATRIX

01/30/99

VOLUME #/ REV. DATE	WASTE MANAGEMENT UNIT DESCRIPTION	UNIT LOCATION	UNIT STATUS	INEEL POC	DOE POC	DEQ POC
				208-526-6163	208-526-0709	
11/02				N/A	NA	Beth McPherson 208-373-0483
15	ARVFS Sodium-Potassium Waste Treatment Sodium Components Maintenance Shop (SCMS) (These units were incorporated into Volume 16. This volume is no longer needed.)	ANL-793	Interim Status Interim Status			
16 12/98	ANL-W Treatment Units Sodium Process Facility Sodium Components Maintenance Shop Remote Treatment Facility	 ANL-799 ANL-793 ANL-785	 Permitted 4/97 Interim Status New Unit	 Mike Holzemer 208-533-7625 Maureen Finnerty 208-533-7924 Tom Zahn 208-533-7217	Greg Bass 208-533-7184	Beth McPherson 208-373-0483
17 12/98	Radioactive Mixed Waste Staging Facility Hazardous Chemical & Radioactive Waste Storage Facility INTEC-601/627 Container Storage	CPP-1617 CPP-1619 CPP-601/627	Interim Status Interim Status Interim Status	Kirk Nielsen 208-526-6163	Nicole Brooks 208-526-0709	Beth McPherson 208-373-0483
18 2/99	NWCF HEPA Filter Storage NWCF HEPA Filter Leaching System NWCF Debris Treatment FAST HEPA Filter Storage NWCF Storage & Treatment Tanks	CPP-659 CPP-659 CPP-659 CPP-666 CPP-659	Interim Status Interim Status New Unit Interim Status Interim Status	Kirk Nielsen 208-526-6163	Nicole Brooks 208-526-0709	Charlene Roberts 208-373-0316

INEEL RCRA PERMITTING POINT OF CONTACT (POC) MATRIX

01/30/99

VOLUME #/ REV. DATE	WASTE MANAGEMENT UNIT DESCRIPTION	UNIT LOCATION	UNIT STATUS	INEEL POC	DOE POC	DEQ POC
	(NCD-123 and NCD-129)					
19	WERF Macroencapsulation WERF Sizing (These units were incorporated into Volume 11 in January of 1999. Volume 19 is no longer needed.)	PBF/SPERT-III PBF/SPERT-III	New Unit New Unit	N/A	N/A	N/A
20 7/98 (STP)	Mercury Retort	PBF	New Unit	TBD	TBD	TBD
21 TBD	Liquid Waste Treatment Facility	INTEC	Interim Status	TBD	TBD	TBD
22 TBD	West Side Holdup Storage Tanks	CPP-641	Interim Status	TBD	TBD	TBD
N/A 1/99	Advanced Mixed Waste Treatment Facility	RWMC	New Unit	Malone Steverson 208-528-2149	Greg Hula 208-526-9899	Brian English 208-373-0425

Attachment F

List of PEWE RCRA Listed Waste Codes

Form Approved OMB No. 2050-0034 Expires 10/31/99
GSA No. 0248-EPA-OT

Please print or type with ELITE type (12 chara[illegible] per inch) in the unshaded areas only

EPA I.D. Number (Enter from page 1): I D 4 8 9 0 0 0 8 9 5 2

Secondary ID Number (Enter from page 1):

IV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA Hazard. Waste No. (Enter code)	B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. Processes (1) Process Codes (Enter code)	(2) Process Description (if a code is not entered in D(1))
1	D001	8,400	T	S02 T01	CPP-604 PEW Feed/Storage and Treatment Tanks
2	D002				Included with the above
3	D004				Included with the above
4	D005				Included with the above
5	D006				Included with the above
6	D007				Included with the above
7	D008				Included with the above
8	D009				Included with the above
9	D010				Included with the above
10	D011				Included with the above
11	D018				Included with the above
12	D019				Included with the above
13	D021				Included with the above
14	D022				Included with the above
15	D026				Included with the above
16	D028				Included with the above
17	D032				Included with the above
18	D034				Included with the above
19	D035				Included with the above
20	D036				Included with the above
21	D038				Included with the above
22	D039				Included with the above
23	D040				Included with the above
24	F001				Included with the above
25	F002				Included with the above
26	F003				Included with the above
27	F005				Included with the above
28	P005				Included with the above
29	P012				Included with the above
30	P022				Included with the above
31	P024				Included with the above
32	P027				Included with the above
33	P028				Included with the above

RCRA Permit App Rev #19
OK - IF 4/99
PEW Total 96 22.128

Form Approved OMB No. 2050-0034 Expires 10/31/99
GSA No. 0248-EPA-OT

Please print or type with ELITE type (12 chara[cters] per inch) in the unshaded areas only

EPA I.D. Number (Enter from page 1): I D 4 8 9 0 0 0 8 9 5 2

Secondary ID Number (Enter from page 1):

XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. Processes (1) Process Codes (Enter code)	D. Processes (2) Process Description (If code is not entered in D(1))
1	P030				Included with CPP-604 PEW Feed/Storage and Treatment Tanks, pg IF-1, line 1
2	P031				Included with the above
3	P056				Included with the above
4	P073				Included with the above
5	P075				Included with the above
6	P077				Included with the above
7	P098				Included with the above
8	P104				Included with the above
9	P105				Included with the above
10	P106				Included with the above
11	P113				Included with the above
12	P116				Included with the above
13	P119				Included with the above
14	P120				Included with the above
15	U002				Included with the above
16	U003				Included with the above
17	U004				Included with the above
18	U007				Included with the above
19	U008				Included with the above
20	U009				Included with the above
21	U012				Included with the above
22	U014				Included with the above
23	U019				Included with the above
24	U020				Included with the above
25	U031				Included with the above
26	U032				Included with the above
27	U037				Included with the above
28	U044				Included with the above
29	U048				Included with the above
30	U052				Included with the above
31	U055				Included with the above
32	U056				Included with the above
33	U057				Included with the above

Form Approved OMB No. 2050-0034 Expires 10/31/99
GSA No. 0248-EPA-OT

Please print or type with ELITE type (12 chara[cters] per inch) in the unshaded areas only

EPA I.D. Number (Enter from page 1): I D 4 8 9 0 0 0 8 9 5 2

Secondary ID Number (Enter from page 1):

IV. Description of Hazardous Wastes (continued)

A. Line Number	B. EPA Hazardous Waste No. (Enter code)	C. Estimated Annual Quantity of Waste	D. Unit of Measure (Enter code)	E. Processes (1) Process Codes (Enter code)	(2) Process Description (If a code is not entered in E(1))
1	U069				Included with CPP-604 PEW Feed/Storage and Treatment Tanks, pg IF-1, line 1
2	U070				Included with the above
3	U071				Included with the above
4	U072				Included with the above
5	U079				Included with the above
6	U080				Included with the above
7	U081				Included with the above
8	U083				Included with the above
9	U084				Included with the above
10	U102				Included with the above
11	U103				Included with the above
12	U108				Included with the above
13	U112				Included with the above
14	U113				Included with the above
15	U116				Included with the above
16	U118				Included with the above
17	U120				Included with the above
18	U122				Included with the above
19	U123				Included with the above
20	U125				Included with the above
21	U127				Included with the above
22	U128				Included with the above
23	U131				Included with the above
24	U133				Included with the above
25	U134				Included with the above
26	U135				Included with the above
27	U138				Included with the above
28	U140				Included with the above
29	U144				Included with the above
30	U145				Included with the above
31	U147				Included with the above
32	U151				Included with the above
33	U154				Included with the above

EPA Form 8700-23 (Rev. 10/01/96) | Page 6 (IF-3) of 7 | Rev. #19, 4/99, INTEC

Please print or type with ELITE type (12 chara[illegible] per inch) in the unshaded areas only

Form Approved OMB No. 2050-0034 Expires 10/31/99
GSA No. 0248-EPA-OT

EPA I.D. Number (Enter from page 1): I D 4 8 9 0 0 0 8 9 5 2

Secondary ID Number (Enter from page 1):

XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. Processes (1) Process Codes (Enter code)	(2) Process Description (If a code is not entered in D(1))
1	U159				Included with CPP-604 PEW Feed/Storage and Treatment Tanks, pg IF-1, line 1
2	U161				Included with the above
3	U162				Included with the above
4	U165				Included with the above
5	U169				Included with the above
6	U170				Included with the above
7	U171				Included with the above
8	U182				Included with the above
9	U188				Included with the above
10	U190				Included with the above
11	U191				Included with the above
12	U196				Included with the above
13	U201				Included with the above
14	U204				Included with the above
15	U207				Included with the above
16	U208				Included with the above
17	U210				Included with the above
18	U211				Included with the above
19	U215				Included with the above
20	U217				Included with the above
21	U218				Included with the above
22	U219				Included with the above
23	U220				Included with the above
24	U225				Included with the above
25	U226				Included with the above
26	U227				Included with the above
27	U228				Included with the above
28	U239				Included with the above
29	U328				Included with the above
30					
31					
32					
33					